UCLA
Department of Environmental Health Sciences
Self-Review Report

January 29, 2010
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List of Abbreviations

ABET/ASAC - Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology
ACCION – Academic and Community Collaborative to Improve our Neighborhood
ALERT – Assessment of Local Environmental Risks Training
ARCO – Atlantic Richfield Company
CARB – California Air and Resources Board
CBOs – Community Based Organizations
CDC – Centers for Disease Control and Prevention
CDPH – California Department of Public Health
CINVESTAV – Centro de Investigaciones Avanzadas
COEH – Center for Occupational and Environmental Health
DEnv – Doctor of Environmental Science and Engineering
EHS – Environmental Health Sciences
EHSAFAC - Environmental Health Sciences Admissions and Financial Aid Committee
EOH – Environmental and Occupational Health
EPA – Environmental Protection Agency
ERC – Southern California Education and Research Center
ESE – Environmental Science and Engineering
DrPH – Doctor of Public Health
IDPs – Interdepartmental Degree Programs
IMSS – Mexican Institute for Social Security
IHP – Industrial Hygiene Program
INSPI – National Institute of Public Health, Mexico
IOE – Institute of the Environment
Mol Tox – Molecular Toxicology
MPH – Masters of Public Health
MS – Master of Science
MSO – Department Administrative [Management Services] Officer
NCEH – National Center for Environmental Health
NIH – National Institutes of Health
NIOSH - National Institute for Occupational Safety and Health
OEHN - Occupational and Environmental Health Nursing
OM – Occupational Medicine
OSHA – Occupational and Safety Health Administration
PhD – Doctor of Philosophy
PI – Principal Investigator
SCPC – Southern California Particle Center
SPH – School of Public Health
STPP – Sustainable Technology and Policy Program
TSRTP – Toxic Substances Research and Training Program
UNAM – Universidad Nacional Autonoma de Mexico (UNAM)
UCB –University of California, Berkeley
UCLA – University of California, Los Angeles
USC – University of Southern California
EXECUTIVE SUMMARY

This self review focuses on the academic programs of the department of Environmental Health Sciences (EHS) in University of California, Los Angeles (UCLA)'s School of Public Health (SPH). The following are the main findings of this review:

1. Given the breadth and importance of EHS, the department needs to grow in size and breadth while retaining its core areas of expertise such as air pollution, toxicology and industrial hygiene. In the face of severe budget constraints, more adjunct and in residence faculty must be recruited, especially young faculty.

2. The merger of the Center for Occupational and Environmental Health (COEH) and EHS must strengthen both groups. Grant support should become more substantial. At the same time collaboration with other departments within the SPH and University must increase.

3. Student enrollment must be increased, in part through better marketing, and a more balanced curriculum, and more faculty recruitment.

I. INTRODUCTION

Since the department last submitted its self-review in 2000, there have been three chairpersons: Dr. Curt Eckhert (term completed in 2007), Dr. Hilary Godwin (2007-2008), and Dr. Richard Jackson (current Chair). In September 2008, the then EHS Chair, Dr. Godwin accepted the position of Associate Dean for Academic Programs in the SPH. The vacated Chair position was then filled by Dr. Richard Jackson in October 2008. Two months later, on December 12, 2008 the UCLA Graduate Council notified Dr. Jackson of the scheduled academic Senate review during the 2009-2010 year with the required self review report due during the 2008-2009 academic year. Dr Jackson requested an extension that was denied. Dr. Jackson, faculty and staff developed the review, including discussion at four faculty meetings, and at the EHS and COEH retreats. The faculty recommended that the Chair prepare a draft of the Self Review for discussion and comment by faculty, students and staff. This draft was discussed for the first time at a meeting of faculty, student representatives and staff held on January 11, 2010, and further drafts have been circulated via email.

II. GENERAL INFORMATION

1. History

EHS is one of the five academic departments of the SPH. The other departments are Community Health Sciences, Epidemiology, Biostatistics, and Health Services. The department began as a division shortly after the founding of SPH in 1961 and became a department in 1989.

The field of EHS is undergoing rapid evolution due to rising public and policy awareness of the importance and impact of the environment on health and the economy, as well as to the impact of humans on the environment. The depth of this awareness ranges from world leaders, for example, convening in Copenhagen to discuss responses to climate change, all the way to undergraduates making decisions about career options, and to schoolchildren advocating for recycling. This awareness is not only vertical, it is horizontal: ranging from governments to corporations to average citizens. The breadth and intensity of this awareness bring opportunities and also raise challenges for those who teach and those who practice environmental public health. Just 10 years ago there was much less public awareness of the rapidity and intensity of global climate change, the importance of the built environment to health, the prevalence and
power of endocrine disruptors in the environment, and the reality of pervasive burdens of toxic chemicals in the bodies of all humans and most creatures on the planet. No longer is environmental health the pure bailiwick of laboratory scientists or occupational clinicians, it elicits headlines on the front page of virtually every newspaper every day throughout the world. Students coming into EHS must learn the fundamental logic processes, sampling and analysis procedures, exposure assessment methodologies, toxicology, disease transmission mechanisms, potential remedies, legal and economic impacts, policy and law, and mechanisms associated with potential and known adverse effects. The goal is to help them to be leaders in the future. This transition of the field must profoundly influence the department's own self-definition, its recruiting, and its future.

2. Mission/Goals

The mission of the department of EHS has changed much since the last review in 2000. At that time, it was:

*The mission of the UCLA Department of Environmental Health Sciences is to advance our understanding of how physical, chemical and biological factors affect human and ecological health and to use this knowledge to improve the quality of the environment.*

After extensive discussions in 2009, EHS developed a new mission statement to better capture our role in training leaders and the importance of environment to health:

*Our mission is to develop and transmit knowledge about the links between health and the environment, and to educate scientists and public health leaders who can design science-based policies to address current and future environmental health challenges.*

Short term Goals

- To redevelop the EHS curriculum to reflect current and future research areas of the field and the challenges of the 21st century, for example climate change, globalization, policy, biomonitoring, endocrine disruptors, sustainability, and other areas.
- To increase the number and diversity of faculty, including in terms of age, gender and experience.
- To improve communication and collaboration among faculty and staff.
- To augment our teaching capacity by increasing the number of faculty appointments. To recruit Assistant Professors in major research areas like environmental policy, environmental microbiology, sustainability, and ergonomics as the current budget crisis abates and to utilize adjunct professors as an additional measure for filling in curriculum gaps.
- To increase the number, diversity, and quality of our students. To aggressively improve recruiting and the web presence of EHS and COEH
- To provide high quality internship experiences for our students, with monitoring, evaluation and follow up
- To keep track of our alumni to assess the effectiveness of their training at UCLA and to develop constituency support.
- To develop better linkages with other SPH departments, and with other UCLA schools, in particular, Health Sciences.
- To assure that environmental health training significantly impacts the training of nursing, dental, pharmacy, medical, pediatric and other health care providers.
- To increase co-operation among Environmental Science and Engineering (ESE), Molecular Toxicology (Mol Tox), COEH, other interdepartmental degree programs
To assure that the EHS, COEH, and ESE activities collaborate effectively in terms of academic actions, staff appointments, grantsmanship, and fiscal management.

To inculcate a culture of sustainability in our Department and School, including the physical plant. Moving as much as possible to a paperless office where most documents are developed, shared, and archived electronically with minimal use of paper resources.

**Long-term goals**

- To have EHS at UCLA at the top tier of EH programs in the United States.
- To raise the visibility of the Department and the School in the Los Angeles region and to increase our community engagement.
- To substantially increase Center and training grants coming into EHS.
- To attract substantial philanthropic support for EHS.

**Strategies**

Our strategies to achieve our mission and goals are to:

- Attract, retain, and develop a student body that is diverse, well-prepared for the challenges of the 21st century, and confident in the knowledge, content and major skills of environmental health sciences.
- Create a curriculum that develops a well-rounded student body that is the rival of any other school in the country or in the world.
- Create and maintain a research enterprise within the department that advances and develops knowledge, that enriches our students’ education, and that creates a substantial income stream and support for the department and its graduate students.
- Attract, support and retain diverse faculty of the highest distinction, research ability, and leadership.

3. **Organization**

The EHS Department currently offers Masters of Public Health (MPH), Master of Science (MS), Doctor of Philosophy, (PhD), and Doctor of Public Health (DrPH) degrees. In addition, EHS also houses two IDPs: the ESE Program which confers DEnv degrees and the Mol Tox IDP PhD Program. Although the ESE and Mol Tox IDPs are housed in EHS, this report and review will focus on the degrees conferred directly by EHS. For additional information on the two IDPs, see Reference 1 and 2 for the 2008-2009 ESE annual report and the 2009 Mol Tox Self-Review Report, respectively.

EHS also houses the COEH, a state of California legislatively mandated Center whose goal is to train occupational and environmental health professionals, conduct research, and provide service in the fields of occupational and environmental health. See Reference 3 for a 2009 COEH Program Report.

EHS also houses the National Institute for Occupational Safety and Health (NIOSH) ERC whose mission is to train occupational health professionals at the Masters and Doctoral levels. The ERC also has links to UCLA School of Nursing, UCLA School of Medicine and the University of California, Irvine.
Figure 1. Department of EHS and associated IDPs and COEH Faculty Organization Chart

Bolded names indicate primary appointment in EHS.

**EHS**

(PhD, DrPH, MS, MPH)

Chair: Richard Jackson

**ES&E IDP (D.Env)**

Director: Richard Ambrose

Michael Collins
Curtis Eckhert
John Froines
William Hinds (Emeritus)
Shane Que Hee
Irwin "Mel" Suffet
Arthur Winer
Ann Carlson (law)
Yoram Cohen (Chem Eng)
Randal Crane (Urban Plan)
William Cumberland (Biostat)
Magali Delmas (IOE)
JR. DeShazo (Policy Studies)
Peggy Fong (Ecol&Evol Bio)
Thomas Gillespie (Geog)
Malcolm Gordon (Ecol&Evol Bio)
Terri Hogue (Civil&Env. Eng)
Jenny Jay (Civil&Env. Eng)
Matthew Kahn (IOE)
Paul Ong (Urban Plan)
Suzanne Paulson (Atmos)
Beate Ritz (Epidem)
Michael Stenstrom (Civil&Env.Eng)
Stanley Trimble (Geog)
Richard Turco (Atmos)

**MOLTOX IDP (PhD)**

Director: Oliver Hankinson (Path)

Michael Collins
Curtis Eckhert
John Froines
Hilary Godwin
Wendie Robbins (Nurs/EHS)
Robert Schiestl (Path/EHS)
Jesus Araujo (Med)
Judith Berliner (Pathology)
Jeff Bronstein (Neurology)
Gautam Chaudhuri (Med)
Marie-Francoise Chesselet (Neurobiology)
Catherine Clarke (Chemistry)
Richard Gatti (Pathology)
Louis Ignarro (Mol Pharm)
David Krantz (Psychiatry)
William McBride (Radiation)
William Melega (Mol Pharm)
Sabeeha Merchant (Chemistry)
Jeffrey Miller (Microbio)
Andre Nel (Medicine)
Beate Ritz (Epidem)
Michael Roth (Medicine)
Suzanne Paulson (Atmos)
Joan Valentine (Chemistry)
Zuo-Feng Zhang (Epidem)

**COEH**

Director: Richard Jackson

Michael Collins
John Froines
William Hinds (Emeritus)
Nola Kennedy
Shane Que Hee
Wendie Robbins (Nurs)
Irwin "Mel" Suffet
Arthur Winer
Arthur Cho (Pharm/Emeritus)
Linda Delp (LOSH)
Phil Harber (Medicine)
Leeka Kheifets (Epidem)
Beate Ritz (Epidem)
Peter Schnall (Medicine)
Jason Wang (Epidem)
Michelle Wilhelm-Turner (Epidem)
Zuo-Feng Zhang (Epidem)

Follow-up: Information regarding the location of offices, exact department names, and specific positions may not be accurate.
**Governance:** The governance of the Department is through a set of 2 standing committees: Curriculum and Admissions/Financial Aid. In addition, ad hoc committees are created as needed. Recent committees include Space Survey Committee and Laboratory Equipment Committee. Three EHS Student representatives are selected each year by their peers. They are encouraged to attend faculty meetings as well as to weigh in on Departmental issues. Their input was also sought during this review. Departmental meetings are held monthly with an all day retreat scheduled at least once a year.

**Administration:** In fiscal year 2002-03, following a State budget crisis, funding for SPH-funded staff was reduced from 3 FTE to 2.5. These staff members provide support to the training and research mission of the department and assist faculty with administrative, research and teaching needs. Since the last review the University has implemented new automated online systems dealing with personnel, student records, purchasing, contracts & grants, and other administrative processes. As a result, there is greater responsibility on department staff as preparers and reviewers. Since most research projects restrict funding of administrative staff, the department staff must provide substantial expertise, training and support to faculty Principal Investigators (PIs) and their project staff, from pre-award activities, financial forecasting, monitoring adherence to agency policies and through closing of awards.

As of July 1, 2009 the Chair of EHS assumed the responsibility of the COEH as its new Director. As a result of this transition the administrative staff increased and the composition changed. The current structure is an MSO (Department Administrative [Management Services] Officer) funded 50% from 19900 (permanent state) funds and 50% from internal SPH funds. A 100% Administrative Analyst (Fund Manager) funded by COEH 19900, 50% Student Affairs Officer and 100% of the ESE Program Manager funded through other internal school funds. Assistant to the Chair and Director at 100% supported by Department funds and an Administrative Assistant (Purchasing/Faculty support) 100% funded by COEH, Education and Research Center Administrator funded 75% from grants and 25% from COEH, Administrative Analyst (EHS/COEH/STPP administrative support) funded 90% from COEH and 10% research projects. Also with the change in directorship, EHS acquired the services of the 100% COEH Outreach Coordinator who has played an important role in establishing the department’s website and developing community outreach. We were also fortunate to be able to combine resources (50% ESE, 25% EHS and 25% Epi) to fund a new Internship Coordinator. Figures 2 and 3 illustrate the administrative structure of EHS at the last review and currently, respectively.
Figure 2: Administrative Support Chart for Academic Programs at time of last review (2000-2001)

**Environmental Sciences & Engineering Program (ESE)**
- Director: Richard Ambrose
- Program Administrator: Myrna Gordon
- Internship Coordinator (50%): Courtney Klipp

**EHS DEPARTMENT**
- **Chairman:** Curt Eckhert
- **Department Administrator (100%):** Barbara Housel
- **Financial Manager (50%):** Diana Heskett
- **Student Affairs/ Administrative Specialist (100%):** John Bulger
- **Senior Clerk (35%):** Kylie Smith

**Molecular Toxicology Program**
- **Director:** Oliver Hankinson
- **Program Administrator:** Barbara Housel
- **Student Affairs Officer:** John Bulger

Figure 3: Administrative Support Chart for Academic Programs 2009-2011

**EHS Department**
- **Chair:** Richard J. Jackson
- **Dept Administrator (50%):** Barbara Housel
- **ERC Program Administrator/EHS Support:** DT Evans
- **Financial Manager (70%):** Joanie Klemstine
- **Student Affairs Officer (40%):** Rebecca Greenberg
- **Internship Coordinator (25%):** Courtney Klipp
- **Assistant to Chair/ Admin Asst (75%):** Maisie Pascual
- **Purchasing/Faculty Support (60%):** Jeannie Lin

**Center for Occupational & Environmental Health (COEH)**
- **Director:** Richard Jackson
- **Center Administrator (50%):** Barbara Housel
- **Financial Manager (30%):** Joanie Klemstine
- **Outreach:** Elina Green
- **Admin Support:** Vi Huynh
- **Assistant to Director (25%):** Maisie Pascual
- **Admin. Asst (40%):** Jeanne Lin

**Sustainable Technology and Policy Program (STPP)**
- **Co-Directors:** Tim Malloy, John Froines
- **Exec. Director:** Peter Sinsheimer
- **Program Administrator:** Gabrielle Saveri
- **Admin Support:** Vi Huynh

**Molecular Toxicology Program**
- **Director:** Oliver Hankinson
- **Program Administrator:** Barbara Housel
- **Student Affairs Officer:** John Bulger
4. Faculty

Demographics: The Department has 11 state-funded tenure-track faculty (Table 1) who consist of 10 Full Professors and 1 Associate Professor. Five of the faculty are women; one is African American and one is Asian-Australian male. Six state-funded tenure-track faculty from other departments hold joint appointments with EHS; two of them teach in the Mol Tox IDP and one lectures in our 200B course. One faculty member is in the “In-Residence” track, which is an Academic Senate appointment with all the rights of a tenure-track faculty member but without a state-funded salary line. Two other faculty (one is Latino) hold adjunct appointments, 1 holds a lecturer appointment and 5 faculty had visiting appointments in the department during the period of July 1, 2001 and September 30, 2009. Faculty with state-funded tenure-track lines are expected to teach at least three formal courses per year, although they are permitted to “buy out” one course per year with extramural research funding. Other faculty are expected to make significant contribution to the educational mission of the department. A few teach up to three or four classes per year (typically with support from a training grant), others offer one class annually, and the rest provide service as guest lecturers and/or offer other educational assistance.

Table 1: Faculty Distribution at time of last review (2000) and Current

<table>
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<th>Department Faculty and Rank</th>
<th>2000 (last review)</th>
<th>Current</th>
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<tbody>
<tr>
<td>Tenure-eligible, EHS home department</td>
<td>11 (1 Asst Professor, 3 Assoc Professors, 7 Professors)</td>
<td>11 (1 Assoc Professor, 10 Professors)</td>
</tr>
<tr>
<td>Other tenure-eligible, joint appointments</td>
<td>1 Assistant Professor</td>
<td>8 (1 Assoc Professor, 7 Professors)</td>
</tr>
<tr>
<td>In Residence</td>
<td>1 Assistant Professor</td>
<td>1 Assistant Professor</td>
</tr>
<tr>
<td>Adjunct</td>
<td>2 (1 Assistant Professor, 1 Professor)</td>
<td>2 (1 Assistant Professor, 1 Assoc Professor)</td>
</tr>
<tr>
<td>Lecturer and Field Supervisors</td>
<td>2 (1/2 Lecturer, 1 ½ Field Supervisors)</td>
<td>1</td>
</tr>
<tr>
<td>Visiting Professor</td>
<td>1 Professor</td>
<td>0</td>
</tr>
<tr>
<td>Emeritus Professors</td>
<td>1 Professor</td>
<td>4 Professor</td>
</tr>
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</table>

The Department faculty is multidisciplinary and thus attracts students from a variety of backgrounds. Current faculty hold doctoral degrees in science disciplines (chemistry, biology), public health (environmental health, epidemiology), engineering, medicine (pediatrics, medicine), nursing, and the biological sciences (nutrition).
### Table 2: Faculty Profile and Research Interests

<table>
<thead>
<tr>
<th><strong>CORE FACULTY</strong></th>
<th><strong>Rank</strong></th>
<th><strong>Home Dept</strong></th>
<th><strong>Interests</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Ambrose</td>
<td>Professor</td>
<td>EHS</td>
<td>environmental biology, ecology of coastal areas, resource management policy</td>
</tr>
<tr>
<td>Michael Collins</td>
<td>Professor</td>
<td>EHS</td>
<td>developmental toxicology, teratology, gene-gene/environment interactions</td>
</tr>
<tr>
<td>Curtis Eckhert</td>
<td>Professor</td>
<td>EHS</td>
<td>toxicology, ecotoxicology, biology of boron</td>
</tr>
<tr>
<td>John R. Froines</td>
<td>Professor</td>
<td>EHS*</td>
<td>industrial hygiene, exposure assessment, occupational health, toxicology, air pollution</td>
</tr>
<tr>
<td>Hilary Godwin</td>
<td>Professor</td>
<td>EHS</td>
<td>toxicology, environmental chemistry, lead poisoning</td>
</tr>
<tr>
<td>Richard J. Jackson</td>
<td>Professor</td>
<td>EHS</td>
<td>industrial hygiene, environmental and analytical chemistry, multi-elemental analysis, bioassay directed chemical analysis</td>
</tr>
<tr>
<td>Shane Que Hee</td>
<td>Professor</td>
<td>EHS*</td>
<td>toxicology, reproductive health, reproductive and environmental epidemiology, gene-environment interactions</td>
</tr>
<tr>
<td>Wendie Robbins**</td>
<td>Associate</td>
<td>Nursing*</td>
<td>occupational safety and health</td>
</tr>
<tr>
<td>Linda Rosenstock</td>
<td>Professor</td>
<td>EHS</td>
<td>occupational safety and health</td>
</tr>
<tr>
<td>Robert Schiestl**</td>
<td>Professor</td>
<td>Pathology</td>
<td>toxicology, carcinogenesis DNA damage and repair, gene-environment interactions</td>
</tr>
<tr>
<td>Mel Suffet</td>
<td>Professor</td>
<td>EHS</td>
<td>water quality, environmental chemistry- analysis, fate and treatment of hazardous and odororous chemicals</td>
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<tr>
<td>Jane L. Valentine</td>
<td>Associate</td>
<td>EHS</td>
<td>water quality, environmental health, environmental measurements, exposure assessments</td>
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<tr>
<td>Arthur Winer</td>
<td>Professor</td>
<td>EHS</td>
<td>air pollution, exposure assessment, atmospheric chemistry</td>
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<td><strong>ADJUNCT/JOINT FACULTY</strong></td>
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<td>Jared Diamond</td>
<td>Joint</td>
<td>Geography</td>
<td>geography and human society, biogeography</td>
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<tr>
<td>Pablo D. Cicero-Fernandez</td>
<td>Adjunct</td>
<td>EHS</td>
<td>air pollution, exposure assessment, atmospheric chemistry</td>
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<tr>
<td>Oliver Hankinson</td>
<td>Joint</td>
<td>Pathology</td>
<td>carcinogenesis, toxicology</td>
</tr>
<tr>
<td>Scott Layne</td>
<td>Joint</td>
<td>Epidemiology</td>
<td>building and utilizing high-throughput automated lab and database systems for infectious disease research and vaccine development</td>
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<tr>
<td>Andre Nel</td>
<td>Joint</td>
<td>Medicine</td>
<td>pollutants, nanotoxicology</td>
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<td>Linwood Pendleton</td>
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<td>EHS</td>
<td>economics of environmental goods and services in coastal zone</td>
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<td>Beate Ritz</td>
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<td>Epidemiology*</td>
<td>occupational and environmental toxins, air pollution, carcinogens</td>
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<td>Zuo-Feng Zhang</td>
<td>Joint</td>
<td>Epidemiology</td>
<td>cancer epidemiology, carcinogenesis</td>
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<td><strong>EMERITUS</strong></td>
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<td>Arthur Cho</td>
<td>Professor</td>
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<td>Climis A. Davos</td>
<td>Professor</td>
<td>EHS</td>
<td>environmental policy</td>
</tr>
<tr>
<td>Robert Mah</td>
<td>Professor</td>
<td>EHS</td>
<td>engineering &amp; Applied Sciences</td>
</tr>
<tr>
<td>William Hinds</td>
<td>Professor</td>
<td>EHS</td>
<td>airborne particles, nanoparticles</td>
</tr>
<tr>
<td><strong>IN-RESIDENCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nola Kennedy</td>
<td>Assistant</td>
<td>EHS</td>
<td>occupational exposure assessments, aerosol behavior, air pollution</td>
</tr>
</tbody>
</table>

* **COEH FTE**
  ** Although primary appointment is in other department, faculty member has full voting rights for all actions in EHS. **
Recruitment: The Department has recently been involved in two recruiting efforts. One is for an air pollution aerosol scientist, a position offered at the Assistant Professor level. The selected candidate has accepted the School’s offer and we expect to finalize the recruitment for a July 1, 2010 start date. The unfilled position is that of the head of the NIOSH sponsored ERC. As this report is being prepared, two high level candidates are being brought in for interviews and to offer seminars. One other has already visited. The two previous candidates for this position did not accept our offer. EHS follows all appropriate campus guidelines in hiring and promotion in an effort to promote diversity.

Research: EHS is a leader in the health effects of air pollution and vehicular emissions, industrial hygiene, toxicology (including ecotoxicology and risk assessment), children’s health and the environment, environmental biology and chemistry including water quality, built environment and health, agriculture and pesticide issues, teratology and carcinogenesis, environmental health policy, globalization, as well as other areas. Particular areas of research that need to be strengthened include: more depth on the health effects of climate change, effects of endocrine disrupting chemicals, implications and priority setting of biomonitoring of body burdens of chemicals, “green chemistry”, health effects of globalization, health aspects of life cycle analysis, transportation as health policy, environment antecedents of injuries and of chronic diseases, mental health aspects of the environment, cost-accounting of environmental health threats and remedies, health implications of sustainability interventions, health impact assessment, radiation and physical hazard threats, and practical issues of management of environmental health threats.
### Table 3: Faculty areas of specialization as they relate to major subtopics in EHS

<table>
<thead>
<tr>
<th>CORE FACULTY</th>
<th>Air quality</th>
<th>Env biology</th>
<th>Env chem</th>
<th>Indus Hygiene</th>
<th>Tox</th>
<th>Water quality</th>
<th>Env mgmt</th>
<th>Occu Health</th>
<th>Env policy</th>
<th>Epi/carcino</th>
<th>other</th>
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<td>x</td>
</tr>
<tr>
<td>Collins</td>
<td></td>
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<td>x</td>
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<td></td>
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<td></td>
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<tr>
<td>Eckhert</td>
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</tr>
<tr>
<td>Froines</td>
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<td>Robbins</td>
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<td>x (reproductive health)</td>
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<tr>
<td>Rosenstock</td>
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<td></td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>Winer</td>
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<table>
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<th>Env chem</th>
<th>Indus Hygiene</th>
<th>Tox</th>
<th>Water quality</th>
<th>Env mgmt</th>
<th>Occu Health</th>
<th>Env policy</th>
<th>Epi/carcino</th>
<th>other</th>
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<td>x (geography &amp; human society)</td>
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<tr>
<td>Hankinson</td>
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<tr>
<td>Layne</td>
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<th>Env mgmt</th>
<th>Occu Health</th>
<th>Env policy</th>
<th>Epi/carcino</th>
<th>other</th>
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<tbody>
<tr>
<td>Cho</td>
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<td>x</td>
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<td></td>
<td></td>
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<td>x</td>
</tr>
<tr>
<td>Davos</td>
<td></td>
<td></td>
<td>x</td>
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<td></td>
<td></td>
<td>x</td>
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<td></td>
<td></td>
<td>x</td>
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<tr>
<td>Mah</td>
<td></td>
<td></td>
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<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Hinds</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>In-Residence</th>
<th>Air quality</th>
<th>Env biology</th>
<th>Env chem</th>
<th>Indus Hygiene</th>
<th>Tox</th>
<th>Water quality</th>
<th>Env mgmt</th>
<th>Occu Health</th>
<th>Env policy</th>
<th>Epi/carcino</th>
<th>other</th>
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<tbody>
<tr>
<td>Kennedy</td>
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<td></td>
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</tbody>
</table>

### Table 4: Number of grants and total research dollars

*Only grants with EHS Faculty as Principal Investigators have been included*

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of grants</th>
<th>Total Funding Amount</th>
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<tbody>
<tr>
<td>2000-2001</td>
<td>33</td>
<td>$2,099,222</td>
</tr>
<tr>
<td>2001-2002</td>
<td>35</td>
<td>$3,192,048</td>
</tr>
<tr>
<td>2002-2003</td>
<td>42</td>
<td>$3,291,996</td>
</tr>
<tr>
<td>2003-2004</td>
<td>36</td>
<td>$2,307,842</td>
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<tr>
<td>2004-2005</td>
<td>34</td>
<td>$3,030,914</td>
</tr>
<tr>
<td>2005-2006</td>
<td>36</td>
<td>$3,726,137</td>
</tr>
<tr>
<td>2006-2007</td>
<td>33</td>
<td>$4,762,784</td>
</tr>
<tr>
<td>2007-2008</td>
<td>34</td>
<td>$4,487,613</td>
</tr>
<tr>
<td>2008-2009</td>
<td>27</td>
<td>$3,910,241</td>
</tr>
<tr>
<td>2009-2010</td>
<td>26</td>
<td>$4,600,915 (projected)</td>
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</table>

14
EHS faculty members are productive. The following table obtained from the 2007 Chronicle of Higher Education lists top Environmental Health Science Universities and their correlating faculty productivity index.

Table 5. Faculty Productivity Index 2007, *Chronicle of Higher Education*

<table>
<thead>
<tr>
<th>Institution</th>
<th>Faculty Scholarship Productivity Index</th>
<th>Number of faculty</th>
<th>Percentage of faculty with a book publication</th>
<th>Percentage of faculty with a journal publication</th>
<th>Journal publications per faculty</th>
<th>Percentage of faculty with journal publication cited by another work</th>
<th>Citations per faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. of California at Berkeley</td>
<td>1.22</td>
<td>15</td>
<td>.27%</td>
<td>93%</td>
<td>15.4</td>
<td>93%</td>
<td>140.13</td>
</tr>
<tr>
<td>Columbia U.</td>
<td>1.18</td>
<td>14</td>
<td>.14%</td>
<td>.20</td>
<td>86%</td>
<td>10.5</td>
<td>210.54</td>
</tr>
<tr>
<td>U. of California at Los Angeles</td>
<td>1.11</td>
<td>18</td>
<td>.17%</td>
<td>.89</td>
<td>94%</td>
<td>11.33</td>
<td>120.72</td>
</tr>
<tr>
<td>Johns Hopkins U.</td>
<td>1.07</td>
<td>50</td>
<td>.12%</td>
<td>.92</td>
<td>99%</td>
<td>10.02</td>
<td>94%</td>
</tr>
<tr>
<td>U. of Iowa</td>
<td>.66</td>
<td>26</td>
<td>.56%</td>
<td>1.35</td>
<td>96%</td>
<td>8.15</td>
<td>46.54</td>
</tr>
<tr>
<td>U. of Pittsburgh main campus</td>
<td>.07</td>
<td>20</td>
<td>0%</td>
<td>-</td>
<td>96%</td>
<td>7.3</td>
<td>71.90</td>
</tr>
<tr>
<td>U. of Michigan at Ann Arbor</td>
<td>-.07</td>
<td>25</td>
<td>.15%</td>
<td>.24</td>
<td>92%</td>
<td>6.84</td>
<td>41.83</td>
</tr>
<tr>
<td>U. of Minnesota-Twin Cities</td>
<td>-.18</td>
<td>12</td>
<td>0%</td>
<td>-</td>
<td>75%</td>
<td>15.80</td>
<td>110.14</td>
</tr>
<tr>
<td>U. of Alabama at Birmingham</td>
<td>-.33</td>
<td>52</td>
<td>.04%</td>
<td>1</td>
<td>67%</td>
<td>6.33</td>
<td>58.71</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institution</th>
<th>Citations per faculty</th>
<th>Citations per paper</th>
<th>Percentage of faculty getting a new grant</th>
<th>New grants per faculty</th>
<th>Total value of new grants per faculty</th>
<th>Average amount of grant</th>
<th>Percentage of faculty with an award</th>
<th>Awards per faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. of California at Berkeley</td>
<td>140.13</td>
<td>7.05</td>
<td>40%</td>
<td>.6</td>
<td>$390475</td>
<td>$604124</td>
<td>13%</td>
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<tr>
<td>Columbia U.</td>
<td>210.51</td>
<td>9.75</td>
<td>.43%</td>
<td>1</td>
<td>$1582777</td>
<td>$1582777</td>
<td>7%</td>
<td>.14</td>
</tr>
<tr>
<td>U. of California at Los Angeles</td>
<td>120.72</td>
<td>9.59</td>
<td>17%</td>
<td>.39</td>
<td>$174527</td>
<td>$401594</td>
<td>17%</td>
<td>.33</td>
</tr>
<tr>
<td>Johns Hopkins U.</td>
<td>120.29</td>
<td>9.43</td>
<td>.34%</td>
<td>.36</td>
<td>$185550</td>
<td>$411453</td>
<td>8%</td>
<td>.12</td>
</tr>
<tr>
<td>U. of Iowa</td>
<td>46.54</td>
<td>4.57</td>
<td>27%</td>
<td>.42</td>
<td>$174581</td>
<td>$411453</td>
<td>12%</td>
<td>.12</td>
</tr>
<tr>
<td>U. of Pittsburgh main campus</td>
<td>71.95</td>
<td>8.18</td>
<td>45%</td>
<td>.5</td>
<td>$155657</td>
<td>$307274</td>
<td>0%</td>
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</tr>
<tr>
<td>U. of Michigan at Ann Arbor</td>
<td>81.83</td>
<td>8.20</td>
<td>10%</td>
<td>.1</td>
<td>$37065</td>
<td>$370688</td>
<td>5%</td>
<td>.05</td>
</tr>
<tr>
<td>U. of Minnesota-Twin Cities</td>
<td>75.54</td>
<td>8.8</td>
<td>15%</td>
<td>.2</td>
<td>$39650</td>
<td>$198249</td>
<td>4%</td>
<td>.04</td>
</tr>
<tr>
<td>U. of Alabama at Birmingham</td>
<td>113.14</td>
<td>9.95</td>
<td>17%</td>
<td>.25</td>
<td>$149750</td>
<td>$398000</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>New York U.</td>
<td>58.71</td>
<td>7.32</td>
<td>15%</td>
<td>.33</td>
<td>$126682</td>
<td>$388417</td>
<td>0%</td>
<td>-</td>
</tr>
</tbody>
</table>

* An institution may appear more than once if the discipline is related to more than one department.

Appendix 1 lists highlights from the *curriculum vitae* of faculty. They represent an impressive spectrum, representing the quality and productivity in both research and teaching for the department. Work is peer recognized and serves to not only further the education of the students at UCLA but often the community around us and the scientific community at large.

**Multidisciplinary Centers:** EHS is home to many multi-disciplinary and multi-campus Centers. The following are a few examples:

1. **Southern California Particle Center (SCPC).** Directed by EHS Professor Dr. John Froines, the SCPC (1999-2011), brings together outstanding scientists to conduct high priority research to elucidate the underlying basis for health effects associated with exposure to ambient particulate matter. The SCPC brings together faculty from UCLA, UC Irvine, University of Southern California (USC), University of Madison-Wisconsin, Michigan State University and the University of Tsukuba, Japan. Total amount of funding is $18,365,579 from the Environmental Protection Agency (EPA)
2. The UCLA Fogarty (1995-2010) Program in Occupational and Environmental Health, also directed by Dr. Froines has focused on the development of training and research related to environmental and occupational health (EOH) needs in Mexico. Since its inception in 1995, significant numbers of Mexican students, professionals and government officials have received valuable information and training in EOH. Faculty collaborators derive from USC, UC Irvine, the California Air Resources Board, the National Institute of Public Health (INSP) in Mexico, Centro de Investigaciones Avanzadas (CINVESTAV), Universidad Nacional Autonoma de Mexico (UNAM), and the Mexican Institute for Social Security (IMSS). Total funding is $1,939,095 from the National Institutes of Health (NIH).

3. The Sustainable Technology and Policy Program (STPP) is a new program which brings together faculty and scientists from Law, Public Health, and Public Policy with the goal of establishing an inter-disciplinary program of policy, research, education, and outreach supporting adoption of a precautionary approach to chemical policy in California and nationally. STPP brings together researchers from those schools and other across the UCLA campus in a unique, action-oriented initiative is Co-Directed by EHS faculty member Dr. John Froines and Tim Malloy (UCLA Law School). Funding derives from The Wellness Foundation, The Robert Wood Johnson Foundation, The California Air Resources Board, as well as seed funding from the UCLA Vice Chancellor, and the Deans for the Schools of Public Health and Law.

4. The NIOSH Southern California Education and Research Center (ERC) consists of 11 programs. Three are traditional academic programs: occupational medicine (OM), industrial hygiene, and occupational and environmental health nursing (OEHN). These programs typically have 4, 12 and 13 trainees respectively. Other programs are Continuing Education, Outreach, Center Administration, Pilot Collaborative Research Training with the Southern California Injury Prevention Research Center, Hazardous Substances Academic Training Pilot/Small Project Training, and Targeted Research Training. These programs represent a coordinated, interdisciplinary set of professional education, continuing education, research and outreach activities that has a positive impact on the region’s and nation’s occupational health and safety practice. Begun in 1989 at USC, the ERC was directed by EHS faculty member, Dr. William Hinds from 1999-2009. Dr. Hinds retired on July 1, 2009. Dr. John Froines took over as interim Director until a new Director could be identified.

The primary goals of the ERC are 1) to educate professionals in the various disciplines of occupational health and safety, 2) to provide continuing education for professionals and others in occupational safety and health fields, 3) to proliferate occupational health and safety activity through outreach to regional institutions and organizations, and 4) to foster research on issues important to occupational health and safety.
Table 6. Major (>$1 million) Centers Housed within EHS

<table>
<thead>
<tr>
<th>Name</th>
<th>Director</th>
<th>Total Current Period Funding</th>
<th>Center Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH Southern California Education and Research Center (SCERC)</td>
<td>J. Froines (interim)</td>
<td>$3,810,000</td>
<td>Research, Training, Education, Service</td>
</tr>
<tr>
<td>Southern California Particle Center (SCPC)</td>
<td>J. Froines</td>
<td>$7,999,999</td>
<td>Research</td>
</tr>
<tr>
<td>Sustainable Technology and Policy Program</td>
<td>J. Froines/T. Malloy Co-Directors</td>
<td>$1,900,000</td>
<td>Research, Education, Service</td>
</tr>
<tr>
<td>Center for Occupational and Environmental Health</td>
<td>RJ. Jackson</td>
<td>$1,500,000</td>
<td>Research, Education, Training, Service</td>
</tr>
</tbody>
</table>

Community Involvement/Outreach – EHS maintains a strong commitment to outreach efforts connected to all activities of COEH and affiliated special programs, centers and research. Outreach efforts are currently being restructured beginning with the redesign of the COEH, STPP and EHS websites as mechanisms to articulate to the public the wide swath of efforts EHS faculty undertake and to engage the public in them. One of the priorities of EHS in the coming year is to use innovative means to share research results and develop/strengthen linkages to both the UCLA community and the community beyond the UCLA campus.

A central component of all research efforts that EHS has embarked upon is the inclusion of community based organizations or interest groups as strong partners in projects. Examples of projects include:

1. **Academic and Community Collaborative to Improve Our Neighborhood** (ACCION) is a new project directed by Dr. John Froines and funded by the California Endowment. ACCION is collaboration between UCLA and two community based organizations, *Proyecto Pastoral* and *Union de Vecinos*, working to improve issues of traffic, air pollution, pedestrian safety and other built environment impacts within the community of Boyle Heights in East Los Angeles. Home to one of the largest Latino communities in the United States, Boyle Heights is an area with rich history, but also significant challenges. Over the next two years through the efforts of ACCION, UCLA researchers will work with community groups to develop measurements of impact as it relates to air pollution, traffic and pedestrian injuries and create maps of these impacts within the Boyle Heights community. ($323,820)

2. In collaboration with the UCLA Center for Health Policy Research, the **Assessment of Local Environmental Risks Training** (ALERT), also directed by Dr. Froines, uses a community-based education model to foster trust and collaboration between environmental health researchers and community-based organizations (CBOs). ALERT builds the knowledge and skills of CBOs in understanding environmental health data, performing a community-based environmental health assessment, and establishing partnerships with researchers who are prepared to work with CBOs from diverse communities on environmental health concerns through the development of an environmental health action plan for policy change with a focus in air pollution. ($500,000 from NIH)
3. The AQMD Railyard Project, led by Dr. Froines seeks to chemically and biologically characterize the air pollutants to which communities adjacent to rail yards are exposed and to educate local communities about the potential health risks from these facilities by sharing research results. ($280,872)

4. Dr Jackson is hosting a PBS special on built environment and public health (contracted by the Media Policy Center in Santa Monica to Oregon Public Broadcasting) that is to air this fall. Work on a companion book in underway and should bring substantial positive visibility to UCLA, SPH and EHS.

III. BYLAWS

EHS follows the bylaws established by the University and the SPH and its own faculty. In addition, the department has established bylaws governing Academic Programs and Degrees which were approved by the faculty and the Senate back in 1992 (Reference 4). Our current curriculum committee will have the task of reviewing and making recommendations to the faculty based on the changes in the department’s curriculum and academic structure.

IV. UNDERGRADUATE PROGRAM

In 2006, an Environmental Science undergraduate program housed in the Institute of the Environment (IOE) was established. The IOE is a Center for Multidisciplinary Instruction and through its local, national, and international programs. The IOE employs innovative, cross-disciplinary approaches to address critical environmental challenges- including those related to climate change, water quality, air pollution, biodiversity, and sustainability – with the goal of achieving stable human coexistence with the natural systems on which society depends. EHS faculty were integral in the development of the undergraduate program. The first component, the Environmental Science Major, provides students with disciplinary breadth in areas important to environmental science. The second component, a minor/concentration, provides in-depth knowledge in one of eight environmental science areas, one of which is associated with EHS. There are 14 currently enrolled in the Environmental Health concentration with indications that the number could easily increase to 20-25, possibly more if additional undergraduate-oriented courses are offered that could satisfy EHS requirements.

Environmental Health Sciences 100, taught by EHS faculty members Dr. Curtis Eckhert and Dr. Hilary Godwin, saw increased popularity. It is currently offered in the fall and spring quarters with plans to add a summer session as well. Other EHS undergraduate courses include: EHS C135, 203, C125, C140, C152C, C157 and C164. The School of Public Health has organized a minor for seniors to act as a recruitment tool to Public Health (including EHS). There are plans to develop a Public Health major.

VI. GRADUATE PROGRAM

1. Admissions

All applicants to EHS must first apply to the UCLA - SPH prior to December 1st in the year preceding the anticipated Fall quarter start date. However, late applications are accepted. The applicant must submit specified materials in a two-step process: completing the UCLA Graduate Division Application and the SOPHAS Application. SOPHAS is a centralized application system to which approximately 35 Schools of Public Health subscribe. Materials necessary for submission include the application, official transcripts, GRE scores, personal
statement, three letters of recommendation, a personal CV/resume and, if applying for a doctoral program, a writing sample of previous scholarly work.

The central SPH Student Affairs Office, which oversees recruiting and admissions, collects and processes all the collected data into an on-line reviewer portal. At that point in the process, individual departments within the SPH manage the applications and assign faculty reviewers for each on-line file. Each Department has a Student Affairs Officer who responds to student inquiries regarding their application status. Applications to the master’s program are reviewed by the Environmental Health Sciences Admissions and Financial Aid Committee (EHSAFAC). Doctoral applications are available for review by the entire EHS Faculty, but a decision can be made once the majority of the faculty has entered their decision. There must be a willing faculty advisor for a doctoral applicant to be accepted. Once admissions decisions are made at the departmental level, the central Student Affairs Office, in conjunction with the UCLA Graduate Division, manages the applicants by extending official offers, monitoring acceptances, and managing wait-lists through matriculation to the School. If applications are received by the December 1st due date, applicants are informed of their status by March 1st. If applications are received after December 1st a rolling process continues until all spaces within the School are filled. The EHSAFAC also assign funds from Graduate Division and Atlantic Richfield Company (ARCO).

2. Recruitment

Figure 4 represents the total number of students enrolled each year in EHS since the last review as well as the number of new students (Information obtained from Graduate Division and SPH Assistant Dean for Student Affairs).

The Department has made aggressive efforts to emphasize recruiting with greatly increased personal contact with potential students by the Department Chair, the Associate Dean for Academic Affairs Hilary Godwin, and by faculty. In fall 2008, there were only seven incoming EHS Masters level students. One year later, in fall 2009, the Department admitted 25 students. This trend has continued with a January 2010 report from UCLA Graduate Division showing
EHS applications up 136% (with additional applications not yet processed) from this time in 2009.

In addition to the increased personal contact, the Department has also made substantial improvements to its web presence through the creation of a dynamic webpage due to launch in Spring 2010 and through a popular Facebook page that provides a means for dialog and discourse between students and faculty.

3. Curriculum

A graduate education in Environmental Health includes training in the fundamental broad core of knowledge in the field through course, laboratory and field work, and understanding in one of the subtopic areas through a combination of advanced courses and independent research.

Subtopic areas were identified and data from the top three major EHS academic degree programs as well as UCLA were gathered from web sites and compiled in the table below, illustrating the total number of classes offered in each topic.

Table 7. Number of courses offered per subtopic in top major EHS degree programs.

<table>
<thead>
<tr>
<th>Subtopic Area</th>
<th>Harvard</th>
<th>Columbia</th>
<th>U. of Michigan</th>
<th>Johns Hopkins</th>
<th>U. of Washington</th>
<th>Chapel Hill- NC</th>
<th>UC Berkeley</th>
<th>UCLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Env. Sciences/ Core Introductory Courses</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Toxicology-Environmental/Molecular</td>
<td>5</td>
<td>6</td>
<td>16</td>
<td>11</td>
<td>14</td>
<td>15</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Air Chemistry/Quality</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Water Chemistry/Quality</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Management/Economics/Leadership</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Hygiene/Occupational Health</td>
<td>17</td>
<td>3</td>
<td>14</td>
<td>11</td>
<td>17</td>
<td>5</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Env. Health Hazard (Risk) Assessment</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>17</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Global Environment/Climate Change</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Env. Health Policy and Law</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Disaster Emergency/Refugees</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**PhD Program:** The PhD in EHS is an advanced research degree that emphasizes depth of knowledge and research skills. The dissertation must demonstrate ability for independent scholarly investigation. Students select a course of study upon consultation with their guidance committee. Interdisciplinary research is encouraged.

**DrPH Program:** The DrPH is a schoolwide degree and the highest professional degree for the public health generalist. Students are expected to focus on public health practice and to acquire broad knowledge related to professional skills. The dissertation is of an applied, practical, problem-solving nature and must demonstrate ability for independent investigation.
EHS is one of the areas of specialization. Students are encouraged to do interdisciplinary research.

**MPH Program:** The MPH is a schoolwide professional degree in the field of public health. EHS is one of the areas of specialization. Students are expected to focus on public health practice and to acquire a broad knowledge related to professional skills. A minimum of 62 units is required to complete the degree. Teaching experience is not required.

**MS Program:** The MS in EHS is a research-oriented degree that includes the preparation of a thesis or comprehensive examination/major written report. Students may focus on such areas as air quality, environmental biology, environmental chemistry, environmental management/policy, industrial hygiene, toxicology, and water quality.

**Industrial Hygiene Program (IHP):** Considered a subtopic within EHS, the primary academic objective of the UCLA IHP is to train professional and research industrial hygienists at the Masters and Doctoral levels. The MS and MPH programs are two-year programs with a total of 79 and 85 units, respectively. The program is geared towards producing scientifically sophisticated graduates capable of performing at an advanced professional level and moving into leadership positions. The PhD program provides advanced training in a research area of industrial hygiene. Training includes classroom instruction, laboratory exercises, field trips, internships, and thesis research. The MS and MPH programs in Industrial Hygiene are fully accredited by the Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET/ASAC).

Industrial hygiene students may also take a minor in hazardous substances. The minor serves to expand and formalize training in the area of hazardous substances for industrial hygiene students. Curriculum development and student support are provided through our Hazardous Substance Academic Training Grant. Funding for this program comes from National Institute of Environmental Health through the NIOSH and the ERC. This minor is open to all IH students in good standing with a GPA of 3.0 or better. NIOSH eligible students pursuing this minor receive additional financial support.

### 3. Graduate Student Financial Support

EHS provides funding to incoming and continuing students from a variety of sources. Students are funded through UCLA Graduate Division fellowships, private fellowships, SPH Fellowships, faculty grant funds, ARCO funds and ASE appointments. The EHSAFAC determines how these funds are allocated to the students. In addition, the Department also has some training grants, such as the ERC and the Toxic Substances Research and Teaching Program (TSRTP), which are available to qualified students. Students in the IHP are funded by the ERC and also have the opportunity once a year to compete for the Tony Norton Fellowship.

The EHSAFAC determines how its funds are allocated in the Winter quarter of each academic year. Doctoral students are given first priority, followed by MS, and then MPH students. The Department pays full fees for doctoral students and the remaining funds are allocated to continuing and entering master’s students. Continuing students must have at least a 3.5 cumulative UCLA GPA to qualify for Departmental funding. The funding for entering students is based on their undergraduate GPA, the GRE/MCAT, references, and statement of intent. In addition, students are also funded.
The adequacy of student funding has decreased over the years due to state budget cuts that have impacted other universities throughout California. This has limited the support that we can provide to our incoming and continuing students. As a result of these budget cuts, the Department has had to heavily rely on our internal funding sources, such as ARCO, which no longer leaves a surplus of these funds to rely on for future years.

4. Post Graduate Survey

EHS applicants are generally motivated by security, idealism, and service. They are logical thinkers, intellectually curious, and enjoy coming up with solutions to problems that benefit society at large. Our applicants want to develop and exercise technical expertise, and like the mix of qualitative and quantitative approaches to problems that can be found in an environmental health sciences career. Graduates of the department pursue careers as researchers, educators, managers, policymakers, and/or practitioners, and can be found in private industry, county departments, regional agencies, state departments and boards, and federal agencies.

The Winter 2009 graduate council survey on enrolled students had a 63% return rate (12 surveys out of 19) and found that EHS students rated the Department “very satisfied” or “satisfied” in key areas such as guidance from faculty, the value of department requirements in facilitating your educational and professionals goals, the level of financial assistance received, and the overall quality of faculty mentoring in the program. Two areas with the lowest scores include the space available in the department for student use (41.7%) and the inclusion of graduate students in departmental governance (41.7%). EHS has been proactive in addressing these issues. As mentioned earlier in this report, EHS has increased the number of student representatives to 3. Student representatives are invited to monthly departmental meetings and focus groups are being planned to obtain student input on curriculum development. In regards to the lack of student space, as mentioned in the Infrastructure section, a large workspace with desks and computers will be created for student use.

As mentioned, EHS has made it a priority to create an effective alumni base. As part of this goal, questionnaires were sent to alumni by the new internship/outreach coordinator. Samples of alumni responses are in Appendix 2.

VI. REPORT ON ARTICULATED, CONCURRENT, AND SELF-SUPPORTING PROGRAMS

During the 2009-2010 academic year, a proposal for a MPH in Environmental Health Sciences and the Master of Arts (MA) in urban planning concurrent degree program was approved by the SPH FEC and submitted to the Graduate Council. The proposal had been jointly and enthusiastically developed by faculty in these two programs in response to rising student and faculty interest in the professional and scholarly intersections between Urban Planning and Public Health. The Graduate Council returned the application due to a concern that the program described in the proposal appeared to require more time for students to complete the requirements for both degrees than would be required of students pursuing both degree programs separately. This apparent concern reflected the way that the course requirements were described and the concern was addressed. In addition, the proposal has been refined and improved to better link the curricula in the two programs and allows students to complete the two degree programs concurrently in less time than it would take to do so separately, but without compromising the academic integrity of either program.
In early January 2010, the revised proposal (Reference 5) was submitted to the SPH Faculty Executive Committee (FEC) for review.

VII. COMPARISON TO THE PREVIOUS REVIEW

When the Department began in 1989, Environmental Toxicology was a Master's track and doctoral students who focused in Toxicology who wanted a doctorate obtained a doctorate in Environmental Health Sciences. The latter is still possible in 2010, except that in 2009 all Master's tracks were abolished. However, the response to the EHS Self-Review of 1992 indicated need to bolster the Environmental Toxicology area since it was a truly unique subdiscipline of environmental health, and all the current faculty in that area were part-time practitioners in the subdiscipline. To comply, this led the Department and the Dean of SPH to recruit a new faculty member in that subdiscipline ---Michael Collins- and to seek links with other units of the UCLA campus interested in a doctoral program in Toxicology that led around 1999 to attempts to form the Molecular Toxicology doctoral program before the Self-review of 2000 was submitted, as detailed in Reference 2 for the Molecular Toxicology Self Review Document for 2009.

During the six years that followed the year 2000 eight year review the curriculum remained static, the incoming student numbers declined, the number of grants were in decline, academic productivity was steady (albeit productive enough to rank third in The Chronicle for Higher Education’s 2007 ranking), the average age of the faculty increased, and there was little turnover of faculty except for the arrival and subsequent departure of one junior faculty member (Linwood Pendleton of ESE).

In 2006, Dr. Hilary Godwin was recruited from Northwestern University in Chicago, bringing a very diverse research portfolio, a high level of dynamism, and productivity. In 2008 Dr. Godwin was promoted to Associate Dean for the SPH and Richard Jackson was recruited from the University of Michigan and previously UC Berkeley. Jackson, who had extensive management experience in government but lacked managerial experience within the UCLA system, had served for 2 1/2 years with distinction as an adjunct professor at the University of California Berkeley SPH.

One of Jackson's first actions after getting to know the EHS and affiliate faculty, the other departments of the UCLA SPH, and the other programs (in particular IOE and the Department of Urban Planning) was to invite a distinguished informal review group to offer advice to him and the Dean of the SPH on how to improve EHS. The group included Richard Fenske of the University of Washington, Patricia Buffler of UC Berkeley SPH, and John Spengler of the Harvard SPH. Their recommendations are attached in Reference 6.

Their most significant finding was that while the department possessed substantial excellence and assets, the department was fragmented and did not operate at the highest level of collaboration and potential productivity. One specific challenge was the relationship between EHS and the COEH. COEH is a state funded activity that developed by the state of California in the late 1970s and early 1980s as a result of serious health effects on workers from pesticides and other chemicals. The program was put in place in Northern California with UC Berkeley as the lead and, and one in Southern California with UCLA as the lead. The program in Northern California at the SPH in Berkeley has had relatively seamless coordination between COEH and the UC Berkeley SPH EHS. This was less so in Southern California.
Stimulated by this assessment and in part because it reinforced her own views, the Dean of the SPH announced a move to consolidate the leadership of both EHS and COEH, under the new EHS Chair. This brought the intellectual, personnel, and fiscal assets of COEH under department control. Because this change was relatively abrupt and had personal implications, it resulted in a rather challenging summer for all persons involved. The positions and funding have begun to be sorted out. Administrative support that was previously dedicated to COEH projects and faculty have been redirected and challenged to take on the overall work of environmental and occupational health. This increased support has been beneficial to EHS and has increased the effectiveness and efficiency of departmental processes.

Another disquieting factor was the 2009-2010 compression of EHS space because of increasing numbers of SPH faculty in a fixed amount of space. (see Section VIII.1).

VIII. RESOURCES

1. Infrastructure

Faculty research laboratories and offices are located in the SPH, which is part of the Center for Health Sciences complex. In 2009, the SPH conducted a school-wide space redistribution resulting in a net loss of 2,376 sq foot of office and laboratory space. An Ad Hoc Laboratory Space and Planning Committee was established and a Departmental wide space survey was done. Guidelines were established to redistribute the remaining space. Guidelines included:

- SPH full-time faculty who have no other primary office on campus or in UCLA-rented space near campus should have first priority for academic offices. Ladder rank faculty have first priority for prime (e.g. window) office space.
- Faculty who have primary offices in offsite Centers or other departments may have a second office in the school if all other departmental space needs have been met or may be assigned shared office space onsite.
- Faculty and programs with external funding shall be allocated space commensurate to the research effort and external funding. Lab Space committee recommendations should be implemented.
- Where possible, more "interaction space" should be allocated for both students and faculty within the school.
- Offices and computer space for students should be shared both within departments and across departments to the greatest extent possible.
- Students should be encouraged to use the shared study space within the Biomedical Library.
- Because space is a critical resource, Department Chairs or Space Committees should work with occupants to develop a plan to scan critical documents, eliminate unnecessary items, and move unused equipment or files to offsite locations.

These new guidelines will ensure that space will be used most efficiently. To further meet the goals of the department, a workspace is being created for students consisting of a number of study spaces, tables, chairs and computers. This new student workspace is adjacent to office space housing the EHS Student Affairs officer and the EHS Internship Coordinator. This new area will also provide for increased cohesion between students in EHS, the two IDPs and the IHP.

2. Operational Budget and instructional support
Table 8: EHS Operating Budget and Instructional Support

<table>
<thead>
<tr>
<th>Operating Budget</th>
<th>19900 General Funds</th>
<th>SPH Funds</th>
<th>COEH 19900 Funds</th>
<th>TOTAL ALL FUNDING SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Salaries</td>
<td>FTE's</td>
<td>Amount</td>
<td>Staff Salaries</td>
<td>Total FTE's</td>
</tr>
<tr>
<td>EHS/ESE</td>
<td>9.0</td>
<td>947,450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSO</td>
<td>0.5</td>
<td>37,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL 19900</strong></td>
<td>$984,950</td>
<td><strong>TOTAL SPH</strong></td>
<td>$163,988</td>
<td></td>
</tr>
<tr>
<td>SPH Funds</td>
<td>Staff Salaries</td>
<td>Total FTE's</td>
<td>Includes: Financial Mgr, Admin, Support, Outreach</td>
<td>4.0</td>
</tr>
<tr>
<td>MSO</td>
<td>4.0</td>
<td>246,760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support, Outreach</td>
<td>4.0</td>
<td>246,760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp Staff/TA's/Special Readers</td>
<td>25,323</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies &amp; Other Expenses</td>
<td>29,895</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>TOTAL COEH</strong></td>
<td>$301,978</td>
<td></td>
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<td></td>
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<tr>
<td><strong>TOTAL ALL FUNDING SOURCES</strong></td>
<td>$1,450,916</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IX. CONCLUDING REMARKS FROM THE CHAIR

EHS has made major progress in recruiting more incoming students (7 to 25 in one year) though it must sustain this over time—key to this are good reviews by current students. A major reason for this was more aggressive recruiting and recognition that suitable students were applying to other departments of the SPH and there was no effective transfer mechanism. This has been rectified. A makeover of the EHS/COEH website is underway to enhance visibility, a better sense of timeliness, and a better description of faculty expertise.

Over the last year the management structure has been organized with a goal of facilitating grants management, fiscal accounting, academic personnel actions, curriculum and other activities.

Courses that were not offered have been removed (Appendix 3) and new courses added including: Case Studies in Environmental Health (Richard Jackson); Children’s Health and...
Environment (Michael Collins); Built Environment and Health (Richard Jackson); Environment Health Law and Policy (Timothy Malloy and Peter Sinsheimer); Environmental Public Health Practice (James Gibson and Thomas Hatfield) and a summer course Introduction to Environmental Health. We will be looking to create courses on: Climate Change and Health (likely joint with IoE); Environmental Justice and Health (likely joint with CHS); Global Environmental Health including port, trade, and transport issues; Agriculture policy as health policy (likely with CHS); Health Impact Assessment (jointly with CHS); Cancer Epidemiology (jointly with Epi); Reproductive Epidemiology (same); Neurological Disease Epidemiology (same); Sustainability and Health (joint with IoE); Communication for Environmental Health Leaders; Ethics and Societal Values in Environmental Health.

The hire of a new assistant professor with expertise in aerosol science is nearing completion. The search for the ERC director is still continuing. An internship coordinator has been hired who is actively engaging students and alumni, and we intend to place all our students in good internships with solid supervision. The Chair very much wants to increase the presence of adjunct, visiting and “in residence” faculty to enhance the curriculum. The joint degree program between public health and urban planning is in place.

Space reallocation and office clean up including removal of outdated chemicals, laboratory equipment, and old paper documents is underway—a challenging task. In keeping with good environmental sustainability policy, we are committed to scanning of old documents, to use where possible electronic materials, and to recycle aggressively. We are creating a shared office space for a full time equivalent Student Affairs Officer and the Internship Coordinator. In addition, a work and study area is being built for student work and gathering.

There is much to be done but the trajectory for EHS is positive. This will require ongoing work and strategic planning efforts by faculty and staff, new sources of funding, new personnel, and an abundance of spirit, but this will be done. We will meet our mission: to develop and transmit knowledge about the links between health and the environment, and to educate scientists and public health leaders who can design science-based policies to address current and future environmental health challenges.
APPENDIX 1
EHS Faculty
Highlights/Accomplishments
Ambrose:

- Current Grant:
  Minerals Management Service, Project Period: 5/30/02-4/30/10
  *Determining Long-Term Changes in Species Abundances and Community Structure in Southern California Rocky Intertidal Habitats*
  Total Direct Costs $690,511
- Honor: Commendation from California Senate for service to Santa Monica Bay Restoration Commission
- U.S. Army Corps of Engineers Environmental Advisory Board, Chair of Technical Advisory Committee for the Santa Monica Bay Restoration Commission.
- Recent Publications:
  Coffman, G.C., R.F. Ambrose and P.W. Rundel. Wildfire promotes dominance by the invasive Giant Reed (Arundo donax) in riparian ecosystems. *Biological Invasions.*

Collins:

- Associate Scientist, California Institute of Technology (2008 – present)
- Professor, Department of Environmental Health Sciences, Interdepartmental Program in Molecular Toxicology, Jonsson Cancer Center and Interdepartmental Program in Environmental Science and Engineering, School of Public Health, University of California at Los Angeles (2002 – present).
- Recent Awards:
  Best paper in reproductive and developmental toxicology in *Toxicological Sciences*, Society of Toxicology (2008)
- Highlight grant: National Institute of Environmental Health Sciences (NIH)
  Murine strain sensitivity to cadmium teratogenesis
  Total direct costs: $1,000,000
  Project Period 4/1/01 – 3/30/07

Eckhert:

- Current Grant:
  UC Toxic Substances, Research and Training Program, California NanoSystems Institute
  *UCLA and UCSB Lead Campus in Nanotoxicology*
  Funding $1,250,000
  Project Period: 07/01/06 – 06/30/13
- Recent Publication:

Froines:

- Current Grants:
  - Director, Asthma and Outdoor Air Quality Consortium Advisory Board, SCAQMD. 2003 to present
-Director, The California Endowment, 6/1/09-5/31/11
Total costs $383,820
-Primary Investigator, South Coast Air Quality Management District Toxicologic Pathways of Rail Yard Emission Exposure on Non-Cancer Health Impacts, 2009-2010
Total costs $280,872
-Director, Sustainable Technology and Policy Program. 2009-present
-Chair, California Air Resources Board
Physicochemical and toxicological assessment of the semi-volatile and non-volatile fractions of PM from heavy and light-duty vehicles operating with and without emissions control technology.
Project period 01/01/06-12/31/09
Direct Costs: $254,545
-US EPA Southern California Particle Center RD-83241301-0 (PI)
Project period 10/1/99-9/30/11
Direct costs: $18,365,579
-Recent publications:

Godwin:

-Associate Dean for Academic Programs for the UCLA School of Public Health
-coPI and Director of Education and Outreach for University of California Center for Environmental Implications of Nanotechnology, a new $25M center funded by the National Science Foundation and Environmental Protection Agency.
-Engaged in collaborative research with faculty from the UCLA School of Law and the Sustainable Technology Policy Program that is funded by the Robert Wood Johnson Foundation and California’s Department of Toxic Substances Control.
-coDirector of the UCLA Global Bio Lab for Infectious Disease Surveillance at UCLA (located in the California Nanosystems Institute).
-PI of Public Health Traineeship Grant from HRSA ($186k in funds for AY2009-2010, including supplemental ARRA funds)
-Elected AAAS Fellow, 2009.

Hankinson:

-16th International Conference on Cytochrome P450, Okinawa, Japan (Plenary Speaker), June 2009
-18th International Symposium on Microsomes and Drug Oxidations, Beijing, China, May 2010
-9th International Meeting of the Society for the Study of Xenobiotics, Istanbul Turkey, September 2010
-Recently Awarded Grants:
Carcinogen Activation and Screening in Variant Cells
5R01CA28868-25-29 (Hankinson) 12/01/05 – 3/31/10
NIH/NCI
Total Costs $1,697,850
-Function and Regulation of Human Cytochrome P4502S1
1R01ES015384-01-05 (Hankinson) 09/28/06 - 07/31/11
NIH/NIEHS
Total Costs $1,347,500
- Function and Regulation of Human Cytochrome P4502S1
1RO1ES015384-04-S1 (Hankinson) 09/25/09 - 07/31/11
NIH/NIEHS ARR Competitive Revision
Total Costs $462,000
- Training grant in “Molecular Toxicology”
5T32ES015457-01 (Hankinson) 07/01/08 – 06/30/13
NIH/NIEHS
Total Costs $1,090,230
- UCLA Center for Biological Radioprotectors
U19 AI-67769 (McBride) 08/03/05 - 07/30/10
NIH/NIAID
Total Costs to Hankinson $75,000 (3/10/07-3/9/09)

Hinds:
- Honors:
  - American Industrial Hygiene Association, Donald E. Cummings Memorial Award, June 2009.
  - American Association for Aerosol Research, David Sinclair Award, October 29, 2009.
- Recent Grants:
  - South Coast Air Quality Management District – Asthma Consortium, The Roles of Pollutant Components in the Development of Asthma 04/01/08 - 03/30/09. Total Direct Costs: $47,485
  - NIOSH - Southern California NIOSH Education and Research Center, Project period 07/01/04–06/30/09, costs: $1,358,248/year
Pl for entire center and for the following programs:
  - Industrial Hygiene Program $169,289/year
  - Pilot Project Research Training Program $106,974/year
  - Center Administration NIOSH ERC $82,269/year
- California Air Resources Board “Cardiovascular Health Effects of Fine and Ultrafine Particle during Freeway Travel” 06/20/05–01/31/10 $640,674 (total)
- California Wellness Foundation - Identifying and Preventing Workplace Injury and Illness of Service Workers in the Tourism Industry. 7/1/06-6/30/09 ($80,000)
- California Wellness Foundation - Occupational health and safety training for health care providers with low-income patients. (7/1/06-6/30/09) ($80,000)
- OSHA - Training small business owners to prepare for an Asian flu pandemic. (10/1/07-9/30/08) ($259,796)
- Recent Publications:

Jackson:
Certificate of Excellence in Teaching: UCLA SPH 2009;
Outstanding Teacher& Mentor: UC Berkeley SPH 2007
“Champion of Environmental Health” CDC 2003; Director NCEH, 1994-2003
Distinguished Executive for all of DHHS awarded by the President 2004
Former California State Public Health Officer 2005-5
Coauthor: Urban Sprawl and Public Health 2003
UCLA Oppenheim lecture – Institute for the Environment 2008
Lifetime Achievement Award: New Partners for Smart Growth
Hero’s Award: Breast Cancer Fund 2006
Public Member: Board of Directors, American Institute of Architects
Chair: NAS/IOM Committee on Health Impact Assessment 2010
Member: NAS/IOM committee on Sustainability
Member: NAS/IOM Roundtable on Environmental Health

Agriculture Policy is Health Policy. Journal of Hunger & Environmental Nutrition, 2009
Host: PBS Special “Built Environment and Health - For Fall 2010

Kennedy:
- nominated for ASPH/Pfizer Award for Teaching Excellence, July 2009
- UCLA Public Health Student Association Teaching Assistant of the Year, 2000
- Publications:
  Que Hee

Que Hee:
- Recently Awarded Grants:
  NIOSH/CDC 09/01/09-08/31/12
  Whole Glove Permeation/penetration of Organic Liquids with a Dextrous Robot Hand,
  Total Direct Costs: $1,060,110
- EHS Admissions and Financial Aid Committee, 2002-2010;
- SPH Education, Policy and Curriculum Committee 2008-2010;
- Awards:
  Distinguished Professor, National Taiwan University, School of Public Health, Institute of Environmental Health;
- The Biological Monitoring Committee Service Award in Recognition of Exemplary Contribution to the Committee and the BEELs Project Team, Biological Monitoring Committee, American Industrial Hygiene Association June, 2007;
- AIHA Outstanding Project Team Award as part of the Exposure Assessment and Safety Committee Dermal Project Team, June 2008.
- Recent Publications

Ritz:

- Professor and the Vice Chair of the Department of Epidemiology at the UCLA School of Public Health with co-appointments in Environmental Health Sciences and Neurology at UCLA;
- Co-directs the UCLA Center for Gene-Environment Studies in Parkinson's disease (Centers for Neurodegenerative Sciences – CNS funded by NIEHS). She received funding from NIH for 1) a study of pesticide exposures in Parkinson's disease in California (NIEHS-R01); 2) a study of occupational exposures and gene-environment interactions in Parkinson's Disease in Denmark (NIEHS-R01); 3) a study to explore the effects of sunlight exposures and Vit D on Parkinson's disease (NIEHS-R03); 4) a study to identify environmental and genetic predictors of PD motor and non-Motor progression (US NINDS UDALL Parkinson's Disease center); 5) to assess the feasibility of a California Parkinson's Disease Registry (DoD); and 6) MJ Fox foundation funding to participate in two consortia collaborations to identify gene-environment interactions in PD.
- In 2009 she received an award from the American Parkinson's Disease Association for outstanding contributions to the medical and scientific communities and for her work towards the advancement of Parkinson's disease research.
- Continued her studies of air pollution and adverse birth outcomes and asthma in children in Southern California; her efforts and collaborations in this area were supported by funds from the NIEHS (RO1, RO3, R21), the California Air Resources Board and EPA.
- In 2007, she received the Robert M. Zweig M.D. Memorial Award (Clean Air Award) from the South Coast Air Quality Management District (AQMD)
- In 2007 she was appointed as a Collegium Rammazini Fellow
- Since 2007 member of the WHO global burden of disease program working group for outdoor air pollution and adverse birth outcomes, the Environmental Exposures Working Group for the PhenX project of genome wide association research at NIH, the NAS/IOM Committee on Gulf War and Health Phase 4, and the U.S. EPA CO standard setting panel for (CASAC: Carbon Monoxide National Ambient Air Quality Standards)

Robbins:

- Head of Occupational and Environmental Health Nursing Program, part of the School of Public Health-based Southern California Education and Research Center
- Highlight grant award since last review:
  National Institute for Occupational Safety & Health (NIOSH) Director, Occupational & Environmental Health Nurse Training Program, Southern California ERC
  2001-2007 Total Direct Costs: $2.4 million

Rosenstock:

Schiestl: Associate Professor

- Highlight Recent Publications/ Press release:
  2) Trouiller, B., P. Solaimani, A. Westbrook, R. Reliene, and R.H. Schiestl (2009); TiO2 Nanoparticles Induce Genetic Instability and Oxidative Damage In Vivo in Mice, Cancer Research (joint press release b/w UCLA JCCC and SPH)
- Awards: Jonsson Comprehensive Cancer Center, Helene Brown Award, 2006
- Highlighted grant award since last review:
  NASA Total Direct Costs: $970,875 Project Period: 05/04/005 – 08/14/09
  Effect of Space Radiation on degenerative tissue disease genetic instability and oxidative DNA damage in Ataxia Telangiectasia deficient mice.
Suffet:

- Awards;
  Elected to the Hall of Fame Award of the International Activated Carbon Association – 2010
  Professorial Visiting Fellow, Water Research Center, School. of Civil and Environmental Engineering, Faculty of Engineering New South Wales University, Sydney, Australia 2009-2012
  Postdoctoral Research Associate – CIRSEE, Suez-Environmental Laboratories, Le Pecq, France. Air Pollution - NOZE – Air Pollution Nuisance Odor Project, 2006
  International Water Assn., Distinguished Service Award, Off-Flavors Group Award, 2005.
  Golden Spigot Award, Distinguished Service Award, American Water Works Association, Water Quality Division, 2003
  A. P. Black Annual Research Award, American Water Works Association, 2002. “In recognition of research in the field of organic contaminants and taste and odor in water

- Recent Grants:
  California State Water Resources Control Board, Los Angeles Region.
  Co-PI M. Strnstrom, Dept. Civil and Env. Eng. "Determination of the Primary Source of Chlorinated Pesticides entering Echo and Peck Lake in Los Angeles, CA" 2007-2008, $100,000
  MH3 Corporation via Fort Collins Colorado Water Department, Characterization of Dissolved Organic Matter in Colorado, Drinking Water Sources and Treatment Plants of the Upper Cache la Poudre, Horsetooth Reservoir and Associated Components of the Colorado-Big Thompson Project
  $75,000 gift, Project Period 2007-2009

Valentine: Associate Professor

- Member, Canadian Water Network Expert Panel. Networks of Centers of Excellence Program

Winer: Distinguished Professor

- Awards:
  - Luskin Scholar 2009
  - Haaggen-Smit Award 2006
  - American Lung Association Clean Air Award 2004
  - Excellence, Coalition for Clean Air, 2004
  - ISI Highly Cited Researcher in Environmental Field, 2003
  - Carl Moyer Award for Scientific Leadership and Technical Excellence Coalition for Clean Air, 2004

- Highlight grant award since last review:
  - “Investigation and Characterization of Pollutant Concentrations and Gradients in the Ports, West and Downtown Areas of Los Angeles, CA Using an Instrumented Mobile Platform” CA EPA/ARB, Effective Dates: 09/20/05—6/30/2010
  - Total Direct Costs: $428,000

- 2007 Second-Class Prize of Scientific & Technology Awarded by Fujian Province, China (Dr. Lin Cai and Dr. Zhang) on selenium intake and esophageal cancer in Chinese Population

- Recent publications:
APPENDIX 2
Sample responses from EHS alumni questionnaires
What are the strengths of the EHS program?

“I liked the IH part of program. I thought some of the faculty were nice, but I wasn't too pleased with the EHS program, rather I was pleased with my IH department.”

“The department is small, which makes it easier to get to know your professors, who are all very personable. You can feel that they want what is best for the students and that they work hard for us.”

“It is an excellent program that works very closely with the students. The professors are interested and concerned and very helpful.”

“Having taken the M.S. route, I was required to prepare a thesis. My thesis was based upon a USEPA-funded stormwater treatment study and required the collection of field data and analysis. Preparing the thesis required the application of scientific principles, taught in the classroom, to real problems. Dr. Mel Suffet was my advisor, and he was supportive, engaging, and nurturing through the entire process. In general, the faculty was amazing and the courses were informative, exciting, and relevant.”

“Great professors and very informative courses. Lots of individual attention. Small class size and ability to work with other students. Very good scholarship and fellowship availability.”

“The faculty is great, the program let me take classes outside the department and helped me meet faculty that matched my interests.”

“I have to admit, I'm not well informed about the EHS program. I know John Froines and his toxicology work have been a cornerstone of the department for many, many years. Also, Dick Jackson is a highly respected environmental health scientist with extensive public experience. Froines and Jackson are definite strengths because it is critical to have scientists that have experience working with the public sector. Both of these scientists are well respected and well known in the public, which also is important. They get involved in related community issues and projects. Other faculty are also highly respected, but the department is relatively small in light of the importance of the department.”

“Very high faculty to student ratio. Great ability to meet, collaborate, and share with other EHS faculty and students. I found faculty very willing to share equipment, chemicals as well as time and knowledge with me. This was fundamental for me to complete my research. Departmental funding for students was very strong. This is a huge asset allowing students (especially PhD students) to focus more on their course work and research.”

“The faculty and their research, I think, is the biggest strength. I really liked how the faculty were willing to talk to you. I also think the 200 A/B class was good. Small class sizes.”

“I really liked the 200 series. The mix of topics is great. The professors are great.”

“I felt that some of the strengths of the EHS program were the professors and their knowledge on the subjects there were lecturing on. I felt they understood the material and were easily approachable. Other strengths, particularly regarding the MPH program included how open the class schedule requirements were. I finished my required classes relatively quickly which freed up space for me to explore other departments within the School of Public Health. I also enjoyed the fact that most (if not all) bases of environmental problems were covered (air, water, toxicology) which allowed me to brief view into these fields.”
“Please note that I was in the IH training program, so most of my answers will reflect my experience in this area. [Strengths]: availability of professors; small class sizes; commitment of professors to nurture individual student growth; professor expertise; good admin support system; EHS 200 series provided a good overview of the topics.”

“The strength of the program came from the excellent faculties and research opportunities. Just to name one, Dr. Godwin was superb and most helpful in both of these areas. Not only was she able to understand what I was looking for in as a graduate student, she was also able to recommend courses that allowed me to have a focus in areas that I was interested in. In instances where she could not help/guide me, she able provided me with valuable student resources as an alternative option. Truly, she is an asset to the Department of EHS. Although not named, other faculties were just as helpful. In addition, Dr. Jackson was actively involved with the student body. I can recall writing a graduation speech where after consulting with Dr. Jackson, I was able to overcome my writer’s block and complete my speech exactly the way I want it.”

“The small class sizes; the professors that I have approached for guidance (Godwin, Jackson and Froines) have been very supportive; Air Quality (my area of interest) is strong and has faculty who are leaders in their field.”

**What are the weaknesses?**

“I felt like the EHS program was a bit of a disappointment. I liked my program specifically, which was IH, however I felt like EHS as a whole suffered. The department rarely encouraged students interact with other departments, and as we were such as small group, it made it hard to meet people and extend our knowledge beyond the EHS focus. Also, the professors were not that interested in the students, unless the student was doing research for them. Even the EHS faculty seemed uninterested. There was nowhere where the students could study/hangout before or after classes other than the dingy library that was on the complete opposite side of the building. The program offices were very segregated and separated in the building; it never made sense to me why they were so separated.”

“As much as I liked that the department is small, it may be too small. I worry because of the lack of classes offered in the EHS department. There was a lack of organization within admin sometimes, which was frustrating. Everyone was nice, but sometimes I felt like I was going in circles when I needed to address an issue. Also, organizing summer internships was difficult, from what I hear. I did an MS, so I didn’t have to do one, but my peers had a hard time with that. But I guess they’ve addressed that problem, since now [the Internship Coordinator is] here. Yay!”

“Some of the courses were too easy because they included nursing students and therefore were made less technical. I would like to see the program better marketed so that more students would get IH degrees.”

“The greatest weakness was the rigidness of the course requirements (core and specialty). There were certain courses that were not interesting or relevant to my goals.”

“Separation of different specializations within EHS. For example, I had very little interaction with the Toxicology students. IH is a big component of EHS, but students pursuing other degrees than MPH are not given much attention.”

“The program is not integrated with other departments enough and the students are not aware of/associated with the professors research interests.”
“As an ESE alum, I never had a great deal of connection with the EHS program other than through Froines. I still don’t have much of a connection with the program, but I have seen Jackson at numerous academic and public meetings on various environmental topics. I haven’t been well informed on EHS curricula, student success and other issues other than through the numerous articles in the School of Public Health publication. I don’t have a good overview of the work that everyone is doing in the department or how the classes offered have changed since I was taking classes over 20 years ago. I’m well informed of the ESE program, but not much else. As for ESE, Rich Ambrose is as conscientious a director as you will ever find. Also, he’s a strong scientist. Winer and Suffit are superb scientists with amazing records, but they are near retirement. ESE has strong graduates, a strong curriculum, and an approach that produces problem solvers. ESE is severely underfunded and understaffed which is a shame in a world where environmental health and sciences are becoming a more important part of university education, the ESE program is smaller than when I was a student in 1986. What a lost opportunity.”

“Some courses (like biostatistics) are not useful for most students who have a science-based undergraduate degree. I think it would be better to have a stats review going all the way through multivariate ANOVA simple linear regression in one 10 week course and then have another 10 week course going into more advanced statistics. Some core courses I think could be more effective if they were updated/reorganized.”

“Some of the weaknesses were some of the required classes were not too informative. Overall, I was happy with the program. Some of the other SPH requirements were not specifically relevant to what I was interested in studying. The internship portion was a little difficult because it was the first year that EHS undertook this requirement. I had a difficult time finding places to apply to.”

“EHS annual intake/class is small compared to HS, CHS and even Biostats. Makes it difficult to interact with other students, esp in IH program; would appreciate more classes that focused on current events and topics - but again, may be limited because of IH program; several classes used lecture materials that were clearly at least 10 years old, again updates may be appropriate; need more classes that promotes active learning as opposed to remembering and reciting concepts. This may require more “series” classes where first class is theory, followed by application of theory/concept; low emphasis on policy, few classes related to Env. policy.”

“As a graduate student, I felt the only weakness was in the organization of the curriculum. Some of the courses were not up-to-date and I had trouble finding alternative courses to satisfy the requirements. Since then, Dr. Godwin and the Department of EHS have provided a complete program overhaul and from the sound of it, it is very impressive.”

“The MPH program does not cover all aspects required to get my REHS; lacked exposure to emergency preparedness and food safety; there should be more collaborations with the rest of SPH; lack of community involvement.”
What did you like/dislike?

“I didn't enjoy how there was no room to add electives. I didn't enjoy how the program did not encourage students to explore other facets of public health. I also wished the program were more social. I enjoyed the classes that allowed me to see other aspects of EHS as opposed to simply IH. I liked when we had parties but hated that we were always in the middle of the hallway or cramped inside the EHS office, which by the way we were kicked out of by Dr. Jackson. (Students were no longer allowed to congregate, use the IH computer, or gather in the office as we were allowed to before, hence my suggesting finding a nice room for students to do so. The graduate lounge in the basement is pathetic. It is in the BASEMENT! and dirty...plus the furniture is nasty...unappealing and impractical when all of our classes are on the 4th, 5th, or 6th floors.)”

“I liked the nurturing environment I was in. I liked the small class size. I liked the flexibility in my schedule/program to explore my interests and take a lot of classes outside of the department, or even outside the school of public health.”

“I did not like that IH students got special treatment. I thought it was unfair that they had special privileges in the EHS office and their internships were set up for them. Well, maybe the internships were not set up for them, but they definitely had more guidance and support with getting the internships than everyone else. I also thought it was unfair that they received stipends while other students in EHS did not. Yes, their program is more specific and they had less flexibility in the classes that they took, but it just didn’t seem right. Everyone knew their department had more money, and it was almost rubbed in all of our faces. Though that might be due to the students, so it wasn't really the dept at fault.”

“I was also disappointed in the lack of classes in the EHS dept. I know Pendleton leaving was a huge blow to EHS, but the lack of policy classes is a weakness. I'd also like to see Ecotoxicology being taught. (These are also ESE comments).”

“I liked how small the department is.”

“Like: faculty, friendly environment, overall experience. Dislike: lack of research requirement, many of the non-EHS required courses, lack of expansive career center.”

“As a student, I enjoyed taking classes in the EHS department like environmental toxicology with Froines and Cho. Honestly, that was one of the best classes I ever took. I took environmental epidemiology (Haile), environmental management/economics (Davos) and a lot of ESE classes. That was about it during my time as a doctoral student. Also, I taught in the department for two quarters. It was a coastal pollution class about a decade ago. The department was not very helpful in promoting class enrollment. Honestly, I just don’t have the connection and affinity for EHS that I should. I’m still well connected to ESE and now I spend most of my time at the University with the IoE. IoE’s focus on working with the community to help solve environmental problems is very appealing to me. ESE has that approach as well. I haven’t felt that way about EHS, but it may be because I’m not a toxicologist or industrial hygiene practitioner.”

“I really liked my research experience and collaboration/relationships built with my cohort of students. I disliked the desks/chairs in the non-lecture hall rooms. They gave me muscle spasms in my back.”
“I liked the faculty and the opportunities I got to TA classes in other departments like Chemistry and Biochemistry. I really liked my advisor, Curt Eckhert. He offered good advice and helped me with the 400 field studies requirement.”

“I liked the faculty, I disliked not having a space for the students to gather at.”

“I liked the flexibility of the schedule to explore electives. I also liked being able to take one class in many of the disparate fields that make up environmental health. I also liked that the schedule allowed time for me to also have a job that was related to this field (I feel this is not particularly true of other students but it was for me). Again, finding an internship was tough and the one I ended up committing to was not one I was particularly interested in. However, it ended up being useful for other aspects of the public health field, such as policy work.”

“I truly loved every part of my experience at UCLA and would not want to change it in any way. There are no dislikes on my part other than the cost of attendance and lack of available scholarships and grants.”

“When I was looking for my MPH internship, my advisor (Godwin) was very helpful; small class size allowed for insightful discussions.”

**How satisfied are you with your overall experience in the EHS Department?**

“On a scale of 1-10...about a 4 for the EHS Department. For IH about a 7.”

“I'm very satisfied. I've learned a lot, and I've met a lot of interesting people. This program has definitely opened more doors for me in terms of my career and my future. And if I hadn't done this program, I doubt I'd be in a doctoral program right now.”

“Fantastic.”

“Yes. In the end my goal was to gain a better understanding (scientific, political, etc.) about environmental issues, and to apply those principles as a working professional.”

“Very satisfied.”

“On a scale of 1-10 (10 being the best) I feel like my experience was a 7.5.”

“Not very satisfied over all. I believe that the potential for the department has not been realized. Environmental health is such a critical societal need and UCLA should really be at the forefront in environmental health research (which is strong), but there should be even greater public involvement and breadth on EH issues.”

“Very Satisfied.”

“Average. Based on my experience, I should have probably chosen to go to a different school or program. I didn’t feel intellectually challenged in the MPH program. I would have liked a more rigorous course load.”

“On a scale of 1-10, 10 being the highest I would rate my experience as a 9.”
“Overall, I was very satisfied with my experience in the EHS department. My cohort was very knowledgeable and friendly. The classes were mostly taught by really great professors.”

“I’m satisfied with the program, particularly the IH program. I feel that the skills (report writing, technical knowledge etc.) I received in the program have certainly aided me up to this point in my career. The program offers the flexibility for students to choose which areas they are interested in and this ensures that students perform well and can develop their own interests.”

“Overall, I am very satisfied. I would recommend this program and UCLA to anyone who is interested in the field of Public Health.”

“Overall, I am satisfied with my experience in the EHS department. I enjoyed my time here and felt that my educational experience was worthwhile.”

**Other comments?**

“The fighting and tensions amongst faculty often played out for all the students to see/feel...I felt that this was a disappointment and needs to be handled privately. I also felt like there needed to be a greater attention paid to the current students so that we felt like we were wanted and appreciated by our faculty.”

“Though I am satisfied with my experience in the EHS dept at UCLA, there is always room for improvement. I think it's good to get feedback from former students, and I really do hope this helps.”

“I have kept in touch with certain students and faculty members. It would be great to catch up with others. A network (e.g. Facebook.com) would be helpful to maintain personal and professional relationships.”

“Richard Ambrose is an excellent advisor and mentor.”

“My best experience was working in Dr. Eckhardt’s lab. He also advised me to take some of the ACCESS classes, which were challenging, but I felt I learned a lot. I also enjoyed Health Services 100 and Biostatistics 100B. EHS 200A/B was also good.”
APPENDIX 2
EHS Deleted Courses
<table>
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<tr>
<th>Course Code</th>
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<tr>
<td>EHS 211</td>
<td>Science and Politics of Environmental Regulation: Coastal Pollution -- Sources and Solutions</td>
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<td>EHS 230</td>
<td>Environmental Management</td>
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<td>Environmental Decision Systems Analysis</td>
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REFERENCE 1
2008 ES&E IDP Annual Report
UCLA Interdepartmental Program in

ENVIRONMENTAL SCIENCE & ENGINEERING

ANNUAL REPORT
2008-2009

School of Public Health
University of California
Los Angeles, California  90095-1772

September 2009
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Summary

The Environmental Science and Engineering (ESE) Program is an interdepartmental doctoral program that trains students to address complex, multi-disciplinary environmental challenges. The ESE Program’s goal is to develop leaders in environmental problem-solving, and the accomplishments and roles of its graduates at the regional, state and national level attest to its success in achieving that goal. Given the extent and severity of environmental problems in the world today, the training provided by the ESE Program has never been more relevant or important.

The 2008-09 academic year was a period of continued achievement and recognition for the ESE Program. The Program’s fundamentals remain strong, with active and engaged faculty and excellent students who are working on critical environmental problems. However, the Program is facing severe challenges that could threaten its continued viability. For example, the decline in core ESE faculty, essential to the Program’s success, continues. The decline began at the end of the 2006-07 academic year, when core ESE faculty member Associate Professor Linwood Pendleton resigned his appointment at UCLA and the Dean of the School of Public Health (SPH) chose not to search for a replacement core ESE faculty member. In addition to Professor Pendleton’s resignation, Professor Arthur Winer announced his intention to retire at the end of the 2009-10 academic year (in approximately 9 months).

Enrollment in the ESE Program remained about the same level as in 2007-08, with 26 enrolled students and the number of active students (including those on leave) in the mid-30s. Although the entering class for 2008-09, four students, is typical of recent entering classes, admissions are lower than they were from 2000-2004. Total enrollment began declining in 2003, from a total of 57 to about 30 doctoral students. This decline can be attributed to two main causes: (1) the reduction of continuing core ESE faculty from four to two, and (2) the increasing cost of financial packages for incoming students due to both increasing university fees and the imposition of a professional differential fee in 2006. For example, the cost of covering the SPH professional student differential fee (currently $4,859 per year) for ESE students during their first two years is about $40,000 per year in total, approximately the cost of financial support for two entering domestic students per year, or 6 students total to date.

The ESE Program continues to address issues raised during the 2004-05 Academic Senate review of the Program. During the past several years, various discussions occurred concerning the long-term sustainability of the ESE Program, and in particular the Program’s relationship with the Institute of the Environment (IoE), as recommended by the Senate review. In October 2008, the ESE Interdepartmental Committee voted to initiate actions to transfer the Program from SPH into the IoE. In response, the Dean of SPH requested that the Director of ESE work with the Chair of Environmental Health
Sciences (EHS) to explore ways to keep the Program in SPH. The ESE Director has met with the EHS Chair several times this past year, but to date no action has occurred.

At the end of the 2008-09 academic year, the Dean of SPH reassigned 90% of ESE’s space to other departments in the School. The School plans to have ESE become consolidated into existing EHS space. ESE students are to be housed in a single student room with EHS master’s and doctoral students. At this point, it is unclear how ESE administration will be housed. There are also newly raised questions about the job responsibilities of ESE support staff that have not been resolved. The current staff position (the program administrator) has been assigned directly to the ESE Program for more than 20 years, but the SPH administration has proposed reassigning some portion of effort for supporting the EHS department.

Like most interdepartmental programs, the Environmental Science and Engineering Program has an administrative home within a department. However, as an interdepartmental program it serves a much broader audience than the host department; the active ESE faculty hold appointments in 12 different departments in six different schools. Moreover, as an interdepartmental program ESE’s curriculum and policies are established by an Interdepartmental Committee (IDC). The independence of the ESE Program has been respected by the Dean of SPH and Chairs of EHS for most of the past 20 years. However, the current SPH and EHS administrations seem to have a different perspective on the proper role of ESE. In issues concerning the replacement of ESE core FTE, space, staffing, and leadership, the SPH and EHS administrations view the ESE Program in the context of the EHS department rather than as an independent academic unit with an academic position equivalent to that of a department. The ESE Program has had a long, mutually respectful, collaborative relationship with the EHS Department. ESE core faculty are active contributors to the EHS department. The ESE Program welcomes increased involvement of environmental health faculty and greater incorporation of health issues into the Program. However, the ESE Program is not an environmental health program. The ESE Program has a broader mandate to train students in all aspects of environmental science, engineering and policy. An expansion of ESE to include more faculty or activities would strengthen the Program, but a consolidation into Environmental Health Sciences would undermine ESE’s mission, its obligations to other departmental participants, and its ability to train students to address the full range of environmental problems required by society.

The ESE Program is at a critical juncture. With the reduction of continuing core faculty and increasing costs of financial packages needed to recruit and retain students, the Program is unlikely to be able to return to the robust enrollment numbers it had six years ago. Furthermore, the dramatic loss of dedicated ESE space, the pending 50% reduction in core faculty, and uncertainties regarding staff support present significant threats to the independence and future of the ESE Program.
Introduction

Focus and Brief History of the IDP

The Environmental Science and Engineering (ESE) Program is an interdepartmental program that trains students to solve environmental problems. The sole degree given is the Doctor of Environmental Science and Engineering (D.Env.). Two salient features include the broad multidisciplinary training and the fact that the degree is a professional doctorate, reflecting the intent that graduates of the program be environmental professionals. ESE students complete their dissertations while working at an outside host institution. The ESE Program’s goal is to train leaders in environmental problem-solving, and the accomplishments of its graduates attest to its success in achieving that goal. ESE alumni previously have held or currently hold leadership positions in organizations such as Heal the Bay, the U.S. Army Corps of Engineers Regulatory Branch, the South Coast Air Quality Management District, the Los Angeles Regional Water Quality Control Board, the Sanitation Districts of Orange County, and the Santa Monica Bay Restoration Commission. In addition, a number of ESE graduates have taken faculty positions at leading universities, including the University of Southern California, University of Colorado, and University of Wisconsin, Madison.

Plans for the ESE Program were announced by Willard Libby (Nobel Laureate in Chemistry) in 1970. The ESE Program was established in 1973. The Program was initially administered under three deans: Letters and Science (with the Physical Sciences dean taking the lead), Engineering and Applied Sciences, and Public Health. Space was provided in Earth and Space Sciences, later also in Engineering and Chemistry. Administrative support was provided by the Institute of Geophysics and Planetary Physics (supplemented by contract and grant funds). Faculty FTE (3.5) were provided by the Chancellor’s Office, Letters and Science, and SEAS; hired faculty were adjunct rather than tenure-track.

In 1981, a special committee to the Graduate Council recommended the ESE Program be moved into the School of Public Health and the Chair of the ESE Program hold a tenure-track appointment in SPH. The ESE Program moved administratively into the School of Public Health in 1983, in the Division of Environmental and Occupational Health Sciences (later the Department of Environmental Health Sciences, its current home). Five faculty FTE were moved into SPH to support the ESE Program, as well as administrative staff and equipment. In 1984, a new Director of ESE was hired in SPH, followed by 2 tenure-track faculty.

The 1987-88 Academic Senate review of the ESE Program occurred as the Director and last tenure-track faculty member resigned from UCLA. The review identified areas of inadequate resources, including an inadequate number of core faculty and inadequate space for ESE students, and the program was placed on probation. In 1989, the Dean of SPH (Afifi) made a commitment to provide 1 additional FTE, for a total of 4 core faculty
FTE and a half-time Intern Supervisor, 2 staff FTE and adequate space dedicated to the ESE Program. All 4 core faculty were hired by 1992. The Graduate Council lifted suspension of enrollments to ESE in 1991.

With the additional resources provided by Dean Afifi, the ESE Program flourished, with the four core faculty and other faculty mentoring 40-50 doctoral students. The 1996-97 Academic Senate review found the ESE Program to be “an excellent program with no significant issues.” In 2001, the core faculty member in environmental policy (Duke) left UCLA; the Dean of SPH (Rosenstock) approved a replacement and a search was conducted for a new core faculty member. The new core faculty member in environmental policy (Pendleton) joined the ESE Program in 2004. The success of the Program continued through the 2004-05 Academic Senate review, which found the ESE Program to be “a rare example of a successfully functioning IDP that could well be used as a model for other such organizations on campus.”

The major concern expressed in the 2004-05 Academic Senate review was the maintenance of four core faculty, which was viewed as critical for the success of the Program. In 2007, the core faculty member in environmental policy (Pendleton) resigned. Despite a request from the ESE Program, Dean Rosenstock declined to replace position. Although the 2004-05 Senate review team was concerned about the retirement of the most senior core faculty members, the departure of Pendleton, the most recent faculty hire, underscored the validity of their concern about the maintenance of at least four core faculty. In 2009, core faculty member Winer announced his intention to retire at the end of the 2009-10 academic year. Dean Rosenstock has not committed to replacing that position.

In 2009, Dean Rosenstock reassigned 90% of the ESE space (which had housed the Program in the EHS Department for two decades) to other departments. ESE students, staff and faculty are to be consolidated into much smaller existing EHS space, but as of this time the details have not been finalized. Another issue that is currently unresolved is the job responsibilities of the ESE Program’s administrator, an MSO position. The ESE Director was informed that the ESE Program administrator was to be housed in the main EHS departmental office rather than adjacent to the ESE Director. Moreover, the ESE Director was informed that the ESE Program administrator’s duties were to be reassigned so they no longer pertain solely to ESE, but rather also involve EHS departmental activities. The ESE Program administrator has been assigned directly to the ESE Program for more than 20 years. No rationale for these changes has been provided to the ESE Program or the ESE Interdepartmental Committee. Currently, these issues are being discussed but have not been resolved.

**Governance Structure**

Like all IDPs, the ESE Program is governed by an Interdepartmental Committee (IDC) appointed annually by the Graduate Division. The ESE IDC for 2008-09 (Table 1) includes faculty from nine different departments in five different schools. The IDC
generally meets twice per year, in fall and spring, although special IDC meetings are called when circumstances warrant. The ESE student representative, the Program administrator, and the intern supervisor also attend IDC meetings.

Although the IDC deals with larger policy and guidance issues, the core faculty meet frequently (typically every 3 weeks) to discuss student issues and other matters concerning the Program. The ESE student representative (elected each year by the first-year class to serve during his/her second year) attends every faculty meeting. The core faculty also serve as a “committee of the whole” in reviewing applications to the ESE Program and making admissions (and financial support) decisions. Decision-making in faculty meetings is collaborative, with ample opportunity for all faculty to express their opinions and decisions made by consensus as much as possible.

Table 1. Interdepartmental Committee: 2008-09.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Ambrose</td>
<td>Chair Professor</td>
<td>Environmental Health Sciences/ESE</td>
</tr>
<tr>
<td>Ann Carlson</td>
<td>Professor</td>
<td>Law</td>
</tr>
<tr>
<td>Randal Crane</td>
<td>Professor</td>
<td>Urban Planning</td>
</tr>
<tr>
<td>Thomas Gillespie</td>
<td>Associate Professor</td>
<td>Geography</td>
</tr>
<tr>
<td>Malcolm Gordon</td>
<td>Professor</td>
<td>Ecology and Evolutionary Biology</td>
</tr>
<tr>
<td>William Hinds</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
</tr>
<tr>
<td>Matthew Stenstrom</td>
<td>Professor</td>
<td>Institute of the Environment</td>
</tr>
<tr>
<td>Vasilios Manousiouthakis</td>
<td>Professor</td>
<td>Chemical and Biomolec.Engineering</td>
</tr>
<tr>
<td>Irwin Suffet</td>
<td>Professor</td>
<td>Environmental Health Sciences/ESE</td>
</tr>
<tr>
<td>Richard Turco</td>
<td>Professor</td>
<td>Atmospheric and Oceanic Sciences</td>
</tr>
<tr>
<td>Arthur Winer</td>
<td>Professor</td>
<td>Environmental Health Sciences/ESE</td>
</tr>
</tbody>
</table>

Teaching

Core Faculty

There are currently three core ESE faculty (Table 2), all holding appointments in the department of Environmental Health Sciences in the School of Public Health. Professor Ambrose has been Director of the ESE Program and Chair of the Interdepartmental Committee since 1998.

Although the ESE Program previously had four core faculty members, Professor Pendleton resigned from UCLA in 2007 and his position was not replaced. Professor Pendleton had an adjunct position in the EHS Department and continues to mentor some
ESE students. Professor Winer has announced his intention to retire at the end of 2009-10 academic year and is no longer accepting new ESE or EHS students.

Table 2. Core faculty for the Environmental Science and Engineering Program.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department affiliation</th>
<th>Areas of specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard F. Ambrose</td>
<td>Professor, Director and Chair</td>
<td>Environmental Health Sciences</td>
<td>environmental biology</td>
</tr>
<tr>
<td>Irwin H. Suffet</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
<td>water quality</td>
</tr>
<tr>
<td>Arthur M. Winer</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
<td>air quality</td>
</tr>
</tbody>
</table>

**Participating Interdepartmental Faculty: 2008-09**

There are 26 faculty listed as active in the ESE Program, including the three core faculty (Table 3). The active faculty represent 12 different departments in six different schools.

The affiliated faculty participate in the ESE Program by offering classes taken by ESE students, serving on ESE doctoral committees, sometimes offering Problems Courses for second-year ESE students, and advising (or co-advising) ESE students.

Table 3. List of active faculty participants in the ESE Program (“inside list”).

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Department</th>
<th>Areas of Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard F. Ambrose</td>
<td>Professor</td>
<td>Environmental Health Sciences/ESE</td>
<td>environmental biology</td>
</tr>
<tr>
<td>Ann Carlson</td>
<td>Professor</td>
<td>Law</td>
<td>environmental law</td>
</tr>
<tr>
<td>Yoram Cohen</td>
<td>Professor</td>
<td>Chemical Engineering</td>
<td>environmental engineering</td>
</tr>
<tr>
<td>Michael Collins</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
<td>environmental toxicology</td>
</tr>
<tr>
<td>Randall Crane</td>
<td>Professor</td>
<td>Urban Planning</td>
<td>environmental policy</td>
</tr>
<tr>
<td>William Cumberland</td>
<td>Professor</td>
<td>Biostatistics</td>
<td>statistics</td>
</tr>
<tr>
<td>Magali Delmas</td>
<td>Associate Professor</td>
<td>Institute of the Environment</td>
<td>business and the environment</td>
</tr>
<tr>
<td>J.R. DeShazo</td>
<td>Associate Professor</td>
<td>Policy Studies</td>
<td>environmental economics</td>
</tr>
<tr>
<td>Curtis Eckhert</td>
<td>Professor</td>
<td>Environmental Health</td>
<td>environmental health</td>
</tr>
</tbody>
</table>
Peggy Fong  Associate Professor  Sciences  Ecology and Evolutionary Biology  ecology
John Froines  Professor  Sciences  Environmental Health Sciences  environmental health
Thomas Gillespie  Associate Professor  Sciences  Geography  geography
Malcolm Gordon  Professor  Sciences  Ecology and Evolutionary Biology  environmental biology
William Hinds  Professor  Sciences  Environmental Health Sciences  air quality
Terri Hogue  Associate Professor  Sciences  Civil and Environmental Engineering  environmental engineering
Jenny Jay  Associate Professor  Sciences  Civil and Environmental Engineering  environmental microbiology
Matthew Kahn  Professor  Sciences  Institute of the Environment  environmental economics
Paul Ong  Professor  Sciences  Urban Planning  environmental policy
Suzanne Paulson  Professor  Sciences  Atmospheric and Oceanic Sciences  atmospheric sciences
Shane Que Hee  Professor  Sciences  Environmental Health Sciences  environmental chemistry
Beate Ritz  Associate Professor  Sciences  Epidemiology  environmental epidemiology
Michael Stenstrom  Professor  Sciences  Civil and Environmental Engineering  environmental engineering
Irwin Suffet  Professor  Sciences  Environmental Health Sciences/ESE  water quality
Stanley Trimble  Professor  Sciences  Geography  hydrology
Richard Turco  Professor  Sciences  Atmospheric and Oceanic Sciences  atmospheric sciences
Arthur Winer  Professor  Sciences  Environmental Health Sciences/ESE  air quality

Courses Taught

There were 24 courses offered by ESE core faculty in 2008-09 (Table 4). These courses included three ESE core courses (EHS 212, EHS C225 and EHS C264), one required course (ESE M412), and ESE Problems Courses (ESE 400 series) and Problems Course Workshop (ESE 410 series). The courses taught by ESE core faculty are listed below.
<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Instructor status</th>
<th>Enrollment</th>
<th>Quarter offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Ecological Problems EHS 296A</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>3</td>
<td>F08</td>
</tr>
<tr>
<td>Atmospheric Pollution EHS 296M</td>
<td>Winer</td>
<td>Professor, core ESE faculty</td>
<td>3</td>
<td>F08</td>
</tr>
<tr>
<td>Problems Course workshop ESE 410A</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>4</td>
<td>F08</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400A</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>F08</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400A</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>F08</td>
</tr>
<tr>
<td>Effective Technical Writing ESE M412</td>
<td>Winer</td>
<td>Professor, core ESE faculty</td>
<td>4</td>
<td>F08</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>12</td>
<td>F08</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Pendleton</td>
<td>Assoc Prof, core ESE faculty</td>
<td>1</td>
<td>F08</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>5</td>
<td>F08</td>
</tr>
<tr>
<td>Atmospheric Transformations EHS C225</td>
<td>Winer</td>
<td>Professor, core ESE faculty</td>
<td>10</td>
<td>W09</td>
</tr>
<tr>
<td>Applied Ecology EHS 212</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>10</td>
<td>W09</td>
</tr>
<tr>
<td>Problems Course Workshop ESE 410B</td>
<td>Winer</td>
<td>Professor, core ESE faculty</td>
<td>4</td>
<td>W09</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400B</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>W09</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400B</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>W09</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>12</td>
<td>W09</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Pendleton</td>
<td>Associate Professor</td>
<td>1</td>
<td>W09</td>
</tr>
<tr>
<td>Dissertation Research EHS 599</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>3</td>
<td>W09</td>
</tr>
<tr>
<td>Fate of Chemicals in Aquatic Environment EHS C264</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>15</td>
<td>S09</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400C</td>
<td>Ambrose</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>S09</td>
</tr>
<tr>
<td>ESE Problems Course ESE 400C</td>
<td>Suffet</td>
<td>Professor, core ESE faculty</td>
<td>2</td>
<td>S09</td>
</tr>
</tbody>
</table>
In addition to the courses offered by the core ESE faculty, in 2008-09 ESE students took 33 courses taught by 27 different faculty from 13 different departments (Table 5). In addition, ESE and other students took one course offered as an ESE course by an affiliated ESE faculty member.

**Table 5. Other courses taken by ESE students during 2008-09.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Instructor</th>
<th>Instructor status</th>
<th>Enrollment</th>
<th>Quarter offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Hydrology C&amp;EE 150</td>
<td>Margulis</td>
<td>Assoc Prof</td>
<td>7</td>
<td>F08</td>
</tr>
<tr>
<td>Toxic Reduction Seminar C&amp;EE 259</td>
<td>Stenstrom</td>
<td>Professor, Affiliated faculty</td>
<td>13</td>
<td>F08</td>
</tr>
<tr>
<td>Urbanization of Developing World UP 235A</td>
<td>Commins</td>
<td>Lecturer</td>
<td>30</td>
<td>F08</td>
</tr>
<tr>
<td>Eng Econ of Water and Related Natural Resources C&amp;EE 252</td>
<td>Kendall</td>
<td>Assoc Adj Prof</td>
<td>8</td>
<td>F08</td>
</tr>
<tr>
<td>Physical Oceanography AOS 103</td>
<td>Baschek</td>
<td>Assistant Professor</td>
<td>14</td>
<td>F08</td>
</tr>
<tr>
<td>Water &amp; Wastewater Treat. C&amp;EE 155</td>
<td>Guillen</td>
<td></td>
<td>9</td>
<td>F08</td>
</tr>
<tr>
<td>Env Econmic and Policy ENV 160</td>
<td>Kahn</td>
<td>Professor, Affiliated faculty</td>
<td>7</td>
<td>F08</td>
</tr>
<tr>
<td>Env Aquatic Inorganic Chemistry C&amp;EE 254A</td>
<td>Jay</td>
<td>Asst Professor, Affiliated faculty</td>
<td>3</td>
<td>F08</td>
</tr>
<tr>
<td>Intro to Atmospheric Chem AOS 203A</td>
<td>Paulson</td>
<td>Professor, Affiliated faculty</td>
<td>7</td>
<td>F08</td>
</tr>
<tr>
<td>Intro to Env Engineering C&amp;EE 153</td>
<td>Stolzenbach</td>
<td>Professor, Affiliated faculty</td>
<td>15</td>
<td>F08</td>
</tr>
<tr>
<td>GIS Geog 169</td>
<td>Smith</td>
<td></td>
<td>30</td>
<td>F08</td>
</tr>
<tr>
<td>Intro to Dyn Earth Sciences AOS 200B</td>
<td>Deutch</td>
<td>Associate Professor</td>
<td>15</td>
<td>F08</td>
</tr>
<tr>
<td>Course Title</td>
<td>Instructor</td>
<td>Title</td>
<td>Sections</td>
<td>Year</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Spatial Statistics</td>
<td>Schoenberg</td>
<td>Professor</td>
<td>M215</td>
<td>F08</td>
</tr>
<tr>
<td>Urban Planning</td>
<td>Corbett</td>
<td>Professor, Affiliated faculty</td>
<td>ESE 277</td>
<td>W09</td>
</tr>
<tr>
<td>Physics of Env Transport</td>
<td>Stolzenbach</td>
<td>Professor, Affiliated faculty</td>
<td>CEE 263A</td>
<td>W09</td>
</tr>
<tr>
<td>Environmental Law</td>
<td>Carlson</td>
<td>Professor, Affiliated faculty</td>
<td>UP 264A</td>
<td>W09</td>
</tr>
<tr>
<td>Env Economics</td>
<td>Kahn</td>
<td>Professor, Affiliated faculty</td>
<td>ENV 134</td>
<td>W09</td>
</tr>
<tr>
<td>Business and Environment</td>
<td>Delmas</td>
<td>Professor, Affiliated faculty</td>
<td>ENV 134</td>
<td>W09</td>
</tr>
<tr>
<td>Topics in Env Engineering</td>
<td>Jay</td>
<td>Assist Professor, Affiliated faculty</td>
<td>C&amp;EE 259A</td>
<td>W09</td>
</tr>
<tr>
<td>Sustainable Architect</td>
<td>Bardacke</td>
<td></td>
<td>M291</td>
<td>W09</td>
</tr>
<tr>
<td>Humid Tropics</td>
<td>Gillespie</td>
<td>Professor, Affiliated faculty</td>
<td>GEOG 113</td>
<td>W09</td>
</tr>
<tr>
<td>Fundamental Toxicology</td>
<td>Collins</td>
<td>Professor, Affiliated faculty</td>
<td>EHS 240</td>
<td>S09</td>
</tr>
<tr>
<td>Coastal Geomorphology</td>
<td>Orme</td>
<td>Professor</td>
<td>GEOG 101</td>
<td>S09</td>
</tr>
<tr>
<td>Geo Environmental Engineer.</td>
<td>Somasundaram</td>
<td>Lecturer</td>
<td>C&amp;EE 226</td>
<td>S09</td>
</tr>
<tr>
<td>Topics in Environ.Engin.</td>
<td>Hoek</td>
<td>Assistant Professor</td>
<td>C&amp;EE 259</td>
<td>S09</td>
</tr>
<tr>
<td>Membrane Separation-Aquatic Systems</td>
<td>Hoek</td>
<td>Assistant Professor</td>
<td>C&amp;EE 258A</td>
<td>S09</td>
</tr>
<tr>
<td>Env Nanotech</td>
<td>Hoek</td>
<td>Assistant Professor</td>
<td>ENG 103</td>
<td>S09</td>
</tr>
<tr>
<td>Airborne Particles</td>
<td>Hinds</td>
<td>Professor, Affiliated faculty</td>
<td>EHS 252D</td>
<td>S09</td>
</tr>
<tr>
<td>Applied Geostatistics Statistics</td>
<td>Christou</td>
<td>Lecturer</td>
<td>Statistics C273</td>
<td>S09</td>
</tr>
<tr>
<td>Directed Individual Research</td>
<td>Paulson</td>
<td>Professor, Affiliated faculty</td>
<td>AOS 596</td>
<td>S09</td>
</tr>
<tr>
<td>Special Topics in Management</td>
<td>Allen</td>
<td></td>
<td>MGMT 298D</td>
<td>S09</td>
</tr>
<tr>
<td>Environmental Politics and Government</td>
<td>Pincetl</td>
<td></td>
<td>UP 260</td>
<td>S09</td>
</tr>
</tbody>
</table>
Problems Courses

As a culmination of ESE students’ on-campus experience, each student enrolls in a Problems Course. Problems Courses focus on a directed research problem concerning an applied environmental problem. Students are closely mentored during the Problems Course. Although some Problems Courses are conducted with teams of students and some have multiple instructors, most Problems Courses consist of a single student and a single instructor. Problems Courses typically last at least 12 months, beginning in the summer after the student’s first year and continuing until the end of the following academic year. Problems Course students receive a stipend, usually from a research grant obtained by the instructor. The usual cost for a Problems Course is $30,000 per student per year (not including research expenses or indirect costs). The ESE core faculty, with occasional help from associated faculty, have fulfilled this obligation for every student that reaches this status.

Four students enrolled in Problems Courses in 2008-09 (Table 6).

Table 6. ESE Problems Courses offered in 2008-09. (Funded by Instructor listed)

<table>
<thead>
<tr>
<th>Student</th>
<th>Instructor</th>
<th>Problems Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Estes</td>
<td>Ambrose</td>
<td>“Dynamics of Fecal Indicator Bacteria Concentrations in Two California Coastal Wetlands”</td>
</tr>
<tr>
<td>Cynthia Ha</td>
<td>Suffet</td>
<td>“Characterization of Dissolved Organic Matter in Colorado Drinking Water Sources and Treatment Plant using Fluorescence Spectroscopy”</td>
</tr>
<tr>
<td>Glenn Sias</td>
<td>Ambrose</td>
<td>“Impacts of Stormwater Discharges and Urban Runoff into Rocky Intertidal Habitats”</td>
</tr>
<tr>
<td>Victor Vasquez</td>
<td>Suffet</td>
<td>“Development of PCB and Chlorinated Pesticide TMDLs at Three Los Angeles County Lakes”</td>
</tr>
</tbody>
</table>

Changes, Issues, and Problems

There have been no substantive changes in teaching in the past year.

The 2008-09 academic year was the first time there were substantial numbers of undergraduates from the Environmental Science major enrolled in ESE core courses, specifically EHS 225 and EHS 264. This required some adjustment to the instruction and, in particular, the policies for ensuring that enrolled students were qualified to take the courses.
The ESE Program continues to explore ways to involve more of its active faculty as mentors for Problems Courses. Non-core faculty, particularly in Civil and Environmental Engineering, have consistently offered Problems Courses through the years, but at a low level. One obstacle is the need to provide a stipend for Problems Course students, currently $1300/month during the academic year, $2600/month in the summer, plus fee remission, for a total of $30,000 per student without research expenses or indirect costs. Because of the intensity of the ESE curriculum compared to a normal doctoral program, ESE students rely on these stipends for living expenses; however, this financial commitment limits the number of Problems Courses that are offered by non-core faculty. ESE core faculty work diligently to obtain funds for Problems Courses as part of their core responsibilities.

Students

Admissions Process

The core faculty (currently Ambrose, Suffet and Winer) serve as a “committee of the whole” in reviewing applications to the ESE Program and making admissions (and financial support) decisions. Applications are initially processed through the School of Public Health Student Affairs Office, and then forwarded to the ESE Program for review. After careful review by the core faculty individually, the faculty meet to discuss the applications and make admission decisions. Although most applications are reviewed only by the core faculty, applications from students who might be of interest to non-core ESE faculty are distributed to them for review on an ad hoc basis.

Review by non-core ESE faculty has been somewhat challenging logistically because the faculty are distributed in different places across campus. The School of Public Health is supposed to be implementing an on-line application process for the 2010-11 academic year, and this will facilitate the distribution of more applications to non-core faculty. In this way, we plan to involve more faculty in the admissions process. Non-core faculty who agree to accept the responsibility of mentoring (and funding) the student’s Problems Course are more likely to influence the acceptance of a particular student, and thus could increase the total number of students admitted.

Student Enrollment

Student enrollment over the past few years has been around 30 students (Figure 1). Prior to 2005, student enrollment was typically greater than 40 students, with a peak in 2003 of 57 students. During 2005-06, enrollment dropped to 33-36 students, and during 2007-08, enrollment was 26-27 students. There are several reasons for this recent decline. An unusually large number of students (six) graduated in Fall 2006, with a total of nine graduates for the academic year. The higher number of graduates was partially just stochastic variation, but it was also due to some students accelerating their progress to avoid paying the newly instituted School of Public Health professional fee (about $4,859
per year). Enrollment this year is similar to last year, and with admissions comparable to past years (see below) and the number of core faculty remaining at three instead of four, it seems that 30 students is the expected enrollment for the near future. However, this situation may change with the coming retirement of Professor Winer, unless his position as core ESE faculty is replaced.

![Figure 1. Enrollment and admissions to the ESE Program since 1998.](image)

The Program offered admission to seven students for the 2008-09 academic year, with four students accepting the offer; this was a typical size for an entering class. The average GRE scores for the admitted students for 2007-08 were 749 Quantitative, 630 Verbal, and 4.9 Analytical. The average GRE scores for the students entering the Program in Fall 2008 were 778 Quantitative, 620 Verbal, and 5.0 Analytical.

For the 2009-10 academic year, the Program received 21 applications. We offered admission to five students. The average GRE scores for the admitted students for 2008-09 were 734 Quantitative, 554 Verbal, and 4.5 Analytical. Four students have accepted our offer of admission for Fall 2009. The average GRE scores for the students entering the Program in Fall 2009 were 725 Quantitative, 578 Verbal, and 4.9 Analytical.

At the end of the 2008-09 academic year, there were 26 continuing students in the ESE Program (Table 7). This total does not include a few students who were on leave of absence.
Table 7. ESE student enrollment for 2008-09.

<table>
<thead>
<tr>
<th></th>
<th>Fall 2008</th>
<th>Winter 2009</th>
<th>Spring 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Students</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Continuing Students</td>
<td>20</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Total enrolled students</td>
<td>24</td>
<td>24</td>
<td>20*</td>
</tr>
</tbody>
</table>

*Note: the total number of enrolled students is less than the number of continuing students because of leaves of absence and graduating students who were not enrolled that quarter.

Internships

ESE students complete their dissertations while working at an “internship” at a host institution. ESE students begin their internships after completing their Problems Course. Internships are typically permanent career positions at relevant host institutions, including government agencies, non-profit organizations, private industry, and occasionally consulting companies. A list of host institutions for all current ESE interns is given in Appendix B: Host Institutions for ESE Interns.

Four ESE students conducted their Problems Courses in 2009. Three students (Estes, Ha and Vasquez) completed their Problems Courses in summer and have started their internships (Table 8). One student (Sias) has extended his Problems Course work; however, he has already made arrangements for his internship at Southern California Edison.

Table 8. Host institutions for students beginning internships in 2009.

<table>
<thead>
<tr>
<th>Student</th>
<th>Advisor</th>
<th>Host Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Estes</td>
<td>Ambrose</td>
<td>U.S. Army Corps of Engineers, Los Angeles</td>
</tr>
<tr>
<td>Cynthia Ha</td>
<td>Suffet</td>
<td>The Macao Water Supply Co., Ltd., Macao</td>
</tr>
<tr>
<td>Glenn Sias</td>
<td>Ambrose</td>
<td>Southern California Edison</td>
</tr>
<tr>
<td>Victor Vasquez</td>
<td>Suffet</td>
<td>California Water Resources Control Board</td>
</tr>
</tbody>
</table>

Graduating Students

The Environmental Science and Engineering Program offers one degree, the Doctor of Environmental Science and Engineering (D.Env.).
In 2008-09, the ESE Program awarded seven D.Env. degrees. The graduating students, advisors, and dissertation titles are given in Table 9.

**Table 9. Graduating students, advisors and dissertation titles for 2008-09.**

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Advisor</th>
<th>Dissertation title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew Buffleben</td>
<td>Richard F. Ambrose, Co-Chair, Stanley Trimble, Co-Chair</td>
<td>Assessment of Soil Creep Sediment Generation for Total Maximum Daily Load Development in a Northern Coastal California Watershed</td>
</tr>
<tr>
<td>Melissa Evanson</td>
<td>Richard F. Ambrose, Chair</td>
<td>Chinook Salmon Population Dynamics and Life History Strategies in the Squamish River Watershed, BC, Canada</td>
</tr>
<tr>
<td>Felicia Federico</td>
<td>Richard F. Ambrose, Co-Chair, Terri Hogue, Co-Chair</td>
<td>Managing Hydromodification Impacts due to Urbanization through the Regulation of New Development and Re-development in California</td>
</tr>
<tr>
<td>Frederick Gerringer</td>
<td>Irwin Suffet, Chair</td>
<td>Relationships between Natural Organic Matter Characteristics, Reverse Osmosis Pretreatment and Membrane Performance</td>
</tr>
<tr>
<td>Kathleen Kozawa</td>
<td>Arthur M. Winer, Chair</td>
<td>Investigation of Pollution Concentrations and Pollution Concentration Gradients in Communities Adjacent to the Ports of Los Angeles and Long Beach Using a Mobile Monitoring Platform</td>
</tr>
<tr>
<td>F. Dane Westerdahl</td>
<td>William Hinds, Chair</td>
<td>Ultrafine Particles and Associated Pollutants on Roadways and in Community Air of Los Angeles California, Beijing China, and the Los Angeles International Airport</td>
</tr>
<tr>
<td>Xueying Wu</td>
<td>Irwin Suffet, Chair</td>
<td>Nitrification Control in Chloraminated Drinking Water</td>
</tr>
</tbody>
</table>
Changes, Issues, and Problems

Enrollment in the ESE Program has been declining since 2003. Initially, this decline was not unexpected because one of the core ESE faculty members (Professor Duke) left UCLA and there was a delay in bringing his replacement (Professor Pendleton) into the Program. However, since then there has been a continued decline, which can be attributed to two main factors: faculty staffing and finances. Financial issues will be discussed in more detail in the next section.

As shown in Figure 2, the decline in the number of ESE students has been associated with changes in the number of active core faculty. In the late 1990s, student advising was split fairly evenly among the four core faculty. (Professor Winer, who had relatively few students in 1998, had a large number of students in the mid-1990s, when the total student body was around 50.) However, the departure of Professor Duke increased the advising load of the remaining three core faculty. Professor Pendleton began to pick up students after he arrived in 2003, but he left after only a few years at UCLA so he never took on many students. Finally, Professor Winer is retiring at the end of the 2009-10 academic year so he has taken fewer students in the past few years. Presently, the vast majority of students are advised by the two continuing core ESE faculty. Professors Ambrose and Suffet advise 38% and 26% of the current ESE students, respectively.

![Figure 2. Number of ESE students advised by different faculty members since 1998.](image-url)
The Program has worked to get more of its active faculty from other departments to chair doctoral committees. Although the proportion of other faculty chairing doctoral committees has increased, it still remains a small fraction of all ESE students. The involvement of non-core faculty in ESE student advising is somewhat larger than indicated in Figure 2. During this time period there have been eight students whose doctoral committees were co-chaired by core and non-core faculty, but in the figure they were assigned only to the core faculty to avoid double-counting. Since 1998 ten different non-core faculty have chaired or co-chaired 13 doctoral committees. Although this is a substantial involvement, it remains a relatively small fraction of the 93 doctoral committees constituted during that time period.

Note that, despite the decline in enrollment in ESE, ESE students still constitute a large proportion of the graduate students in the Department of Environmental Health Sciences: 77% of all doctoral students (30 of 39) and 48% of all students (master’s and doctoral) in 2008-09 (Table 10). Moreover, the ESE core faculty advise a large fraction of all doctoral students in the EHS Department (44% of all doctoral students in the Department for Ambrose, 23% for Suffet and 5% for Winer).

Table 10. Students in the Department of Environmental Health Sciences 2008-09.

<table>
<thead>
<tr>
<th></th>
<th>PhD</th>
<th>MS</th>
<th>MPH</th>
<th>Total EHS</th>
<th>% of EHS students</th>
<th>ESE students</th>
<th>Total Doctoral</th>
<th>% of Total Doctoral</th>
<th>Total EHS+ESE</th>
<th>% of Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambrose</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>24%</td>
<td>13</td>
<td>17</td>
<td>44%</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td>Suffet</td>
<td>1</td>
<td></td>
<td>1</td>
<td>3%</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>23%</td>
<td>10</td>
<td>16%</td>
</tr>
<tr>
<td>Hinds</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>12%</td>
<td>1</td>
<td>2</td>
<td>5%</td>
<td>5</td>
<td>8%</td>
</tr>
<tr>
<td>Kennedy</td>
<td>1</td>
<td></td>
<td>3</td>
<td>4</td>
<td>12%</td>
<td>1</td>
<td>3</td>
<td>3%</td>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td>Froines</td>
<td>2</td>
<td></td>
<td>1</td>
<td>3</td>
<td>9%</td>
<td>2</td>
<td>5</td>
<td>5%</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Que Hee</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>9%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Winer</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6%</td>
<td>2</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Eckhert</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Godwin</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Ritz</td>
<td>2</td>
<td>2</td>
<td>6%</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Robbins</td>
<td>2</td>
<td></td>
<td>2</td>
<td>6%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Collins</td>
<td>1</td>
<td></td>
<td>1</td>
<td>3%</td>
<td>1</td>
<td>3%</td>
<td>1</td>
<td>2%</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>ESE faculty from other departments</td>
<td></td>
<td></td>
<td>5</td>
<td>5</td>
<td>13%</td>
<td>5</td>
<td>5</td>
<td>8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>10</td>
<td>14</td>
<td>33</td>
<td>30</td>
<td>39</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Financial Issues

Core Budget

The Environmental Science and Engineering Program does not receive an independent operating budget. The ESE Program budget comes from the Environmental Health Sciences department. The EHS Chair has traditionally provided a budget to ESE as a fraction of the total EHS operating budget, with the ESE portion allocated in proportion to the number of faculty or the number of students. The Program’s operating budget for 2008-09 was $7,500.

The ESE Program’s operating expenses for 2008-09 were $18,589. These expenses include the cost of supplies, such as printer and general office supplies, copier maintenance agreement, and Program telephone lines, for a total of $10,414. The Program also has part-time secretarial support in the form of a work-study student, at a cost of $4,195. Although not a direct ESE Program expense, faculty in the EHS department receive a budget to cover phone expenses, copying, etc.; ESE core faculty do not receive such an allotment because those funds go to the ESE Program operating budget. The cost of ESE core faculty telephone expenses was $3,981.

Total expenses for the ESE Program were more than $11,000 greater than the Program’s operating budget for 2008-09. The ESE core faculty make up the difference between the Program’s budget allocation and actual expenses by a self-imposed “tax.”

ESE Endowment

In 1990, ESE Director Arthur Winer established an endowment to support the ESE Program, and in particular to provide student support. Through contributions from foundations (notably a $250,000 challenge grant from the Hewlett Foundation), corporations, alumni, and other individuals, the ESE Endowment has grown substantially. Although, like most investments, the Endowment has suffered from the current economic downturn so the current balance is considerably lower than its maximum value (> $1 million), as of July 31, 2009 the Endowment balance was $891,994.


Student Support

Stipend Support in 2008-09

Stipend support is largely devoted to supporting first-year students. In addition, the ESE generally provides non-resident tuition (for foreign students) and professional differential fees (for all students) during the student’s second year.
The core funding for ESE student stipends comes in the form of unrestricted fellowship funds from the Graduate Division (Table 11). The Program’s allocation from the Graduate Division in 2008-09 was $77,094.

In addition to the Graduate Division allocation, the second major source of funds for student stipends is the proceeds from the ESE Endowment. The Endowment (which is administered as two funds) provided $47,925 towards student stipends in 2008-09.

Table 11. Student stipend support for 2008-09.

<table>
<thead>
<tr>
<th>Source</th>
<th>Students Supported</th>
<th>Total Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extramural Stipend Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCO (Atlantic Richfield Co.)</td>
<td>Valerie Chan</td>
<td>$7,655.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intramural Stipend Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESE Unrestricted Fellowships</td>
<td>Valerie Chan, Meng Horng Hsu, Un Sam Ha, Nicholas Nairn-Birch, Leila Lackey</td>
<td>$77,094</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Resident Tuition</td>
<td>Un Sam Ha, Meng-Horng Hsu, Leila Lackey (1 quarter)</td>
<td>(included in unrestricted fellowships)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESE Permanent Endowment</td>
<td>Stephen Estes, Glen Sias, Un Sam Ha, Victor Vasquez</td>
<td>$16,454</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>William and Flora Hewlett (ESE Endowment)</td>
<td>Valerie Chan, Melissa Evanson, Stephen Estes, Nicholas Nairn-Birch, Leila Lackey, Un Sam Ha, Meng Horn Hsu, Glen Sias, Victor Vasquez</td>
<td>$31,471</td>
</tr>
</tbody>
</table>

Research Salary Support in 2008-09

Research salary support for ESE students is linked to the Problems Courses, typically taken in a student’s second year at UCLA. In 2008-09, there were four Problems
Courses, one of which was self-funded (Table 12). In addition, one student had Endowment funds allocated for his internship.

Table 12. Student research salary support in 2008-09.

<table>
<thead>
<tr>
<th>Student</th>
<th>Funding Source</th>
<th>Direct Funding (Amount*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephen Estes</td>
<td>UC Marine Council/UC Riverside</td>
<td>$27,669.50</td>
</tr>
<tr>
<td>Un Sam Ha</td>
<td>Various Donors (Suffet)</td>
<td>$27,669.50</td>
</tr>
<tr>
<td>Calvin Kwan</td>
<td>ESE Endowment</td>
<td>$30,934.46</td>
</tr>
<tr>
<td>Glenn Sias</td>
<td>Self Funded</td>
<td>NA</td>
</tr>
<tr>
<td>Victor Vasquez</td>
<td>LA Regional Water Quality Control Board</td>
<td>$27,669.50</td>
</tr>
</tbody>
</table>

*Note: Indirect costs and research supplies and equipment funding not included.

Fellowship Awards to ESE Students in 2008-2009

Two students won merit-based fellowship awards in 2008-09 (Table 13). Both of these fellowships were awarded by the School of Public Health.

Table 13. Fellowship awards in 2008-09.

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Fellowship</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leila Lackey</td>
<td>Raymond Goodman Scholarship</td>
<td>$5,000</td>
</tr>
<tr>
<td>Kathleen Kozawa</td>
<td>Dean’s Outstanding Student Award</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

Changes, Issues, and Problems

There have been no substantive changes in the Program’s core budget or expenses since 2007-08. Faculty extramural support continues to be strong, and sufficient to cover the difference between the allocated budget and operating expenses.

The largest financial issue facing the ESE Program is the cost of student fees.

The basic fees for a graduate student at UCLA have doubled since 1998 (Table 14). However, fees for ESE students increased dramatically in 2005 with the imposition of the professional differential fee for professional students in the School of Public Health. Including the professional differential fee, the total fees for a resident ESE student have
tripled since 1998. Fees are now $10,000 more per year for each student compared to 1998.

For non-resident students, total fees are slightly less than twice as much now as they were in 1998. Fees for non-resident students are now $13,000 more per year for each student compared to 1998.

Table 14. UCLA graduate student fees 1998-2009.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Fees - Resident</th>
<th>Total Fees - Non-resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-1999</td>
<td>$4,595</td>
<td>$13,979</td>
</tr>
<tr>
<td>1999-2000</td>
<td>$4,405</td>
<td>$14,209</td>
</tr>
<tr>
<td>2000-2001</td>
<td>$4,504</td>
<td>$14,748</td>
</tr>
<tr>
<td>2001-2002</td>
<td>$4,550</td>
<td>$15,254</td>
</tr>
<tr>
<td>2002-2003</td>
<td>$4,684</td>
<td>$15,816</td>
</tr>
<tr>
<td>2003-2004</td>
<td>$6,318</td>
<td>$18,563</td>
</tr>
<tr>
<td>2004-2005</td>
<td>$7,469</td>
<td>$22,163</td>
</tr>
<tr>
<td>2005-2006</td>
<td>$8,110</td>
<td>$24,355</td>
</tr>
<tr>
<td>2006-2007</td>
<td>$8,286</td>
<td>$24,531</td>
</tr>
<tr>
<td>2007-2008</td>
<td>$8,968</td>
<td>$25,497</td>
</tr>
<tr>
<td>2008-2009</td>
<td>$9,670</td>
<td>$26,456</td>
</tr>
</tbody>
</table>

The increase in student fees has had a substantial impact on the ESE Program’s ability to support ESE students, and consequently limits the number of students the Program can accept. Because of the rigorous course work undertaken during their two years on campus, ESE students generally cannot work in teaching or research assistantships, as many graduate students do. Thus, the Program has found it necessary to offer financial support to students to enable them to enroll in the Program. Both because of the financial burden in the absence of financial support and because of competition from other graduate programs with more attractive financial support packages (such as California Institute of Technology, UC Berkeley, UC Davis, and Stanford), our experience has been that most students will not accept admission offers without a substantial financial support commitment from the Program.

When professional differential fees were imposed in 2006, the ESE Program warned that this would result in a decline in enrollment. Because professional differential fees cannot be paid from extramural funds, the Program must also pay these fees during students’ Problems Course year, when other expenses (stipend and fee remission) are paid by Problems Course funds. With an entering class of four students, the professional differential fees cost the ESE Program about $40,000 per year – enough to support two resident students if there were no differential fees.

Although the Program commits to covering the professional differential fee, students also have the possibility of receiving some financial aid from the School of Public Health to
cover a portion of the fee. This aid is need-based. The school returns roughly one-third of the fees it collects as financial aid. The ESE Program does not receive a proportionate share of the financial aid, however. For example, in 2008-09 ESE students received financial aid that constituted only about 22% of the fees paid.

One method the Program has used to try to mitigate the financial costs of a new student is to encourage students to provide their own support. For students with professional positions who want to continue working, part-time course work, in which the traditional first-year’s courses are spread over two years, is encouraged. (If the student continues to work, the Program does not provide additional financial support.) The Program also encourages students to apply for internal and external fellowships. In previous years, the Chancellor’s Fellowship was tremendously helpful for providing support during a student’s critical first year; however, since that fellowship was re-structured, it has not been useful for supporting ESE students. When we have appropriate incoming students, the Cota Robles Fellowship continues to provide valuable support.

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**Administrative Structure and Space**

**Support Staffing**

When the ESE Program moved into the School of Public Health in 1983, administrative staff were moved into the School as well as faculty to support the program. The number of staff has varied somewhat over the years. At the time of the 1987-88 review, there were three ESE staff: a financial manager, a secretary, and an administrator. The financial manager position was vacated at that time and not replaced. In 1993, the secretary position was eliminated in response to budget cuts. Since then, the sole university-supported ESE staff position has been the program administrator.

The Program has had secretarial support on and off since 1993, with funds provided from research grants. Currently, administrative assistance is provided by a work-study student, whose salary is paid by the ESE core faculty.

Since 1988, the Program administrator has been Myrna Gordon, whose job title is Management Services Officer.

The ESE Program has also had a half-time Intern Supervisor to provide assistance to ESE students during their internships. This support is especially important due to the unique structure of the ESE curriculum, where ESE students work at a host institution off campus while they are completing their dissertation work. Prior to 2009, the Intern Supervisor was an academic position. However, there have been some difficulties staffing this position appropriately, and one recommendation from the 2004-05 Academic Senate review was that this position be converted to a full-time position. After several years of discussion about how this could be done, an arrangement was made with the departments of Environmental Health Sciences and Epidemiology to combine resources...
so one full-time person could be hired, 50% as intern supervisor for ESE, 25% as intern coordinator for EHS, and 25% as intern coordinator for Epidemiology. In making this arrangement, the intern supervisor position was converted from an academic position to a staff position (as Student Affairs Officer III). The position is currently in the process of being filled.

**Location and Spatial Structure**

ESE space is located in the School of Public Health. As one outcome of the 1988 Academic Senate review, Dean Afifi increased the space allocated to the ESE Program for student use, administrative use, and core faculty offices (Table 15).

Nearly all of the space allocated to the ESE Program has been located in a contiguous block on the fourth floor of the SPH building. One student room has been on the sixth floor. This spatial arrangement has been advantageous because it facilitates close interaction among students, faculty and staff. The student space in particular has been critical for defining the ESE student experience – the development of close bonds with fellow students while tackling common problems.

As noted in the next section, ESE’s situation with regards to space is changing dramatically.

**Changes, Issues, and Problems**

As a result of space reassignments, mostly by the Dean of SPH, ESE is being moved out of 90% of the space it had been allocated. 80% of the original ESE student space is being reassigned, as is 100% of the ESE administrative space.

The ESE Program will be consolidating into space that is assigned to the EHS department, not to ESE. As of this writing, the Program’s new locations have not been finalized. It was originally proposed that ESE move to an office suite on the fifth floor of the SPH building, adjacent to the EHS departmental office, but recent proposals indicate the ESE administrative offices would move to the fourth-floor ESE student room (which would eliminate that space for student use). The plan is for the ESE students to be housed in a single room with EHS master’s and doctoral students. It is clear there will be a drastic net loss of space for the ESE Program, but the exact loss will not be known until our new space assignments are finalized.
Table 15. Summary of ESE space and current disposition.  Note:  ESE core faculty also have laboratory space, and faculty offices for Professors Ambrose and Winer are not included in the table because they are incorporated into their labs, although the Director’s office is included.

<table>
<thead>
<tr>
<th>Room</th>
<th>Function</th>
<th>Area (sq ft)</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>46-070A</td>
<td>Pendleton office/ESE conference room</td>
<td>423</td>
<td>reassigned to Epi Winter 2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>reassigned to Prof. Valentine Winter 2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-071B</td>
<td>ESE student office</td>
<td>106</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-071</td>
<td>ESE student room</td>
<td>361</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-071A</td>
<td>ESE Intern Supervisor office</td>
<td>131</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-081</td>
<td>ESE main office</td>
<td>178</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-081A</td>
<td>ESE MSO office</td>
<td>70</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-081B</td>
<td>Suffet office</td>
<td>80</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td>46-081C</td>
<td>ESE Director's office</td>
<td>223</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td></td>
<td>ESE student/visiting scholar/Taste and Odor room</td>
<td>126</td>
<td>reassigned to Prof. Valentine by EHS Summer 2009</td>
</tr>
<tr>
<td>61-279</td>
<td>ESE student room</td>
<td>320</td>
<td>reassigned by SPH Summer 2009</td>
</tr>
<tr>
<td></td>
<td>Subtotal reassigned</td>
<td>2018</td>
<td></td>
</tr>
<tr>
<td>46-078</td>
<td>ESE computer room/collaborative work room</td>
<td>222</td>
<td>May be new location of administrative space</td>
</tr>
<tr>
<td></td>
<td>Subtotal remaining</td>
<td>222</td>
<td></td>
</tr>
</tbody>
</table>

Total original ESE space 2240

Percent reassigned 90%

During summer 2009, the SPH administration raised the possibility of redefining the job responsibilities of the ESE Program administrator. The suggestion was that the job description would need to be rewritten so that more responsibilities were assigned to the EHS department. This would be a dramatic departure from the staffing arrangements of the past 20 years. The ESE Director has objected to this erosion of staff support for the ESE Program, and is currently in discussions about this decision.

It was also suggested by the SPH administration that the ESE Program administrator be moved into the EHS departmental office, with the ESE intern supervisor placed in the EHS/ESE student room. This would eliminate an “ESE office” since the Director, Program administrator and intern supervisor would be scattered in different offices. The ESE Director has also objected to this proposed spatial arrangement. Since the location of ESE staff is central to the function of the ESE Program, this is part of the current discussions about the location of the ESE Program after the move.
Other Issues and Problems

After nearly two decades of success beginning in 1989, the ESE Program is now faced with such a drastic reduction in key resources of faculty, staff and space that the continued success and, indeed, existence of the Program is threatened. As detailed in previous sections, the number of core ESE faculty, viewed by the last Academic Senate review team as critical to the success of the Program, has been diminished with little hope of recovery within the School of Public Health. The total number of students enrolled in the Program has been declining due to (1) fewer core faculty to advise them, and (2) increasing fees, including SPH’s professional differential fee. Despite the ESE Program’s success at raising its own endowment, the proceeds from the endowment now go to pay for the professional fees for a smaller number of students rather than allowing the Program to admit more students.

Response to the 2004-05 Academic Senate Review

Although these problems have crystallized in only the past few years, they were anticipated by the 2004-05 Academic Senate review team. The relevant recommendations from the 2004-05 Academic Senate review are given below, along with the status of the response to each recommendation:

- **Recommendation 1. To the Administration, the Dean, and the IDP: That the chair of ESE, the dean of SPH, the director of the Institute for the Environment, and the executive dean of the College of Letters and Sciences pursue discussions as to how faculty FTE could be maintained and/or expanded in areas of common interest.**

  The discussions recommended by the Senate review have taken place, but there has been little progress made to resolve the issue of sustainability of core ESE faculty FTE, much less expansion. The IoE has expressed interest in housing the ESE Program, either after being transferred from SPH or jointly administered with SPH. The Dean of SPH has opposed transferring the ESE Program to the IoE (see below, also). Shortly after the initial meeting between the parties mentioned in the recommendation, the Director of the IoE left UCLA; the new Director has just been appointed, so we expect continued discussions about this recommendation.

- **Recommendation 2. To the Dean: That all of the professional fee collected from ESE students be returned by SPH to the ESE program for allocation by the program's admissions and awards process.**

  The Dean of SPH responded that she would not return professional fees paid by ESE students to the ESE Program. The Dean pointed out that she returns one-third of the fees as financial aid based on need, but as noted earlier ESE students have not been receiving aid in proportion to their fee payments.
Recommendation 3. That the ESE Program hire a full time career student affairs officer to take primary responsibility for the internship program.

The recommendation was that a full-time intern supervisor be hired for the ESE Program, and the Dean of SPH would not provide additional funds for that. (The review team had suggested that half the funds come from core faculty research grants, but research funding cannot be used for administrative positions related to teaching. The ESE Director suggested that the additional funds could come from the professional fees, but the Dean did not accept that suggestion.) However, the Program has arranged with two departments in SPH (EHS and Epidemiology) to pool resources so a full-time student affairs officer can be hired, although only 50% of that person’s time will be devoted to ESE.

Three years after the 2004-05 Senate review, little progress has been made implementing the recommendations from the review, particularly the key recommendation about maintaining or expanding the number of core ESE faculty. Because of concerns about the long-term sustainability of the ESE Program in the School of Public Health, the ESE IDC voted in Fall 2008 to begin actions to move the ESE Program out of the School of Public Health and into the Institute of the Environment. When informed of this vote, the Dean of SPH expressed opposition to the Program leaving SPH and requested that the ESE Director work with the new Chair of EHS, Dick Jackson, to find ways for the Program to remain in the School. Although the EHS Chair and ESE Director had a number of meetings in 2008-09, no specific actions have been taken to improve the Program’s prospects in the School.

With the recent decision to reassign ESE space to other departments, questions about the partial reassignment of the ESE Program administrator to EHS Department duties, and a lack of commitment to replace Dr. Winer’s core faculty position when he retires, the ESE Program’s future in the School of Public Health seems much more tenuous than was the case for the 2004-05 Academic Review.

The Independence of the Interdepartmental Program

Like most interdepartmental programs, the Environmental Science and Engineering Program has an administrative home within a department. However, as an interdepartmental program it serves a much broader audience than the host school or department; the active ESE faculty hold appointments in 12 different departments in six different schools. Moreover, as an interdepartmental program ESE’s curriculum and policies are established by an Interdepartmental Committee (IDC). Twelve faculty representing nine different departments serve on the ESE IDC.

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1 The vote was 10 in favor, 1 opposed, with 2 absent.
UCLA’s “Policies and Procedures for Administering Interdepartmental Degree Programs at UCLA” is clear about the independence of IDPs from departments, establishing their academic position as equivalent to that of departments. For example, the Policies and Procedures state:

Like academic departments, IDPs have important educational and administrative responsibilities. All academic functions carried out by departments and IDPs are subject to the policies and review mechanisms established by the Academic Senate. For example, IDPs are subject to the same program review procedures of the Graduate Council and CUCC as are departmental programs. Also, the Graduate Council is responsible for appointing IDP master's theses and doctoral dissertation committees (cf., The Graduate Advisor's Manual, p.46-47). The curricular matters of an IDP are under the supervision of a faculty committee. As in academic departments, the administrative responsibilities are assigned to the administrative head of the program, who is accountable to a Dean for all financial and administrative matters.

The independence of the ESE Program has been respected by the Dean of SPH and Chairs of EHS for most of the past 20 years. However, the current SPH and EHS administrations seem to have a different perspective on the proper role of ESE. The current SPH administration seems disinclined to support the validity of the ESE Program as an independent academic unit. For example, when Professor Pendleton resigned his position, Dean Rosenstock would not recognize his FTE as an ESE FTE, and so declined to replace that core ESE position. For most administrative and financial purposes, the ESE Program has been considered part of the EHS department (a practice that pre-dates the current SPH administration). For example, in initial discussions about the possibility of reassigning some of the ESE Program Administrator’s time to the EHS Department, Associate Dean Godwin stated that, because the funds were allocated to EHS and not to ESE, this decision was one that could be made solely by the EHS Department Chair, who could choose to inform the ESE Director “as a courtesy.” In reassigning space to other departments, the vast majority of the space was dedicated ESE space and the SPH plan was to have ESE consolidated into existing EHS space. Even in matters of ESE leadership, the current SPH administration appears to favor a consolidation of ESE into EHS, with suggestions that the Chair of the EHS Department should become the Director and Chair of ESE.

The ESE Program has had a long, mutually respectful, collaborative relationship with the EHS Department. ESE core faculty are active contributors to the EHS department. Its core faculty teach EHS courses, mentor EHS students (in addition to ESE students; the three core ESE faculty mentored 30% of all non-ESE students in EHS in 2008-09), and participate in departmental committees at levels that are comparable to those of other departmental faculty, all in addition to fulfilling their responsibilities to the ESE Program. The ESE Program welcomes increased involvement of environmental health faculty
(besides the core faculty, five EHS faculty are already listed as active participants in ESE) and greater incorporation of health issues into the Program. However, the ESE Program is not an environmental health program. The ESE Program has a broader mandate to train students in all aspects of environmental science, engineering and policy. An expansion of ESE to include more faculty or activities would strengthen the Program, but a consolidation into Environmental Health Sciences would undermine ESE’s mission, its obligations to other departmental participants, and its ability to train students to address the full range of environmental problems required by society.

**Conclusion**

The current situation makes it clear that SPH and EHS are no longer the nurturing host academic units for the ESE Program that they were for most of the past 20 years.

The future of the ESE Program will remain a focus of the ESE Director, core faculty and IDC. The recent loss of resources (faculty, space and potential staff time) will be foremost on the IDC’s agenda for 2009-10. The Program will also work with the Graduate Council, SPH administration and IoE Director and faculty on actions that could be taken to ensure the future of this highly successful IDP.
Appendix A: Core Faculty Activities

Research Papers

Richard F. Ambrose


Irwin H. Suffet


Revchuk, A. D. and Suffet, I. H. (Mel). 2009 Ultrafiltration Separation of Aquatic


Arthur M. Winer


Presentations

Richard F. Ambrose

Contributed paper, “Regional comparisons and decadal changes in mussel populations (*Mytilus californianus*) and mussel bed community diversity along the California coast.” J.R. Smith (presenter), R.F. Ambrose and P. Fong. Channel Islands Symposium, 2008.


Irwin H. Suffet


Poster, V. Decottignies, E. Senante, A. Bruchet, I. H. Suffet, Mike Link, “Assessment Of Odor Emissions In Wastewater Treatment Plants to Help Define an Odor Control Management Plan” 2008.

Poster, I. H. Suffet, V. Decottignies, E. Senante, A. Bruchet, “Assessment and Characterization of Odor Emission During Sludge Drying Processing”


Poster, F. Rosario-Ortiz, F. Gerringer and I. Suffet “Application of a Novel Polarity Method for the Analysis of NOM During Water Treatment”. 15th International Humic Substances Society, Moscow On a Ship to St. Petersburg Sept 14-20,

Presentation, I. Suffet, V. Decottignies, A. Bruchet, M. Aupetitgendre, “Origin and Fate of Odour Emissions in Sludge Composting”.

Presentation, V. Decottignies, A. Bruchet, I. Suffet, M. Link, M. Aupetitgendre, “Dried Sludge ODours: Classification and Case Studies” International Specialty Conference on Odour and Volatile Organic Chemicals, Oct 8-10, Barcelona, Spain

Keynote Presentation: I.H. Suffet , V. Decottignies and A. Bruchet. "A New Method for Evaluation of Nuisance Odors from Waste Treatment Using Odor Panels Processes"


Presentation, A.Bruchet, G. Filippi, V. Deccottignies , I.H. (Mel) Suffet Use of Olfactory-GC/MS to Confirm dried Sludges Odorants
Arthur M. Winer

Invited Member, Steering Committee, 2008 Arrowhead Symposium, Planning meeting, Oakland, CA, March 31, 2008

Invited Briefing to Santa Monica/Malibu School District Administrators, Measuring Children's Exposure on Diesel School Buses, Santa Monica, CA, April 8, 2008.

Invited Presentation to Southern California Planning Commissioners, Transportation-Related Air Quality Impacts, Los Angeles, CA, April 17, 2008

The Place Makes the Poison: Measuring Children's Air Pollutant Exposure" Environmental Health Sciences Department Seminar, October, 2008

Invited Presentation to Southern California Planning Commissioners, "Transportation-Related Air Quality Impacts," Los Angeles, CA, April 16, 2009

"Mapping Air Pollution in West and Downtown Los Angeles with High Spatial and Temporal Resolution Using a Mobile Platform, Institute of the Environment, May, 2009

## Appendix B: Host Institutions for ESE Interns

<table>
<thead>
<tr>
<th>Student</th>
<th>Host Institution</th>
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</thead>
<tbody>
<tr>
<td>Bear, Todd</td>
<td>Psomas Consultants</td>
</tr>
<tr>
<td>Buffelen, Matthew</td>
<td>North Coast Regional Water Quality Board</td>
</tr>
<tr>
<td>Curren, Jane</td>
<td>South Coast Air Quality Management District</td>
</tr>
<tr>
<td>Estes, Stephen</td>
<td>U.S. Army Corps of Engineers, Los Angeles</td>
</tr>
<tr>
<td>Evanson, Melissa</td>
<td>Golder Associates, Ltd.</td>
</tr>
<tr>
<td>Farrar, Cori</td>
<td>U.S. Army Corps of Engineers, Los Angeles</td>
</tr>
<tr>
<td>Federico, Felicia</td>
<td>GeoSyntec Consultants</td>
</tr>
<tr>
<td>Given, Suzan</td>
<td>Weston Solutions, Inc</td>
</tr>
<tr>
<td>Ha, Cynthia</td>
<td>Macau Water Works. Macau</td>
</tr>
<tr>
<td>Hensley, Amy</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>Jensen, Stacey</td>
<td>U.S. Army Corps of Engineers, New York</td>
</tr>
<tr>
<td>Kwan, Calvin</td>
<td>Hong Kong University of Science and Technology</td>
</tr>
<tr>
<td>Michael, Jennifer</td>
<td>Chevron</td>
</tr>
<tr>
<td>Monarres, Laurie</td>
<td>U.S. Army Corps of Engineers, San Francisco</td>
</tr>
<tr>
<td>Nelsen, Chad</td>
<td>Surf Rider Foundation</td>
</tr>
<tr>
<td>Pankratz, Shannon</td>
<td>U.S. Army Corps of Engineers, Los Angeles</td>
</tr>
<tr>
<td>Pham, Tu-yet Le</td>
<td>South Coast Air Quality Management District</td>
</tr>
<tr>
<td>Philibert, Marc-Andre</td>
<td>Suez Environmental Cirsee Labs, Le Pecq, France</td>
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<tr>
<td>Revchuk, Alex</td>
<td>Water Quality and Treatment Solutions Consultants</td>
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<tr>
<td>Sias, Glenn</td>
<td>Southern California Edison</td>
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<tr>
<td>Keith Thomsen</td>
<td>BioContractors, Inc.</td>
</tr>
<tr>
<td>Vanderbilt, Forrest</td>
<td>U. S. Army Corps of Engineers, Los Angeles</td>
</tr>
<tr>
<td>Vasquez, Victor</td>
<td>Sacramento Regional Water Quality Control Board</td>
</tr>
</tbody>
</table>
Appendix C: Current Employers of ESE Graduates

Aerojet General Corporation
Aerospace Corporation
Air Pollution Control District
Air Resources Board
Anchor Environmental
ARCO Environment, Health & Safety
Aspen Environmental Group
Association of Bay Area Governments
Automated Credit Exchange
Bechtel Corporation
Belt Collins, Hawaii
Bowling Green State University/Environmental Health Program
Boyle Engineering Corporation
CAL EPA Region 3
California Air Resources Board
California Department of Water Resources
California Department of Toxic Substances Control
California Environmental Protection Agency
California Regional Water Quality Control Board, Los Angeles and Central Valley
California State Water Resources Control Board
Capital Environment
Carl Bro International
Central European University
Center of International Research for Water and Environment
Centro de Ecologia UNAM
CEPA/California Regional Water Quality Control Board/LA
Cerritos College
Chevron Texaco Energy Technology Co
CH2M Hill
City of Los Angeles/Department of Water & Power
City of San Jose/Office of Environmental Management
Clark University, Env Sci and Policy
Creelman and Associates
CTL Environmental Services
David Moss & Associates
Department of Aeronautics and Astronautics/Naval
Department of Public Works, City of Downey
Department of Civil & Env Engineering, Universidad de los Andes
Department of Commerce
Department of Toxic Substances Control
Desert Research Institute
Edison International
El Morro Institute
Electric Power Research Institute
EMKO Environmental
Energy and Environment Directorate
ENSER
ENVIRON Corporation
Environmental Financial Services
Environmental Management Association, Inc.
Environmental Science
Environmental Science and Policy, Clark University
Enviropro, Inc.
EPA
Eureka Laboratories, Inc.
Exxon, USA
Fairchild Semiconductor
Florida Power and Light Company
Flow Science, Inc.
Gallagher Associates
Geomatrix Consultants
Georgia State University, Inst of Public Health, College of Health and Human Sciences
Geosyntec Consultants
GTE Hawaiian Telephone
Hawaii State Department of Health
Heal the Bay
Hong Kong International Airport Authority
Hong Kong University of Science & Technology
ICF Kaisar
Indian Institute of Technology, Humanities and Social Sciences Department
International Coatings
International Energy Initiative
International Technology Application Office
IT Corporation
Jacobs Engineering Group
Kern County Farm & Home Advisors
Komae Research Laboratory, Japan
L.A. Regional Water Quality Control Board
Las Virgenes Municipal Water District
Lawrence Berkeley Laboratory
Lawrence Livermore National Laboratory LGS Turner & Associates, Ltd.
Leson Environmental Consulting
LG&E Power
LGS Turner and Associates
Library of Congress
Lockheed Martin
Los Alamos National Laboratory
Los Angeles County Metropolitan Transportation Agency
Los Angeles County Sanitation District/Industrial Waste Section
Los Angeles Regional Water Quality Control Board
Malcolm Pirrie, Inc
Mantech Environment Technical
McGuire Environmental Consultants
Meredith/Boli & Associates
Metropolitan Water District of Southern California
Minnesota Pollution Control Agency
Montgomery Watson
Naval Air Warfare Center, Weapons Division
Naval Postgraduate School/Department of Aeronautics and Astronautics
Oak Ridge National Laboratory/Energy Division
Orange County Sanitation District
Oregon Department of Environmental Quality
P & D Consultants
Peace Corps
PCR
Pollution Research and Technology, Inc.
Radian Corporation
Rand Corporation
Reason Public Policy Institute
Reef Check Foundation
Rincon Consultants, Inc.
Roy F. Weston, Inc.
Sanitation Districts of Los Angeles County, Industrial Water Section
Santa Barbara West Coast Air Pollution Control District
Santa Monica Bay Restoration Commission
SEMPRA Engineering
Sierra Research
Smithsonian Environmental Research Center
Soma Inc.
South Coast Air Quality Management District
Southern California Costal Water Research Project
Southern California Edison Company
Southern Nevada Water Authority
State of California Department of Transportation
State Water Resources Control Board
TDML Grant
Teagasc, Dublin Ireland
Tellus Institute
The International Energy Initiative
TRW, Defense Sector/Systems Division and Space and Electronics Group
Tulane University Center for Bioenvironmental Research
Tunghai University, Beijing, China
U.S. Agency for International Development
U.S. Army Corps of Engineers
U.S. Department of Commerce/NOAA/Office of Legislative Affairs
U.S. Environmental Protection Agency
U.S. Environmental Protection Agency, Office of Toxic Substances
U.S. Geological Survey
USDA Forest Service
University at Buffalo
University of California, Los Angeles
University of California, Irvine
University of California, Lawrence Livermore Nat’l Laboratory
University of California Sea Grant and Cooperative Extension
University of Wisconsin, Madison
URS Consultants, Inc.
Walt Disney Imagineering
Washington State Department of Ecology
Waste Engineering, Inc.
Waste & Water Engineering
Winzler and Kelly, Consulting Engineers
Woodward-Clyde Consultants
REFERENCE 2
2009 Molecular Toxicology
IDP Self-Review
Molecular Toxicology IDP

A. BACKGROUND

1. Status of Toxicology Research and Training at UCLA in 1999

In 1999 there were a number of outstanding toxicology researchers at UCLA. However, these investigators belonged to least eight different departments and four different schools/colleges, and despite their laboratories being in close proximity to one another, there were only limited interactions among them. Doctoral students who focused on toxicological problems were similarly dispersed in a number of departments and interdepartmental graduate programs. Recognizing that there were important toxicological problems facing California and the nation, but that the potential impact of toxicological research and training at UCLA was limited because of its lack of cohesion, in 1999, a number of faculty members, including Professors Collins, Froines and Hankinson, initiated several changes in order to enhance and expand toxicological research and training at UCLA. One endeavor involved an application to the University of California Toxic Substances Research and Teaching Program (UC TSR&TP) for a “Lead Campus” in “Toxic Mechanisms” (described below). In another important endeavor, the faculty applied to the University of California to establish an interdepartmental doctoral program in Molecular Toxicology (Molecular Toxicology IDP) at UCLA.

2. Origins and Governance of the Molecular Toxicology IDP

The application to the University of California for the establishment of this IDP was spearheaded by Professor Hankinson. In July, 2000, the IDP was approved by University of California President Richard Atkinson. Ours was the first molecular toxicology graduate program to be established in California.

The original sixteen faculty of the IDP came from eight departments. Common to all the investigators was an emphasis on the mechanisms whereby toxicants cause disease. For this reason, the program was named “Molecular Toxicology”. Since 2000, four of the original faculty have left the program (retired or deceased), while fourteen new faculty members have joined, bringing the current number of faculty to twenty-six, and the number of departments in which the faculty have primary appointments to sixteen. All our faculty are located near each other at the south end of the UCLA campus.

The first Molecular Toxicology IDP students entered the program in the fall of 2001. In 2004 the Molecular Toxicology IDP was accepted into the UCLA ACCESS Program in the Molecular, Cellular and Integrative Life Sciences (described more fully later), which recruits students for twelve Ph.D. programs at UCLA. This development increased the potential pool of well-qualified applicants for the IDP. Our current goal is to admit about three predoctoral students per year.

The Molecular Toxicology IDP is governed by the Faculty Advisory Committee (FAC) of six persons. This committee consists of the Director who is appointed by the UCLA Graduate Division, two Associate Directors who are appointed by the Director (with the approval of the UCLA Graduate Division), and three faculty who are elected to three year terms by the IDP faculty. The Molecular Toxicology students elect a student representative each year, who attends the FAC meetings as a non-voting member. The FAC meets monthly. Minutes are generated for the meetings. Once per year there is a general meeting of all Molecular Toxicology IDP faculty, where plans to improve the program are discussed.

3. Research Emphasis of the Molecular Toxicology IDP

There is an overall emphasis on the mechanisms whereby environmental toxins cause disease. Much of the research of the faculty falls into the following four foci of interest and collaboration. (i) The asthma-enhancing and other deleterious effects of diesel exhaust particles and airborne particulate matter (PM). (ii) The molecular mechanisms of chemical carcinogenesis. (iii) The program also recently made a very exciting expansion into neurotoxicology, which has been actively pursued through the recent recruitment into the program of several UCLA faculty in this field. These faculty members, Drs Bronstein, Cheselet and Krantz, together with Drs Ritz...
and Schiestl, are pursuing the role of environmental pollutants in the etiology of Parkinson’s disease. (iv) Capitalizing on their experience with ambient air particles, several of our faculty have also turned their attention to toxicological studies on manufactured nanoparticles (i.e. nanotoxicology).

4. The University of California Toxic Substances Research and Teaching Program Lead Campuses at UCLA

The UC TSR&TP is a state-funded “University of California Multicampus Research Unit supporting research on toxic substances in the environment and teaching of graduate students through funding of grants, fellowships, and lead campus programs”. In 1999, Professor Oliver Hankinson spearheaded an application for a Lead Campus to the UC TSR&TP with the assistance of several Molecular Toxicology faculty at UCLA, and certain faculty from the University of California, Riverside, and the Los Alamos National Laboratory. Our Lead Campus proposal was selected for funding in June, 2000, at nearly the same time that the University of California approved the establishment of the Molecular Toxicology IDP. The Lead Campus was site-visited by the UC TSR&TP in 2003, received an “outstanding” evaluation, and was renewed for five more years, through June, 2008. The Lead Campus, which focused on “Toxic Mechanisms”, consisted of a consortium of faculty members from three University of California campuses, and including the faculty members of the UCLA Molecular Toxicology IDP.

The Lead Campus grant in “Toxic Mechanisms” expired on 06/30/08 and could not be renewed. However, in 2005, Professor Andre Nel and Curtis Eckhert (members of the Molecular Toxicology faculty), with the assistance of number of faculty at UCLA and UC Santa Barbara, submitted an application for a new (fourth) UC TSR&TP Lead Campus in “Nanotoxicology.” This Lead Campus program was funded for six years, from 07/01/06 to 06/30/12. This training grant provides pre-doctoral and postdoctoral traineeships to students at UCLA and UC Santa Barbara, and is affiliated with the new UCLA Nanosystems Institute. Students in the Mol Tox program are eligible for support from this training program. The Lead Campus will therefore accelerate the expansion of the Molecular Toxicology program into this area.

5. NIEHS training grant in Molecular Toxicology

The Molecular Toxicology IDP was recently awarded a NIH (NIEHS) training grant (2008-2013) in “Training in Molecular Toxicology” (P.I. Oliver Hankinson, co-PI Robert Schiestl) which supports both doctoral students and postdoctoral students in the program. Ours was the first new NIEHS training grant awarded in 2008. Since the NIEHS training grant started immediately after the UC TSR&TP lead campus in “Toxic Mechanisms” terminated, continuity of funding to the Molecular Toxicology IDP was provided. The nine faculty of the NIEHS training grant represents a subset of the Molecular Toxicology faculty; namely those who focus their research on areas included in the NIEHS mission, viz. the effects of industrial chemicals or manufacturing by-products, metals, pesticides, herbicides, air pollutants and other inhaled toxicants, particulates or fibers, fungal or bacterially derived toxins due to ambient exposures. The award of the NIEHS training grant has expanded the activities of the Molecular Toxicology program into the arena of postdoctoral training. Although we realize that such responsibilities are not considered under the purview of an IDP, we think that the involvement of postdoctoral activities greatly strengthens the IDP.

6. The Current Status of Toxicological Research and Training at UCLA

The common endeavors have engendered a strong cohesive spirit among the Molecular Toxicology students. This spirit is exemplified by the “Toxic Substances” co-ed flag football team, consisting primarily of Molecular Toxicology students, which won the UCLA intramural playoffs in three of the last four years! A marked coming together of toxicology faculty members has also occurred as a result of their participation in the activities of the Molecular Toxicology IDP, the UC TSR&TP Lead Campuses, and the NIEHS training grant in Molecular Toxicology, and these interactions continue to develop. In the last few years, the molecular toxicology program has therefore helped catalyze a renaissance and consolidation of molecular toxicological research and training at UCLA.
7. Societal need for Molecular Toxicology

We believe that molecular toxicological research is highly relevant to California, the USA, and the world, and that our program, and our graduates will make, and are making, contributions to the amelioration of significant societal problems. For example, the adverse effects of air pollution are of particular concern in Southern California, and this is likely to become an increasingly important area of research for the molecular toxicology program. California has the largest agricultural industry in the USA. The potential toxicity of insecticides and herbicides is thus of great concern, but also provides research opportunities. The mechanisms whereby pesticides, and other environmental pollutants impact the development of Parkinson’s disease will become an increasingly important focus of our program. The potential toxicity of engineered nanoparticles is also of great concern to both the general public and the relevant manufacturers and commercial utilizers. The molecular toxicology program is partnering with the recently established California Nanosystems Institute (CNSI) and the NSF and EPA-funded Center for the Environmental Impact of Nanotechnology (CEIN) in developing research in this area. (Dr. Nel directs the new program in nanotoxicology and the CEIN.) It is our conviction that great strides in the identification, appraisal, and amelioration of the toxicological risks of the above environmental pollutants will emanate from studies into the mechanisms whereby they cause disease. We will position ourselves to address both existing and new toxicological challenges to California and the nation.

Of considerable interest to us, the Governor of California recently established a “Green Chemistry Initiative” whose ultimate goal is to eliminate toxic chemicals in the environment. Furthermore, the European Union recently passed a new law regulating over 30,000 toxic industrial chemicals, which will have a major effect on the US chemical industry.

8. Institutional support for the Molecular Toxicology program

The UCLA Center for Occupational and Environmental Health (COEH), directed by Professor John Froines of the Molecular Toxicology IDP, uses its limited discretionary funds to provide small dollar amounts for new faculty startup, small equipment purchases, and some administrative support. The COEH is strongly committed to supporting and strengthening the Molecular Toxicology IDP.

The UCLA Graduate Division provides approximately $40,000 each year to the Molecular Toxicology IDP for student support, as well as (sometimes) a Chancellor’s prize ($10,000 student stipend) and a (competitive) Cota Robles fellowship for underrepresented minority applicants (providing fees and partial funding ($20,000)) for the first year and one subsequent year.) (Molecular Toxicology doctoral program minority students have been routinely successful in winning Cota Robles awards.) The Graduate Division has also committed to providing matching funds of an amount equal to 20% of student stipend support awarded by our NIEHS training grant (i.e. about $10,000/year). The ACCESS program requires pay-back of $25,000 for any student recruited into the Molecular Toxicology IDP to cover first year expenses. The Department of Pathology and Laboratory Medicine provides 50% of this pay-back for students entering the laboratories of its faculty (Drs. Hankinson, Schiestl and Berliner).

The IDP is administered from the department of Environmental Health Sciences in the School of Public Health, which provides modest administrative support from an administrative assistant. Administrative assistance is also provided by Dr Hankinson’s administrative assistant, who is supported by the Department of Pathology and Laboratory Medicine. Administrative support to the IDP is therefore adequate.

9. Predoctoral Trainee Curriculum

The curriculum for the Molecular Toxicology doctoral students is shown in tabular form as appendix 2.

All ACCESS and directly admitted Molecular Toxicology students take the same course during the first two quarters of their first year. These consist of M253, M248, M267A, and 267B. These courses provide a solid foundation in molecular and cellular biology. During their third quarter, the students begin their formal education in molecular toxicology, by taking EHS240. Advanced Molecular Toxicology (Mol Tox 246) and the Laboratory in Toxicological Methods class (Mol Tox 245) are taken in the Fall and Winter Quarters of the second or third year. (Some ACCESS students who join the Molecular Toxicology program may decide to do so only during or after their third quarter, and they may therefore not have taken EHS240 in the third quarter.
They will therefore be required to take this course in their second year.) Trainees may also take electives to fill deficiencies in their academic backgrounds. Starting in the second year of the curriculum and continuing until graduation, the major activity of the students is the performance of original research.

**Laboratory Rotations**

The students do rotations, each of ten week’s duration, in the laboratories of three different Molecular Toxicology faculty members during their first year. In this first year, each student is mentored by the Molecular Toxicology Associate Director for Student Affairs. At the end of their first year, each student chooses his/her thesis mentor. The student is also advised by his/her Thesis Committee, which in addition to the mentor, includes two other Molecular Toxicology faculty members, and one or two faculty members from a different department/IDP.

**Teaching Requirements**

All students will obtain instruction in teaching skills by serving as teaching assistants (TAs) or readers for at least one quarter.

**Qualifying examinations—written and oral**

This examination is typically taken towards the end of the student’s second year at UCLA. Both a written and oral qualifying examination is required. The format for the written qualifying examination consists of a NIH-style research proposal on a topic which is approved by members of the Thesis Committee. The Thesis Committee consists of four faculty members including the student’s advisor, who serves as the Chair.

The oral examination of the written proposal allows the Thesis Committee to fully evaluate the ability of the student to discuss the subject matter in a scholarly fashion. The student must be able to defend the validity and importance of the proposed research, as well as the experimental approaches taken. The oral qualifying examination also provides the Thesis Committee the opportunity to specifically address perceived weaknesses in the student’s educational background as well as evaluate the student’s communication skills.

After successful completion of both the oral and the written qualifying examinations, the student will advance to candidacy.

**Dissertation**

A dissertation based on original research is required. The dissertation must be written in the format approved by UCLA. As a general guideline, the dissertation should consist of research equivalent to at least two peer-reviewed publications in reputable journals in the field.

**Final examination**

A final defense of the Ph.D. thesis is required.

**Normative time from matriculation to degree**

Students who fail to complete the dissertation within 18 quarters will have their record evaluated to determine if an extension of time is warranted. If an extension is granted, the student will be carefully monitored to make sure the dissertation is completed within the additional time allowed.

Note that all but one of the ten students who joined the program in 2001, 2002 or 2003 and who advanced to candidacy have graduated, testifying to the effectiveness of the program in graduating students in a timely fashion.
10. Retreats/Meetings

All trainees participate in the Molecular Toxicology research retreat/symposium that is organized every two years in a location near Los Angeles.

Trainees are also encouraged to attend the annual meeting of the Society of Toxicology (SOT), and are strongly encouraged to give presentations at this meeting. Our students who give presentations have routinely received SOT travel grants to attend the meeting. These meetings introduce the students to the greater toxicology community, give them the opportunity to present their research to this community, and give them the opportunity to attend useful lectures and workshops. There are also several activities at the annual SOT meeting that address future research and career opportunities for the students. We also arrange a meeting of past and present members of the UCLA Molecular Toxicology program at the annual meetings of the SOT. Students have been, and will continue to be encouraged to attend meetings relating to their special area of interest, such as the annual meeting of the American Association for Cancer Research. Many of our students also attend the scientific meetings of the Southern California Chapter of SOT, and regularly win prizes at these meetings. For example at the annual meeting of the Southern California chapter of SOT held in October, 2008, four of our students won prizes, as listed below:

Oral presentation
1st place- Kim Henderson
2nd place- Sudheer Beedanagari

Poster presentation
1st place- Aya Westbrook
3rd place- Peter Bui

11. Recruitment

The Molecular Toxicology IDP recruits graduate students directly into the program, as well as recruiting students through the UCLA Programs in the Molecular, Cellular and Integrative Life Sciences (ACCESS). As mentioned previously, the Molecular Toxicology IDP was admitted into the ACCESS program in 2004. This increased the number of highly qualified potential applicants to our doctoral program.

The ACCESS program organizes student recruitment and also administers the first year graduate course of study for twelve Ph.D programs at UCLA (including the Molecular Toxicology IDP). 252 UCLA faculty participate in the program. ACCESS faculty are required to have a recent history of mentoring students and/or postdoctoral fellows, and to have a current NIH RO1 or equivalent grant.

ACCESS recruits approximately forty students each year. Since joining ACCESS, the Molecular Toxicology IDP has participated in the program very actively. Dr. Hankinson currently serves on the ACCESS Steering Committee and also the ACCESS Admissions Committee. The IDP also participates in the annual ACCESS “Affinity Fair” in the Fall Quarter each year, where our research is presented to incoming ACCESS students.

We will also continue to recruit graduate students directly into the Molecular Toxicology IDP. Another potential source of students is the Masters’ program in Toxicology in the department of Environmental Health Sciences.

We average two direct admits and one transfer student from ACCESS each year.

12. MINORITY RECRUITMENT AND RETENTION PLAN

Our program has made a considerable effort in minority outreach, recruitment, and retention. Some examples follow.

Robert Taylor is an African-American who recently graduated with a Ph.D. in Molecular Toxicology. The Molecular Toxicology IDP nominated him in 2002 for the Professional Development and Peer Review Workshop sponsored by The Comprehensive Minority Biomedical Branch, National Cancer Institute, and he
attended the two day workshop. In 2004, he was nominated for, and attended, a workshop on “Preparing for the Postdoctorate Institution,” hosted by Howard University, and the University of Texas at El Paso Alliance for Graduate Education. In 2005, he was nominated for, and attended, a five day workshop, followed by a four day conference, given by the Biotechnology Institute in Philadelphia, Pennsylvania for the Minority and Indigenous Fellows Program.

In 2005, Dr. Hankinson, representing the Molecular Toxicology Program, participated, along with Robert Taylor, in the UCLA NSF Competitive Edge Graduate Summer Research Program, described above, which was attended by a select group of African-American students in STEM fields who had graduated from traditionally minority institutions, with the objective of recruiting one or more of these students to graduate school at UCLA. In October, 2006 Dr. Hankinson also participated in the one day retreat of the California State University, Los Angeles Minority Opportunities in Research (MORE) program, which serves as a bridge to doctoral programs.

We recruited another African-American woman student, Ashley Terrell, to our Molecular Toxicology program in 2007. She received a fellowship from our NIEHS training grant in Molecular Toxicology to pursue her thesis research under the guidance of Professor David Krantz. She participated in the six week UCLA NSF Graduate Summer Research Program (described above) prior to her first rotation. She was also awarded a two year Eugene Cota-Robles Fellowship from the UCLA Graduate Division, which supports underprivileged applicants. In 2008 an African-American man, Aaron Chapman, transferred to the Molecular Toxicology IDP from the UCLA ACCESS program, in order to pursue his research in the laboratory of Professor Robert Schiestl. Thus three of our past or current students are from an underrepresented minority group.

13. Current positions of Molecular Toxicology graduates

All Molecular Toxicology students admitted in 2001 to 2003 have graduated, attesting to the effectiveness of our program at graduating students in a timely fashion. One of our graduates is an Assistant Professor at a manor research university (Northwestern), nine are pursuing postdoctoral studies, three are scientists in major biotechnology companies, and one works for the US FDA.

14. Future of the Molecular Toxicology IDP

Over the next few years we will set out to further consolidate, improve and expand molecular toxicology research and teaching at UCLA.

As described in this report, we believe that there is a great need for persons trained in Molecular Toxicology in California and the nation. We are therefore proud that we are contributing to training such people. Furthermore, the Molecular Toxicology IDP has progressed towards establishing itself as an important player in the biomedical sciences at UCLA. However, there are a number of areas of concern. The most significant of these are noted below.

i) Our faculty members are generally advanced in their careers. There needs to be an infusion of new junior faculty.

As can be seen from Table 1, all but five of our 26 faculty are full professors. Many are expected to retire in the next decade. In order to maintain continuity to and vitality of the program, it is important that we recruit new faculty members, particularly those early in their research careers. To this end, we recently actively recruited UCLA Assistant Professor Jesus Araujo, who will further expand our activities in the area of environmental causation of atherosclerosis. In the last two years, we also recruited UCLA Professors Bronstein, Chesselet, and Krantz.

Despite these recruitments, it is essential that we recruit at least one new faculty member who is a dedicated molecular toxicologist. Currently only five of our faculty can be considered “card carrying” toxicologists. The remainder are focused principally in other areas, with a secondary interest in toxicology. For long-term viability of our teaching and research activities, it is essential that we recruit a new bona fide toxicologist who is early in his/her career. To this end we have pursued a closer relationship with the Nanotoxicology program (directed
by Professor Andre Nel). In conjunction with this program we are exploring the possibility of recruiting a person who is trained in molecular toxicology, and performs research in nanotoxicology. There is the potential for obtaining a half FTE from the California Nanosystems Institute (CNSI) for this person. We are currently trying to solidify this and are looking for the other half FTE. Success in this endeavor requires commitment to the program from senior academic personnel at UCLA. We hope that the review committee for the 8 year review of the IDP will support us in this endeavor, and bring to the attention of the senior academic and administrative personnel at UCLA our need for at least one additional faculty member dedicated to Molecular Toxicology.

We are also pursuing the possibility of closer associations with faculty in the UCLA School of Engineering, particularly from the departments of Bioengineering, Chemical and Biomolecular Engineering, and Civil and Environmental Engineering. Some of these faculty are already integrated into the nanotoxicology research program and there are potential projects for our students with several faculty members in these departments.

ii) We need sounder financial support for our students, particularly for the first year of their studies.

If we directly recruit two in-state students, and receive one transfer from the ACCESS program, this will cost us $37,169 for stipend and fees for each direct admit student and $12,500 for the ACCESS transfer students, for a total of $86,800. Assuming that neither of the directly admitted students receive fellowships, this amount exceeds our funding from the UCLA Graduate Division ($50,000) by $26,800. It is therefore imperative that we secure additional funds.

Previous Review of the Program

The UCLA Graduate Council undertook a four year review of the Molecular Toxicology IDP in 2006. The report was very positive about the program.
Appendix 1:

Table 1 presents the current number of faculty members in the Molecular Toxicology IDP.

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank</th>
<th>Department</th>
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</thead>
<tbody>
<tr>
<td>Jesus Araujo</td>
<td>Assistant Professor</td>
<td>Medicine</td>
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<tr>
<td>Judith Berliner</td>
<td>Professor</td>
<td>Pathology and Laboratory Medicine</td>
</tr>
<tr>
<td>Jeff Bronstein</td>
<td>Professor</td>
<td>Neurology</td>
</tr>
<tr>
<td>Gautam Chaudhuri</td>
<td>Professor/ Exec Chair</td>
<td>OB/GYN &amp; Molecular and Medical Pharmacology</td>
</tr>
<tr>
<td>Marie-Francoise Chesselet</td>
<td>Professor/ Chair</td>
<td>Neurobiology</td>
</tr>
<tr>
<td>Catherine Clarke</td>
<td>Professor</td>
<td>Chemistry and Biochemistry</td>
</tr>
<tr>
<td>Michael Collins</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
</tr>
<tr>
<td>Curtis Eckhert</td>
<td>Professor</td>
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</tr>
<tr>
<td>John Froines</td>
<td>Professor, Dir EPA SCPC</td>
<td>Environmental Health Sciences</td>
</tr>
<tr>
<td>Richard Gatti</td>
<td>Professor in Rsdn</td>
<td>Pathology and Laboratory Medicine</td>
</tr>
<tr>
<td>Hilary Godwin</td>
<td>Professor</td>
<td>Environmental Health Sciences</td>
</tr>
<tr>
<td>Oliver Hankinson</td>
<td>Professor, Dir Mol Tox IDP</td>
<td>Pathology and Laboratory Medicine</td>
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<tr>
<td>Louis Ignarro</td>
<td>Professor</td>
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<tr>
<td>David Krantz</td>
<td>Assistant Professor</td>
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<tr>
<td>William McBride</td>
<td>Professor</td>
<td>Radiation Oncology</td>
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<tr>
<td>William Melega</td>
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</tr>
<tr>
<td>Sabeeha Merchant</td>
<td>Professor</td>
<td>Chemistry and Biochemistry</td>
</tr>
<tr>
<td>Jeffrey Miller</td>
<td>Professor</td>
<td>Microbiology, Immunology, &amp; Molecular Genetics</td>
</tr>
<tr>
<td>Andre Nel</td>
<td>Professor, Div Chief, Dir CEIN, Dir UCLA Asthma Center, Dir UC Nanotox</td>
<td>Medicine</td>
</tr>
<tr>
<td>Beate Ritz</td>
<td>Professor</td>
<td>Epidemiology</td>
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<tr>
<td>Wendie Robbins</td>
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<td>Michael Roth</td>
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<tr>
<td>Robert Schiestl</td>
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</tr>
<tr>
<td>Suzanne Paulson</td>
<td>Professor</td>
<td>Atmospheric Sciences and Oceanic Sciences</td>
</tr>
<tr>
<td>Joan S. Valentine</td>
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<td>Chemistry/Biochemistry</td>
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<tr>
<td>Zuo-Feng Zhang</td>
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<td>Epidemiology</td>
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## Appendix 2: Curriculum

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<th>Year</th>
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<th>Spring</th>
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<td><strong>1st Year</strong></td>
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<td></td>
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<tr>
<td></td>
<td>M253 (4)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>M267A (4)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>EHS240 (4)&lt;sup&gt;3&lt;/sup&gt;</td>
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<td></td>
<td>M248 (4)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>M267B (4)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>596 Lab rotation (6)</td>
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<td></td>
<td>596 Lab rotation (6)</td>
<td>596 Lab rotation (6)</td>
<td>M234 (2)&lt;sup&gt;4&lt;/sup&gt;</td>
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<td><strong>2nd Year</strong></td>
<td>Mol Tox 246 (4)&lt;sup&gt;5&lt;/sup&gt;</td>
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<td>Research (M596)</td>
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<td>Mol Tox 245 (2)&lt;sup&gt;6&lt;/sup&gt;</td>
<td>211B Molecular Toxicology</td>
<td>211C Molecular Toxicology</td>
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<td></td>
<td>Research (M596)</td>
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<td>Seminars (1)&lt;sup&gt;7&lt;/sup&gt;</td>
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<td>211A Molecular Toxicology</td>
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<td>One of 296A-296F Research</td>
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<td>Seminars (1)&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Topics in Molecular Toxicology(2)&lt;sup&gt;9&lt;/sup&gt;</td>
<td>Topics in Molecular Toxicology(2)&lt;sup&gt;9&lt;/sup&gt;</td>
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<tr>
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<td>One of 296A-296F Research</td>
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<td>Qualifying Exam</td>
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<td><strong>3rd, 4th, and 5th Years</strong></td>
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<td>Research (M599)</td>
<td>Research (M599)</td>
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<tr>
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<td>211A Molecular Toxicology</td>
<td>211B Molecular Toxicology</td>
<td>211C Molecular Toxicology</td>
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<td>Seminars (1)&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Seminars (1)&lt;sup&gt;7&lt;/sup&gt;</td>
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<td>Topics in Molecular Toxicology(2)&lt;sup&gt;9&lt;/sup&gt;</td>
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<td>Topics in Molecular Toxicology(2)&lt;sup&gt;9&lt;/sup&gt;</td>
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</tbody>
</table>

**Footnotes:**

1. M253: Macromolecular Structure
   Chemical and physical properties of proteins and nucleic acids. Structure, cloning, and analysis of DNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties. Letter grading.

2. M248: Molecular Genetics
   Basic concepts in modern genetics, with examples from both eukaryotic and prokaryotic systems. Emphasis on use of genetic techniques for addressing fundamental questions in cellular biochemistry. Topics include mutagenesis, repair, recombination, transposition, genetic regulation, developmental genetics, neurogenetics, and immunogenetics. Letter grading.

3. M267A: Cell Structure, Signaling and Development
   M267B: Seminar in Cell Structure, Signaling and Development
   Cell cycle regulation; chromosomes and DNA repair; protein trafficking and endocytosis; extracellular matrix, cell to cell communication and signal transduction; cell transformation and apoptosis; molecular aspects of development, differentiation, and cancer. Letter grading.

4. EHS 240 Fundamentals of Toxicology. (4)
   Lecture, four hours. Essential aspects of toxicology with emphasis on the human species; absorption, distribution, excretion, biotransformation as well as basic toxicological process and organ systems. Letter grading.

5. M234 Ethics and Accountability in Biomedical Research (2)
   The course focuses on situations arising in the laboratory that may present ethical dilemmas for graduate students. (Students may take this course any time in their first two years of study.)
6. Molecular Toxicology 246. Advanced Molecular Toxicology (4)
   This course addresses advanced topics in molecular toxicology. Students are required to have taken EHS240 or an equivalent course. The first four weeks focus on fundamental aspects of toxicology that are required for a deep understanding of toxicological processes. Weeks five through ten focus on in-depth analysis of several specific areas of molecular toxicology.

7. Molecular Toxicology 245. Laboratory in Toxicological Methods. (2)
   Survey of experimental techniques used in the study of toxic substances. Presentation of principles of techniques and methods of data analysis at discussion session prior to laboratory. Letter grading.

8. Mol Tox 211A-C. Molecular Toxicology Seminar. (1)
   All Molecular Toxicology students are required to attend two toxicology seminar series, each of which will meet once per month during the academic year. The first series consists of presentations by outstanding toxicological researchers from outside UCLA. Collectively, the Molecular Toxicology graduate students are responsible for selecting and inviting one “Graduate Students – Invited Lecturer” each year. We use funds from the NIEHS training grant to pay for this series. See appendix 3 for the list of speakers for this academic year.

9. The second series consists of internal seminars presented by toxicology students and postdoctoral fellows. Trainees will be required to both attend this seminar, and give a presentation about once per year in this series. See appendix 4 for the list of speakers for this academic year.

10. Mol Tox 296A-E. Research Topics in Molecular Toxicology. (2)
    One of sections A to E is chosen. These are research group meetings. Students give presentations to their research group members on their current research. This provides an opportunity for the students to acquire presentation skills in a supportive environment, and to receive expert input into the progress of their research. Research group meetings occur weekly for about 1.5 hours. S/U grading:

11. EHS 280. Nanotoxicology. (4)
    This course discusses the established and potential toxic effects of industrial and environmental nanomaterials based on their pharmacological, organic and inorganic properties.
## Appendix 3: 2008-2009 MOLTOX SEMINAR SERIES

**THURSDAYS, 12:00PM – 1:00PM**

*(EXCEPT FOR 2/25 BRENNAN SEMINAR)*

<table>
<thead>
<tr>
<th>DATE</th>
<th>LECTURER</th>
<th>LOCATION CHS</th>
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<tr>
<td><strong>Fall Quarter</strong></td>
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<tr>
<td>Nov. 6</td>
<td>“Gene-Environmental Interaction on Cancer Risk”</td>
<td>43-105</td>
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<td></td>
<td>Dr. Zuo-Feng Zhang</td>
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<td></td>
<td>University of California, Los Angeles</td>
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<tr>
<td>Nov. 13</td>
<td>“Gene-Environment Interaction in Parkinson’s Disease”</td>
<td>43-105</td>
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<td></td>
<td>Dr. Beate Ritz</td>
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<td>University of California, Los Angeles</td>
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<td><strong>Winter Quarter</strong></td>
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<tr>
<td>Jan. 22</td>
<td>“The Role of Oxidative Stress in the Pathogenesis of Particle-</td>
<td>43-105</td>
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<td>induced Cardiovascular and Pulmonary Disease.”</td>
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<td></td>
<td>Dr. Andre Nel</td>
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<td>University of California, Los Angeles</td>
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<td></td>
<td>Joint Seminar with the Nanotoxicology and Molecular Toxicology</td>
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<td>Programs, and co-sponsored by the California NanoSystems Institute</td>
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<td><strong>Feb 25</strong></td>
<td>“Systems Toxicology Applications in Environmental Risk Assessment”</td>
<td>16-059</td>
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<td>Dr. Richard Brennan</td>
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<td>GeneGo Inc.</td>
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<td>Director of Toxicology</td>
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<td><strong>NOTE: special seminar held Wednesday, 2/25 from 3-5pm</strong></td>
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<tr>
<td>March 5</td>
<td>“Dynamic organization of signaling and repair machines at damaged</td>
<td>43-105</td>
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<td>chromosomes”</td>
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<td>Dr. Jiri Lukas</td>
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<td>Danish Cancer Institute</td>
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<td>Director of Genotoxic Stress Program</td>
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<td></td>
<td>Joint Seminar with UCLA Center for Biological Radioprotectors</td>
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<td>March 12</td>
<td>“Oxidative stress as the Janus caretaker of multipotent stem cell</td>
<td>43-105</td>
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<td>function”</td>
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<td>Dr. Charles Limoli</td>
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<td>University of California, Irvine</td>
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<td>Professor of Radiation Oncology</td>
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<td><strong>Spring Quarter</strong></td>
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<td>April 9</td>
<td>“Green Chemistry: Why Do Good Scientists Make Bad Molecules?”</td>
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<td>Dr. John Warner</td>
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<td>President, Warner Babcodk Institute for Green Chemistry,</td>
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<td>Boston, Mass</td>
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<td>Mol Tox student Invited Speaker</td>
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April 16  “Fundamental Information on Respirable Particles”  53-105A
Dr. Terence Risby
Johns Hopkins University
Professor of Environmental Health Sciences
Joint seminar with Center for Occupational and Environmental Health (COEH)

May 14  “CYP2S1, a novel cytochrome P450 enzyme affecting plasma and organ concentrations of prostaglandins and other eicosanoids, and with a potential role in cancer.”  53-105A
Dr. Oliver Hankinson
University of California, Los Angeles

May 28  “Perfluorinated Chemicals: The History of an Environmental Issue.”  53-105A
Dr. John P. Giesy
University of Saskatchewan
Professor & Canada Research Chair in Environmental Toxicology
Mol Tox student Invited Speaker

June 4  "Parkinson's Disease as a Model of Accelerated Neuronal Aging: An Argument for a Prime Role for Oxidative Stress"
  53-105A
Dr. Julie Anderson
Buck Institute for Age Research
Sonoma, CA
Appendix 4:

Molecular Toxicology Interdepartmental Program Seminars
Schedule for 2008-2009
Mondays 12-1 pm, Location: CHS 71-257 (unless otherwise noted)

Fall 2008
Ilona Bebenek (Hankinson Lab) – 11/3/2008
Mike Kovochich (Nel Lab)- 11/17/2008
Karen Young (Robbins Lab)-dissertation defense-date TBA

Winter 2009
Kim Henderson (Eckhert Lab)-Thesis Defense- 1/13/09-10 am, CHS 14-214U
Aya Westbrook (Schiestl Lab)-1/26/2008
Lynn Yamamoto (Schiestl Lab)-3/2/2008
Nicole Gatto (Ritz Lab)-3/9/2008

Spring 2009
Sarah Kobylewski (Eckhert Lab)-4/6/2008
Peter Bui (Hankinson Lab) –dissertation defense-date TBA
Parrisa Solaimani (Hankinson Lab)-4/13/2008
Ashely Terrell (Krantz Lab)-5/4/08
Sudheer Beedanagari (Hankinson Lab)-6/1/2008
REFERENCE 3

2009 COEH Program Review
(prior to leadership change)
I. Background

The original legislation creating the Occupational Health Centers at UC Berkeley, SF, Davis, UCLA and Irvine derived from the outbreak of sterility associated with occupational exposure to the pesticide DBCP in Lathrop, California in the latter half of the 1970s. That decade saw considerable change in occupational and environmental health legislation including passage of the Occupational Safety and Health Act, the Clean Water Act, the Clean Air Act, and a host of other environmental laws at both the federal and state levels. During that period there was increased public awareness about the hazards of workplace and environmental exposures to toxic chemicals. Attention was focused on the carcinogenicity of benzene, vinyl chloride, arsenic, and acrylonitrile; the pulmonary toxicity of silica, cotton dust and asbestos; the neurotoxicity of lead, DMAPN, Lucel-7, and acrylamide; and the reproductive toxicity of DBCP amongst others. The problems continue to the present; there are 60,000 to 80,000 chemicals in commerce in the U.S., with about 1,000 new chemicals introduced each year. Existing federal, state and local programs have difficulty keeping track of the flow of these chemicals within the state, or of their uses and ultimate fate. The pace of standard setting has been glacial.

A key feature of the seventies was the recognition of the need for a wide range of professionals and scientists who could play key roles in the regulatory framework established by the federal and state legislation. There was a clear need for professionals with training in the disciplines most closely associated with occupational and environmental health to implement the new legislation at the governmental and industrial levels. The importance of training new professionals and scientists in occupational health led to the 1975 establishment of the Education and Research Centers (ERCs) at the federal level whose objective was providing support to students seeking advanced degrees in occupational health disciplines. The ERCs were funded by the National Institute for Occupational Safety and Health (NIOSH). While funds were available for training students in occupational health, the State of California recognized there was a deficiency in the number of faculty in the UC system whose teaching and research were devoted to occupational health, and it sought to address this need through the creation of the Occupational Health Centers. This development led to synergism between the federal funding of student education and the state support for the creation of new faculty positions in occupational health through the occupational health centers that continues to the present.

II. Current Status of Occupational and Environmental Health

The American workplace has changed dramatically from 1978 to 2009. There are changes in the distribution of industries in California, the technology employed at the workplace, the structure of industry and occupations, the organization of work, and the nature of labor-management relations including health care delivery, retirement, and other benefits; the globalization of economy has created new and difficult issues. There has been a shift in the distribution of work away from manufacturing sector to the service and distributional industries. For example, as the number of products from Asia and Latin America has increased, a large distributional network has developed in Southern California including the building of a large number of warehouses fed by diesel vehicles bringing products from the Los Angeles ports. Thus, there are environmental
consequences of globalization in Southern California, with the potential for increased air pollution and a focus of workplace hazards on acute injuries and musculoskeletal problems from repetitive motion. These changes all have implications for occupational health and safety and illustrate that work environments are considerably different than what existed when the legislation was passed in 1978 creating the Centers.

In the 1970s, there was little discussion of the “contingent” workforce, outsourcing and contract workers or the issue of the loss of manufacturing jobs. While there is a continuing issue of health problems relating to chemical and physical agent exposures, examples of new hazards have emerged which were previously unrecognized, including cardiovascular illness associated with air pollution and psychosocial disorders, job demands and workplace stress. The changes in the work environment affect the social and behavioral determinants of health in ways not previously considered. In Southern California there is an added dimension to these problems insofar as the workforce has changed dramatically in the past 25-30 years with significant increases in the diversity of labor. The workforce includes a large number of migrant workers from Latin America and Asia. The changes in the diversity of the workforce introduces cultural, linguistic, experiential, and other challenges in the workplace. This also creates new challenges for the University and State Colleges to educate a new class of professionals in occupational and environmental health from the minority population to be able to address work environment and non-work environment issues in minority communities and workplaces with significant numbers of foreign born workers.

One of the most important changes in occupational health since the seventies has been the recognition of the integral relationship between environmental and occupational health problems. This recognition led to the Occupational Health Centers expanding the scope of their activities into environmental health. This created the need for a wider disciplinary base among faculty and led the UCLA Occupational Health Center to expand the number and nature of the faculty participating in the newly renamed Center for Occupational and Environmental Health (COEH).

There has been a need for new approaches to research as the industrial framework has changed. For example, nanotechnology promises medical advances, smarter and lighter materials, clean energy and improved electronics; the University of California has made a substantial commitment in this area. However there are health and safety issues associated with nanotechnology, which are as yet unexplored. To date, attention has been focused on the development of the new technology, but there has been little attention to the potential risks associated with the advances. There may be important chemical hazards associated with the technology and in scaling from the laboratory to manufacturing there may be new workplace and environmental issues that must be addressed. Ironically, the air we breathe is made up of large numbers of nanoparticles from mobile source combustion. Recent research indicates that nanoparticles may represent some of the most important risks associated with air pollution. In California, COEH scientists are well-placed to address the dual consequences of the new technology and should play a key role in exploring and remediing health issues. This is an area of promise and concern in which the COEHs will play an important role.

Additional examples of new technological development include the use of modern molecular biological findings to investigate toxicogenomics and proteomics to more fully understand gene-
environment interactions. The development of new technologies to study the genome represents a major advance and provides the tools for more in-depth investigations of the relationship between genetic susceptibility and the environment in order to address the issue of why individuals react differently to the same environmental exposures.

There is a growing awareness that the regulatory policy approaches developed in the early 1970s may not be adequate to address the wide range of emerging issues in occupational and environmental health. For example, the health consequences of global climate change has not been effectively examined to date. The identification of the consequences of environmental exposure on children’s health has received new attention with the passage of legislation (e.g., SB 25) and represents an evolving research agenda. There is also a continuing need for review of our approaches to regulation, risk assessment, and environmental policy.

The COEH considers involvement in issues of global health to be essential. It is not possible to consider issues of environmental and occupational health without addressing problems on a global basis. We have been active in many countries outside the U.S. during this period and expect that commitment to continue.

III. UCLA COEH

A. Current Status

Prior to 1989, the UCLA program was an element of the Southern Occupational Health Center, which was directed by Dr. James Whittenberger of UC Irvine with Dr. Jess Kraus serving as Associate Director for UCLA. In 1989, the President’s office separated the UCLA program from the UC Irvine effort, thereby creating two independent, but interacting Southern California programs.

Faculty
Director: John R. Froines, Department of Environmental Health Sciences

At the outset, the COEH was assigned eight FTEs. Currently there are 3 COEH FTE in the Department of Environmental Health Sciences with an emphasis on industrial hygiene/environmental chemistry and toxicology. There are two FTE in epidemiology (one vacant), one in occupational nursing (School of Nursing) and two (one vacant) in occupational and environmental medicine. The latter program is in the Department of Family Medicine in the School of Medicine.

The distribution of the COEH FTEs does not adequately reflect the overall distribution of faculty positions in the COEH when consideration is given to COEH members who do not have COEH FTEs (Appendix 1). There are 3 faculty in toxicology (one COEH FTE), 5 in epidemiology (2 COEH FTE), one adjunct faculty in psychosocial factors, 7 faculty (3 COEH FTE) in Environmental Health Sciences (industrial hygiene, water quality and air pollution). The occupational nursing faculty has a Ph.D. in epidemiology and constitutes a 6th person in epidemiology.

E. Facilities
The UCLA COEH is housed within the School of Public Health, School of Nursing, and School of Medicine. Office and laboratory space are allocated by the respective schools.

The highest priority of the UCLA COEH is the development of research and training opportunities that emphasize multidisciplinary approaches to occupational and environmental health. In general, the COEH enhances the academic curriculum across three Schools, Public Health, Nursing and Medicine with a multidisciplinary orientation, which enables students to gain a broader view of the tools and techniques available for environmental research and intervention.

The mission of the COEH is consistent with the enabling legislation (Assembly Bill No. 3414), which states: “The primary function shall be the training of occupational physicians and nurses, toxicologists, epidemiologists, and industrial hygienists. In addition, the Centers shall serve as referral centers for occupational illnesses and shall engage in research on the causes, diagnosis, and prevention of occupational diseases.” When the funds were originally transferred from the Legislature to the Office of the President and subsequently to UCLA, eight FTEs were included as COEH faculty to development research, training and service in environmental and occupational health.

B. Criteria for review and evaluation of the COEH

1. A central question to the evaluation of the COEH is whether the commitment made by the State Legislature and the Office of the President in establishing the Centers both in the North and South has led to substantial leveraging of the initial funding to create new programs.

2. A second key issue is whether the faculty have made important research contributions that have advanced the fields of occupational and environmental health.

3. A third criteria is whether the FTEs have developed successful training programs that would not have occurred without the legislation and FTEs.

4. Finally, the last criteria for review is whether the faculty have provided services that would not have occurred without the support and existence of the designated FTEs.

1. Extramural funding and the leveraging of the States investment to establish important innovative programs

The original research program of the UCLA COEH was derived from the FTEs originally established in the Center in 1978. Since 1989, the UCLA COEH has expanded the membership of the Center to incorporate a range of disciplines beyond those originally included in the Center. A key objective of the UCLA COEH is the expansion of the existing Center through extramural funding which enables the Center to broaden its disciplinary base and associated level of activities. The faculty has been successful in leveraging the state funds to establish new, important research directions. A moderate commitment by the State to fund FTEs in occupational health has resulted in substantial extramural funding for the University in a range of disciplines and research areas and the creation of new research and training centers. These
Centers listed below contribute to an expanded research and training agenda and represent initiatives with long term funding potential.

A few pertinent examples of major funding sources that would not have occurred without the presence of the COEH (Approximately one million or dollars or more) follows. Other support is listed in Appendix 6 to illustrate other grants that have been obtained by COEH faculty since 2000.

- Southern California Particle Center and Supersite (SCPCS); Director and PI, John Froines. $10,365,583 (1999-2006) and renewed at $7,999,996 (2006-2011). Support derived from the U.S. EPA. (Appendix 4a)

- UCLA-NIH Fogarty International Training Program; Director and PI, John Froines; $770,821 (1995-2001), $850,774 (2001-2007), $317,500 (2007-2010). The focus of the training/research program is Mexico. (Appendix 4b)

- Southern California Environmental Health Sciences Center (SCEHSC); Director and PI, John Froines; joint with USC, $714,405/UCLA (2001-2006) and $555,288/UCLA (2006-2010). Funded by the National Institute of Environmental Health Sciences (NIEHS). (Appendix 4c)

- Asthma and Outdoor Air Quality Consortium; Director and PI, John Froines. $953,599 (2004-2010) (Appendix 4d)

- NIOSH Educational Research Center, $6,764,076/5 years (2004-2009); Director and PI, William Hinds; The focus of this program is training of occupational health professionals in industrial hygiene, medicine, and nursing. The ERC is currently being recommended for reweal, pending the outcome of a secondary review. (Appendix 4e)

- Center for Gene-Environment Studies in Parkinson Disease (UCLA-CGEP): Director and PI, Chesselett, Marie-Francoise; Co-director, Beate Ritz. $7,000,000 (2002-2009). $5,000,000 (2008-2013). Funding derived from NIEHS. (Appendix 4f)


- EPA Supersite Center; Director and PI, John Froines. $3,549,856 (2000-2006). Support derived from the U.S. EPA

- UCLA UDALL Parkinson’s Disease Center; Director and PI, Chesselett, Marie Francoise; Co-PI, Beate Ritz. $7,500,000 (2006-2011). Support derived from NIEHS

- Registry of Parkinson’s Disease Study in Denmark; PI, Beate Ritz. $5,600,000 (2006-2011). Support derived from NIEHS
• Parkinson’s Susceptibility Genes and Pesticides (PEG); PI, Beate Ritz. $2,653,852 (2000-2007. Support derived from NIEHS/NINDS.

• Molecular Epidemiology and Carcinogenesis Program, Jonson Comprehensive Cancer Center (UCLA-JCCC-MECP); Co-Directors, Drs. Zuo-Feng Zhang and Curtis Eckhert. $3,920,770. Support derived from NIH.

• UCLA Center for Biological Radioprotectors; PI, William McBride. Project 1 Director, Robert Schiestl. Total funding $13,500,000 with $2,000,000 to Dr. Schiestl for 5 years. Support derived from NIEHS/NIH.

2. Research

COEH supports the research of non-COEH FTEs through salary and small contributions where the funds would enable initiation of new activities. Long term funding is dependent on extramural awards. Research activities include:

- Exposure assessment in occupational and environmental health
- Industrial hygiene
- Aerosol science
- Environmental chemistry
- Quantitative decision analysis in occupational health
- Respiratory protection
- Artificial intelligence in occupational health
- Organization of occupational health services
- Injury epidemiology
- Occupational and environmental epidemiology
- Molecular and genetic epidemiology
- Reproductive/developmental epidemiology
- Chemical and molecular toxicology
- Toxicogenomics
- Developmental toxicology
- Occupational and environmental health nursing
- Occupational and environmental health medicine
- Psychosocial factors in the workplace
- Air pollution
- Toxicity of metals
- Pesticide health effects in Mexico
- Water quality
- Occupational health education
- Nanotechnology/nanotoxicology
- Risk assessment and environmental policy
- Green chemistry and sustainable technology

To illustrate the range and scope of the research projects conducted by COEH, Appendix 7 lists the publication and records since 2000 of COEH members. The list includes the publications of
the COEH FTEs: Drs. John Froines, Philip Harber, William Hinds, Shane Que Hee, Beate Ritz, Wendie Robbins and Linda Delp. Publications of non-FTE COEH faculty, Drs. Michael Collins, Robert Schiestl, Peter Schnall, and Zuo-Feng Zhang, who are key members of the Center (Program leaders) are also listed. In addition, Drs. Leeka Kheifets, Michelle Wilhelm-Turner, and Nola Kennedy are members who make significant contributions to the COEH while Mel Suffet and Arthur Winer are affiliated members of the Center (Their publications and other support are also included).

B. Educational Programs

Formal COEH FTEs program areas include industrial hygiene, toxicology, genetic epidemiology, environmental chemistry, occupational and environmental epidemiology, psychosocial factors in the workplace, occupational health education, occupational nursing, occupational medicine. Dr. Wendie Robbins (COEH FTE) leads the occupational nursing program, and Dr. Philip Harber leads the Occupational-Environmental Medicine program. These programs result from the legislation and FTE allocation as stated above. The following courses/symposia represent activities that resulted from direct COEH support.

To complement the research conducted through the Center, the overall COEH educational programs at UCLA include industrial hygiene, toxicology, occupational and environmental epidemiology (including injury and genetic/molecular epidemiology), occupational nursing, occupational and environmental medicine, environmental chemistry/water quality, psychosocial factors in the workplace, and air pollution exposure assessment, air pollution and occupational health education. Courses have been developed by non-FTE COEH faculty who derive support from COEH for the courses. None of the courses by COEH faculty would be available in their respective Departments were it not for the creation of the COEH and associated FTEs.

In addition the COEH has been a strong supporter of the creation of the UCLA Interdepartmental Program in Toxicology, a Ph.D. program in environmental toxicology. Dr. Froines was one of the initiating faculty and other COEH faculty participate (Collins and Schiestl). This program is funded by the Toxic Substances Research and Teaching Program as well as its being an NIEHS toxicology training program. This program would not exist save for participation by COEH faculty.

Courses/Symposium:
(This list is not exhaustive; it is illustrative of COEH contribution)

COEH Director: John R. Froines
EHS 200A Fundamentals of Environmental Health (six units)
EHS 257, Risk assessment and standard setting (Chemical policy)
Fall 2006, special seminar series sponsored by the COEH on current and historical issues in occupational and environmental health
June 2008 National workshop on Exposure Biology: 18 speakers who represent leaders in the new field
(See Appendix 8 for additional courses and Symposia given by Dr. Froines)
**Michael Collins**  
EHS 100 Introduction to Environmental Health Sciences  
EHS 240 Fundamentals of Toxicology

**Occupational medicine**  
**Phil Harber**  
Underseved Occupational Health Populations (ACOEM, 2009)  
Health effects of surface goods movement, February 2007 (UCLA)  
2004 Health Culture and Productivity, 2nd annual. 2005 (UCLA)  
Health Culture and Productivity. 2004 (UCLA)  
Current Research, American College Of Occupational & Environmental Medicine, Chicago, April. 2002  
Occupational disease update, American College of Occupational and Environmental Medicine, Seattle, October. 2001  
Occupational disease update, American College of Occupational and Environmental Medicine, San Francisco, April. 2001  
Today's Research, Tomorrow's Practice, American College of Occupational and environmental medicine, Nashville, (November), (symposium organizer). 2000
EHS 400 Field Studies  
EHS 596 Directed Individual study and Research  
EHS 251. Recognition and Prevention of Occupational Disease  
Occupational-Environmental Medicine Core Lecture Series (weekly during academic year)

**Epidemiology**  
**Leeka Kheifets**  
Epidemiology 265, Epidemiology Methods in Occupational and Environmental Health

**Beate Ritz**  
Epidemiology 260, Environmental Epidemiology  
Epidemiology 261, Occupational Epidemiology  
Epidemiology 264, Epidemiology and Policy of Occupational and Environmental health Issues

**Michelle Wilhelm**  
Environmental Epidemiology (EPI 260, 4-units, co-taught with Beate Ritz)  
EPI 267 Methodologic Issues in Reproductive Epidemiology, 4-units, co-taught with Beate Ritz and Jorn Olsen)

**Zuo-Feng Zhang**  
Epidemiology 242, Cancer Epidemiology (4-units)  
Epidemiology 243, Cancer Molecular Epidemiology (4-units)  
Epidemiology 244, Cancer Epidemiology Methods (2-units)  
Epidemiology 295, Cancer Epidemiology Seminar (2-units)  
One week Course on Molecular Epidemiology of Cancer (English)
Nanjing Medical University, Nanjing, Jiangsu, People’s Republic of China, summer, 2002
One week course on Theory and Practice of Epidemiology (English)
Kunming Medical College, Yuennan Province, People’s Republic of China, summer, 2003
One week course on Molecular Epidemiology of Cancer Mexico National Institute of Public
Health Cuernavaca, Morelos, Mexico, summer, 2004
WHO Training Workshop (3 days) on Chronic Diseases Prevention and Control
Jiangsu CDC, Suzhou, Jiangsu, People’s Republic of China, December, 2004
One day UCLA Symposium of Advances of Gene-Environmental Interaction on Cancer, April
16, 2005
One day Alper-JCCC Symposium on Advances of Gene-Environmental Interaction on Lung and
Head and Neck Cancer, April 14, 2007
UCLA, NCI, Chinese Academy of Medical Sciences Alper Symposium of Molecular
Epidemiology, Guiling, People’s Republic of China, summer, 2007
UCLA Fogarty AITRP, IARC, NCI, and NJMU Advanced Training Workshop of Cancer
Molecular Epidemiology, Nov. 2007, Nanjing Medical University, Nanjing, China
UCLA Fogarty AITRP International Training Workshop on Cancer Epidemiology Prevention
and Control, Fudan University, Shanghai, China, March, 2008

**Occupational Nursing**
*Wendie Robbins*
- N213A Occupational Health Nursing Role and Theory
- N213B Health Assessment, Research, and Health Promotion in Occupational Health
- N50 Fundamentals of Epidemiology
- 2005 “Environmental Nursing”, California State Association of Occupational Health Nurses
  Annual Conference, San Francisco, CA

**Psychosocial factors in the workplace**
*Peter Schnall*
- EHS M270/CHS 278 Work and Health

**LOSH**

**Environmental chemistry**
*Shane Que Hee*
- EHS 202, Environmental Chemistry Seminar
- EHS 205, Environmental Health Sciences Doctoral Seminar
- EHS 252E, Identification and Measurement of Gases & Vapors
- EHS252F, Industrial Hygiene Measurements Laboratory (with Kennedy, Hinds)
- EHS 252G, Industrial and Environmental Hygiene Assessment (with Kennedy,Hinds)
- EHS 256, Biological Monitoring in Occupational/Environmental Health: every 2 years
- EHS 258, Identification and Analysis of Hazardous Waste: every 2 years
- EHS 410A, nstrumental Methods in Environmental Sciences (with Suffet)
- EHS 410B, Instrumental Methods in Environmental Sciences Laboratory
- EHS 454 (formerly EHS254), Health Hazards Manufacturing Processes (with Hinds, Kennedy)

**Symposia Organized:**

Basis of the Proposed Biological-Based Environmental Exposure Level (BEEL) for 4,4’-Methylene Dianiline, American Industrial Hygiene Conference and Exposition, San Diego, June 1-6, 2002. Forum.


Industrial Hygiene and environmental chemistry (Courses taught by COEH FTEs are listed in the catalog)

Nola Kennedy
A portion of the support for her teaching in the industrial hygiene program derives from the COEH.

EHS 207 Introduction to GIS
EHS 250D Industrial Hygiene Practice
EHS 252F Industrial Hygiene Measurements Laboratory (co-taught with W. Hinds and S. Que Hee)
EHS 252G Industrial and Environmental Hygiene Assessment (co-taught with W. Hinds and S, Que Hee)
EHS 253 Physical Agents in the Work Environment
EHS 255 Control of Airborne Contaminants in Industry (co-taught with W. Hinds)
EHS C280 Principles of Nanobiological Interactions and Nanotoxicology (contributing lecturer)
EHS 454 Health Hazards of Industrial Processes

1. NIOSH Education and Research Center (ERC). The NIOSH ERC provides student support for training in occupational nursing, occupational and environmental medicine, and industrial hygiene as well as providing an extensive continuing education program. All the faculty in this program are COEH FTE’s except for Dr. Nola Kennedy who is a non-FTE COEH faculty member. This program has been highly successful since the mid-1980s. Besides training in the basic disciplines the program has received additional resources to enhance the overall training effort, which is described in the web site (www.ph.ucla.edu/erc/) and includes:

Pilot Project Research Training Program (PPRT)
The PPRT supports pilot research projects up to $19,000 in the area of occupational health for trainees, junior faculty, and researchers new to the field in NIOSH Region IX.
NORA Research Support Program (NRS)
This program supports interdisciplinary occupational health research involving ERC trainees within the ERC. It provides direct support for industrial hygiene doctoral students conducting research in a NORA area. A current project is on psychosocial factors in local industries.

Hazardous Substances Training Program (HST)
The HST program supports and facilitates the training of professionals, particularly government workers, in the area of hazardous substances.

2. Interdepartmental Toxicology Program. The approved interdepartmental program in toxicology provides training for Ph.D. students in molecular and air pollution toxicology. Nineteen faculty from four schools (Medicine, Public Health, Nursing and the College of Letters and Science) participate in the program. This has been a lead campus program of the Toxic Substances Research and Teaching Program (TSRTP) and has been funded at $300,000/year. It is directed by Dr. Oliver Hankinson, an affiliated member of the COEH. The Interdepartmental Program in Toxicology represents a major educational initiative at UCLA; it was created, in part, through the efforts of COEH faculty, Drs. John Froines and Michael Collins. Startup funds were provided to this program at the outset from COEH, e.g., startup support for Dr. Robert Schiestl. The Molecular Toxicology IDP was recently awarded an NIEHS Training Grant.

3. TSRTP program in Nanotoxicology. This newly funded campus wide program has recently by approved by TSRTP and is directed by Drs. Andre Nel and Curt Eckhert. Drs. Froines, Hinds and Kennedy participate in a touchstone course in nanotechnology as the program develops.

4. Ergonomics. In order to strengthen research and training in ergonomics, COEH will provide partial salary support for Dr. Jason Wang. Dr. Wang will work with the industrial hygiene program, the Labor Occupational Safety and Health Program and especially epidemiology.

C. Service

UCLA COEH faculty has important roles in federal and state advisory committees which have significant policy and scientific implications for the society at large. Governmental examples within the last five years include (we have not included editorial services and other examples of service in order to limit the list). This list is extremely limited but is intended to give a flavor of the services activities of COEH faculty at the policy level.

John Froines:

- Chair, California Scientific Review Panel, key panel for identifying toxic air contaminants in California (AB 1807).
- Chair, NIEHS Board of Scientific Counselors, Report on Carcinogens Subcommittee
- Member, Institute of Medicine Roundtable on Environmental Health
- Member, National Toxicology Program Board of Scientific Counselors
- Member, South Coast Air Quality Management District, MATES II and III Technical Advisory Committee
- Member, South Coast Air Quality Management District, Advanced Air Pollution Research Plan Steering Committee and Clean Fuels Committee
- Member, External Advisory Committee, Columbia University NIEHS Center
- South Coast Air Quality Management District, Committee on occupational exposures at the LA/Long Beach Ports
- Member, LAUSD Advisory Committee on Siting of Schools in Proximity to Freeways

Michael Collins

- Ad hoc reviewer of the dossier on cadmium for the National Toxicology Program Board of Scientific Counselors, Center for the Evaluation of Risks to Human Reproduction (CERHR), NIEHS, Research Triangle Park, NC
- Peer Reviewer for the U.S. Environmental Protection Agency's Reproductive Toxicology Division, Research Triangle Park, North Carolina
- Ad hoc reviewer for the NIH Developmental Biology Study Section

Linda Delp

- Member, Cal/OSHA Advisory Committee
- Member, Southern California COSH Executive Committee
- Member, NIOSH NORA Intervention Research Review Panel
- Member, AOEC Advisory Board for Occupational Health Internship Program
- Member, APHA Occupational Health & Safety Section Council
- Advisory Board, WORKSAFE
- South Coast Air Quality Management District, Committee on occupational exposures at the LA/Long Beach Ports
- Member, LAUSD Advisory Committee on Siting of Schools in Proximity to Freeways

Philip Harber:

- Chair, CDC Safety and Occupational Health (SOH) study section
- Vice-Chair, Residency Review Committee for Preventative Medicine of ACGME
- Board of Directors, American College of Occupational-Environmental Medicine
- Member, Institute of Medicine (NAS/IOM) Committee on Gulf War and Health Effects-Depleted Uranium Update
• Chair, CDC/ NIOSH Special Emphasis Panel (SEP)- Mesothelioma Virtual Registry
• Chair, SEP- World Trade Center Surveillance and Treatment Programs (CDC/NIOSH)
• Chair, SEP- Directors’ Award (NIOSH/CDC)
• Member, SEP- Mining Health and Safety (CDC/NIOSH)
• Member, Clean Air Action Plan Advisory Committee, Ports of LA and Long Beach
• Member, CDC Public Health Practice Through Translation Research secondary Review Panel
• Chair, American Thoracic Society Comm on Impairment and Disability
• Member, American Thoracic Society Comm on Respiratory Protection
• Member, American Thoracic Society Comm on Work Excaerbated Asthma (Joint with CDC/ NIOSH)

William Hinds:
• Member, NIOSH Special Emphasis Panel for Agricultural Disease and Injury Research, Education, and Prevention Centers
• Reviewer, NIOSH Alice B. Hamilton Award
• Member, Advisory Committee for California Population Health Forecasting Project

Nola Kennedy
• Member, Executive Board, Southern California section of the American Industrial Hygiene Association
• Member, Advisory Board, LOSH Occupational Health Internship Program

Leeka Kheifets
• Scientific Coordinator, PROJECT EMF-SP, Brazil
• Member, Extremely Low Frequency Environmental Health Criteria Task Group (WHO)
• Advisor, Childhood Lead Poisoning Prevention Branch, California Dept of Health Services
• Advisory Committee, EMF-Net, EU
• Static Fields Environmental Health Criteria Task Group (WHO), Chair of Epidemiology Committee
• Advisor, Radiation Program, World Health Organization (WHO)
• Independent Scientific Advisory Group to Swedish Radiation Protection Authority (SSI)
• International Committee on Non-Ionizing Radiation Protection (ICNIRP), Member of the Standing Committee on Epidemiology
• Radiation Standards Safety Committee (RASSC), International Atomic Energy Agency (IAEA)
• Board of Directors Bioelectromagnetics Society (BEMS)
• Program Committee Member for International Conference on Occupational Protection: Protecting Workers Against Exposure to Ionizing Radiation (ILO)

Shane Que Hee:

• Member, NIOSH Board of Scientific Counselors
• US EPA Review Committee Member
• Member, Biological Monitoring Committee, American Industrial Hygiene Association
• Member, AIHA Dermal Exposure Committee (later, the EASC Dermal Project Team)
• Member, Report on Carcinogens Expert Registry, National Institute of Environmental Health Sciences
• Secretary, Biological Monitoring Committee, American Industrial Hygiene Association
• Vice-Chairperson/Secretary, Biological Monitoring Committee, American Industrial Hygiene Association
• Chairperson, Biological Monitoring Committee, American Industrial Hygiene Association
• Facilitator and Founder, Biological Environmental Exposure Level Team Project of the Biological Monitoring Committee, American Industrial Hygiene Association
• Chairperson, Biological Environmental Exposure Level Team Project of the Biological Monitoring Committee, American Industrial Hygiene Association, 2008-9

Beate Ritz:

• Member, External Advisory Committee and Reviewer for the NCI/NIEHS Agricultural Health Study
• Member, External Advisory Committee for the California Biomonitoring Planning Project conducted by the Environmental Health Laboratory’s Biomonitoring Project
• Member, External Advisory Committee for the California Environmental Health Surveillance System (SB 702)
• Member, EPA Science Advisory Board for Human Health Research Strategy (HHRS) review
• Member, NAS, IOM Committee of Gulf War and Health, Phase 3: Literature Review of Selected Environmental Particulates, Pollutants, and Synthetic Chemical Compounds

Wendie Robbins
- Executive Committee, UC Toxics Substances Research and Teaching Program (UC TSR&TP)
- US Environmental Protection Agency “Development of Environmental Health Outcome Indicators”, grant review panel
- NIOSH Health Assessment Section, Biomonitoring & Health Assessment Branch, Division of Applied Research and Technology, Grant Peer Reviewer
- Chair, NIOSH Occupational Health Nursing Directors meeting Albuquerque, New Mexico, funded by the UCLA COEH
- California State Association of Occupational Health Nurses, Secretary
- American Association of Occupational Health Nurses (AAOHN) representative to the American Society of Safety Engineers (ASSE) American Standards Institute

Robert Schiestl
- Co-Director, Molecular Toxicology Interdepartmental Program
- Co-PI NIEHS Training Grant in Molecular Toxicology
- Organizer of the Molecular Toxicology Seminar Series
- Member, Jonsson Comprehensive Cancer Center
- Member, Molecular Biology Institute
- Member, National Institute of Allergy and Infectious Diseases, Centers for Medical Countermeasures against Radiation Steering Committee Meeting
- Member, Center for Occupational and Environmental Health

Peter Schnall
- Chair, ICOH Scientific Committee on Cardiology in Occupational Health
- Member, Advisory Board APA-NIOSH for the “Work, Stress, and Health 2009: Global Concerns and Approaches Conference, San Juan Puerto Rico November 5-8 2009
- Chair, 5th ICOH Sponsored Conference “Work Environment and Cardiovascular Disease” Cracow, Poland September 27-30 2009
- Member, ICOH Scientific Committee on Psychosocial Factors at Work
- Director, Center for Social Epidemiology

Zuo Feng Zhang
- Member, Epidemiology of Cancer (EPIC) Study Section, NIH
- Board Member, Board of Directors, American College of Epidemiology
- Consultant, Chronic Disease Prevention and Control in China, World Health Organization (WHO)
D. Special programs

1. The UCLA Sustainable Technology and Policy Program. Initial funding of $140,000 for the UCLA Sustainable Technology and Policy Program (STPP) derives from the UCLA Law School, the UCLA Vice Chancellor of Research, the UCLA School of Public Health and COEH. Extramural funds of $340,000 is in house and an additional $300,000 is being sought. This program is a result of the State of California’s commitment to green chemistry and new approaches to chemical policy. This program has support of the California Administration.

STPP brings together faculty and scientists from Law, Public Health, and Public Policy with the goal of establishing an inter-disciplinary program of policy research, education, and outreach supporting adoption of a precautionary approach to chemical policy in California and nationally. STPP brings together researchers from those schools and others across the UCLA campus in a unique, action-oriented initiative. Co-Directors include Dr. John Froines and Tim Malloy (UCLA Law School).

STPP responds to growing concerns regarding the pervasive use of chemicals in California. These chemicals can undermine community and occupational health, and can have devastating effects on our environment. Traditionally, lawmakers and business have sought to manage the risks associated with our dependence on chemicals. Government regulation and voluntary industry standards focus on proper storage and management of chemicals, and on collection and disposal of chemical wastes. However, this risk management approach is costly and often ineffective. Risk prevention is a competing approach that seeks to replace dangerous chemicals and processes with safer alternatives. While pursuit of risk prevention has been described by a variety of terms—pollution prevention, “clean” technology, “green” chemistry, sustainable production to name a few—one principle drives all of these: it is generally better avoid chemical dangers than to manage them.

STPP aims to clear the path for effective, balanced chemical policies, and to assist in the use of safer chemicals and alternative manufacturing processes in the marketplace. It will do so by providing empirical and policy analysis needed by community-based organizations and non-profit organizations, legislators and government agencies, businesses, and other researchers in four priority areas: (i) identification, tracking and evaluation of hazardous chemicals and technologies, (ii) development of tools for business and policymakers seeking to reduce toxics use, (iii) identification and assessment of existing and emerging alternative chemicals and technologies, and (iv) analysis of legal, economic and social barriers to and drivers of the diffusion of safer alternatives. In each of these priority areas, STPP will engage a range of activities: empirical research and policy analysis; education at the undergraduate, graduate and post-graduate level; technical assistance to community-based organizations, policymakers, businesses, non-profit organizations; and public outreach.

2. Occupational and Environmental Medicine (OEM). The OEM program is included under “special programs” because in addition to its academic and research elements it provides service to California workers and industry. OEM at UCLA has undergone significant reorganization
over the past several years. It now has been recognized as a formal Division in the Department of Family Medicine.

UCLA OEM is positioned to pursue the following objectives:
1. Lead development of information science methods in occupational and environmental health.
2. Guide the evolving redefinition of occupational medicine, effectively linking population medicine with clinical medicine.
3. Implement and evaluate new educational models to meet the country's need for occupational health expertise.
4. Synthesize occupational medicine and general preventive medicine.
5. Conduct research and implement services systems to make occupational health expertise available in community settings other than those associated with workers compensation injury treatment.

Additional information is available at the website:
http://fm.mednet.ucla.edu/OEM/occup.asp

3. Labor Occupational Safety and Health Program. The UCLA Labor Occupational Safety and Health (LOSH) Program is a nationally recognized center to promote workplace health and safety through worker training, curriculum development, technical assistance, community-based research, and policy initiatives. Established in 1978 with a grant from Federal-OSHA, UCLA-LOSH has a multi-ethnic, bilingual (English and Spanish) staff of twelve and provides internships for seven university students.

Current projects at LOSH focus on initiatives to improve the occupational health conditions of vulnerable, high risk populations such as recent immigrants, adolescent workers, homecare workers, and frontline workers at the growing Los Angeles/Long Beach ports complex. Worker education initiatives include a variety of programs ranging from those targeted to high school students to those that prepare dock workers along the West Coast to confront hazmat and security incidents. LOSH has been a leader in the field of innovative education approaches in the national NIEHS hazardous waste/hazmat training program since it began in 1987. LOSH staff developed a Spanish language health and safety resource library and teach Train the Trainer courses for occupational health educators interested in developing education programs appropriate for workers with different languages, cultural backgrounds, and literacy levels.

Research and policy initiatives include a large-scale survey to document the job stressors of more than 100,000 Los Angeles homecare workers employed in the non-traditional work setting of the home, and a colloquium and policy brief to disseminate research findings in the home care arena. A qualitative research project documented working conditions and health and safety violations in the underground economy of Los Angeles’ garment, restaurant and residential construction industries. In December 2002, LOSH released a report and policy brief, “Voices from the Margins: Immigrant Workers’ Perceptions of Health and Safety in the Workplace” focused on the Los Angeles workforce and summarizing policy implications to advance protection for immigrant workers statewide. In 2006, LOSH released a report, “Risk Amid Recovery: Occupational Health and Safety of Latino Immigrant Workers in the Aftermath of the Gulf Coast
Hurricanes” (English and Spanish) in collaboration with the National Day Laborers Organizing Network.

LOSH collaborates with the Association of Occupational and Environmental Clinics to recruit students into the field of occupational health through a national initiative, the Occupational Health Internship Program. LOSH supervises four interns each summer in projects ranging from an examination of musculoskeletal disorders among hotel and garment workers to injuries, chemical and heat exposure facing day laborers in the construction industry.

COEH funds the salary of the LOSH Director, Dr. Linda Delp. All other staff (eleven) and all student interns are funded by grants and contracts, primarily from state and federal agencies and private foundations. LOSH is the lead agency for a five year Western Region Universities Consortium grant from the National Institute of Environmental Health Sciences’ Worker Education and Training Program, effective September 1, 2005 – July 31, 2010 in the amount of $7,443,650. Other consortium members are the University of California at Berkeley, the University Extension program at Davis, Arizona State University, and the University of Washington. LOSH received a grant from the California Wellness Foundation for its Youth Project, effective January 1, 2005 – December 31, 2007 in the amount of $150,000. The Worker Occupational Safety and Health Education and Training program is funded through a contract from the State of California, Department of Industrial Relations, Commission on Health and Safety and Workers’ Compensation in the amount of $363,000, effective July 1, 2006 – June 30, 2007. A new State Contract is pending effective July 1, 2007 – June 30, 2008 in the amount of $391,500. Finally, LOSH received a grant from the University of California Labor and Employment Research Fund (LERF) to disseminate homecare research findings, effective July 1, 2006 – June 30, 2007, in the amount of $19,402.

For the next five years, LOSH will expand its work with vulnerable populations through an initiative to examine access to occupational health care services in collaboration with immigrant worker advocacy centers, unions, adult education programs, and health care providers. LOSH programs also focus on education and interventions to strengthen labor-management health and safety programs in industries with high risk of exposure to safety hazards, ergonomic risk factors, heat and psychosocial stressors. The LOSH Director will initiate a stronger relationship with the Community Health Sciences (CHS) Department, revising the current Occupational Health Education course and identifying opportunities to integrate occupational health into CHS courses.

For more information, see the LOSH website at: www.losh.ucla.edu

3. Psychosocial Factors at Work Program. (Program Lead, Peter Schnall)
Psychosocial factors at the workplace (e.g., job strain, effort-reward imbalance, work characterized by threat avoidant vigilance) which arise due to the way work is organized have been shown to play an important etiologic role in a number of chronic illness including repetitive motion injuries, psychological distress (e.g., anxiety, depression, absenteeism, burnout and demoralization) and cardiovascular disease including hypertension and coronary artery disease. See Schnall, Belkic’, Landsbergis and Baker, etal. The Workplace and Cardiovascular

Training - The success of this project requires the development of a training program for graduate students and health professionals to enhance their awareness of the role of workplace based psychosocial factors in the etiology of physical injury, hypertension and cardiovascular disease. A course for UCLA School of Public Health graduate students (e.g. EHS 270/CHS 278) is taught each spring that provides them with skills in conducting surveillance, detecting psychosocial exposures, and obtaining a psychosocial work history from employed people.

Training for health professionals (Occupational Cardiology taught at UCI COEH) provides similar skills but focuses more heavily on the development of the appropriate clinical skills necessary for the detection (e.g., taking a medically relevant work history of workplace psychosocial exposures), evaluation and treatment of workplace-induced CVD.

Research - A research program is being carried out in parallel with the services component of the project with the purpose of evaluating 1) the surveillance and treatment programs and 2) informing subsequent intervention and prevention programs for the target population aimed at reducing the burden of injuries and CVD. We also plan to conduct observational studies of "naturally occurring" changes in the workplace utilizing the results from repeated surveillance of the same workforce with repeated evaluation of psychosocial exposures and associated changes in workplace blood pressure. Funded studies are under way with UAW and CWA members while funding is pending for a study involving OCFA firefighters.

E. Outreach

The COEH maintains a strong commitment to outreach efforts connected to all activities of COEH and affiliated special programs, centers, and research. Outreach efforts are currently being restructured beginning with the redesign of the COEH website as a mechanism to articulate to the public the wide swath of efforts the COEH undertakes and to engage the public in them. The COEH faculty have conducted and supported a plethora of scientific studies resulting in groundbreaking results of interest to the public, including professionals in the field, community-based organizations, the legislature and other stakeholders. The priority of the COEH looking forward in the coming year is to use innovative means to share research results and develop/strengthen linkages to both the UCLA community and the community beyond the UCLA campus borders to support building momentum for increased educational, research and programmatic activities in the COEH.

A central component of all research efforts that the COEH has embarked upon is the inclusion of community-based organizations or interest groups as strong partners in projects. For example, a recent grant submission to look at the impacts of rail yard pollution in three communities in Southern California included partnerships with three community-based/neighborhood organizations working in those rail yards adjacent communities so that research would be conducted in an interactive manner and ultimately results would be directly communicated to local communities. This model of joint research efforts demonstrates the COEH’s commitment
to supporting the vision of Chancellor Gene Block to, “marshal our campus-wide intellectual resources toward intense civic engagement.”

With this new vision of connecting UCLA resources to the broader community and using innovative ways to share the activities of the COEH, current and prospective students will have more opportunities to apply their knowledge in experiential ways to provide real-world context for these developing professionals in occupational and environmental health.

Examples of COEH Outreach follows:

- Fall 2006: Special COEH Seminar Series “Current and Historical Issues in Occupational Health and Air Pollution, UCLA.
- September, 2006: Sponsorship of Workshop on Methodological Issues in Studies of Air Pollution and Perinatal Outcomes, Mexico City.
- July, 2008: Workshop on New Directions and Advances in Biological and Chemical Exposure Assessment for Epidemiologic and Risk Characterization, UCLA.
- October, 2008: Co-Sponsorship of the 2nd Annual Forum of the Americas: Investigation of Psychosocial Factors, Stress and Mental Health in the Workplace, Guadalajara.
- April, 2009: Co-Sponsorship of UCLA Working Conference on Nanotech Regulatory Policy, UCLA.
- COEH, at regular intervals, co-sponsors special seminar speakers as part of the EHS M411 Seminar Series. Past speakers include Paul Blanc (UCSF), Terence Risby (Johns Hopkins), Helen Suh (Harvard University), and Gurumurthy Ramachandran (University of Minnesota).
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COEH Faculty

Environmental Health Sciences
John R. Froines (FTE): COEH Director
William Hinds (FTE): industrial hygiene program lead
Nola Kennedy
Shane Que Hee (FTE): environmental chemistry program lead
Mel Suffet
Arthur Winer
Arthur Cho

Epidemiology
Beate Ritz (FTE): program lead
vacant (FTE)
Zuo-Feng Zhang
Leeka Kheifets
Michelle Wilhelm-Turner

Labor Occupational Safety and Health
Linda Delp (FTE): LOSH Director

Occupational and Environmental Medicine
Philip Harber (FTE): OEM Director
Vacant (FTE)

Occupational and Environmental Nursing
Wendie A. Robbins (FTE): program lead
Donna McNeese-Smith

Psychosocial Factors in the Workplace
Peter Schnall

Toxicology
Michael Collins: program lead
John R. Froines
Robert Schiestl: program lead
Arthur Cho
Appendix 2.
COEH Organizational Chart
Appendix 3
Additional new Initiatives in 2000-2009

**UCLA Molecular Epidemiology Program in Environmental Genomics.** UCLA recently received a three-year planning grant ($650,000) from NIEHS to create the UCLA Molecular Epidemiology Program in Environmental Genomics, focusing on a multidisciplinary approach to the important issue of gene-environment interaction. Under the leadership of COEH faculty, Drs. Zuo-Feng Zhang, Principal Investigator, Robert Schiestl, and John Froines, the grant will integrate novel molecular biological technologies and methodologies into epidemiological research. This program will study genetic susceptibility and the risk of airborne pollutant-related diseases (such as asthma, chronic obstructive pulmonary disease, and airway cancers). It is gathering epidemiologists, molecular biologists, toxicologists, and others to apply molecular and genetic technologies to the study of toxicogenetics. The faculty members of this program are the member of the Molecular Epidemiology and Carcinogenesis Program at the UCLA Jonsson Comprehensive Cancer Center.

**Center for Excellence for Environmental Public Health Tracking.** The Centers for Disease Control and Prevention (CDC) has created a new Center of Excellence for Environmental Public Health Tracking at the Northern and UCLA COEHs. The grant is for three years and the UCLA portion is $460,000. In addition to working together, the COEH scientists will work closely with the California Department of Health Services (DHS) to track environmental health hazards and create research driven policy options for a national tracking system. The new center is one of three nationwide and will focus initially on the association between air pollution and asthma. In addition to the research conducted through the center, a major effort will be undertaken to create a methodology for an environmental health tracking system using Californian and national data sets. The funding has come to closure, but the subject area continues in the planning for the Institute of Sustainable Technology.

**Center for Environmental Genomics.** The new UCLA Center for Environmental Genomics (CEG) has been evolving over the past year. The purpose is to investigate why certain subpopulations of people have elevated sensitivity to environmental agents, which produce disease. The Center uses state of the art facilities for gene expression profiling and proteomics on campus. The main purpose is to bring together investigators working on Environmental Health problems with UCLA’s state of the art facilities in genomics (Gene Expression Profiling in the Human Genetics Department) and to make the members of the CEG more competitive to apply for outside funding in this research area. Initial funding for the Center derived from the Jonsson Comprehensive Cancer Center ($1,000,000/5 years), but a number of recent grants have supplemented the initial funding. The CEG has been led in part by COEH faculty including Robert Schiestl (Director), Zuo-Feng Zhang (Co-Director), Beate Ritz, Michael Collins and John Froines.

**Asthma and Outdoor Air Quality Consortium.** With funds from the the South Coast Air Quality Management District (AQMD), a new Consortium has been formed which seeks to address the underlying basis and causation of asthma associated with air pollutants, placing emphasis on the mechanistic basis of exposure related health effect, on research which provides additional insights into the sources of pollution responsible for asthma, and on creating greater
knowledge of dose-response relationships. The AQMD support represents 10% of their penalty funds for a total of $953,599.

**Sustainable Technology Policy Program.** The UCLA Sustainable Technology and Policy Program (STPP) is a new program bringing together faculty and scientists from Law, Public Health, and Public Policy with the goal of establishing an inter-disciplinary program of policy research, education, and outreach supporting adoption of a precautionary approach to chemical policy in California and nationally. STPP brings together researchers from those schools and others across the UCLA campus in a unique, action-oriented initiative. STPP is Co-Directed by John Froines and Tim Malloy.

**Exposure Assessment Initiative** is a new initiative by COEH as evidenced by our July 2008 Workshop on New Directions and Advances in Biological and Chemical Exposure Assessment for Epidemiologic and Risk Characterization. COEH will also be developing an Exposure Assessment Course in conjunction with faculty from Mexico as part of our UCLA-Fogarty Program.
Appendix 4a
Program Details: Southern California Particle Center
Director: John R. Froines
Total Funding: $18,365,579 (1999-2011)

Overview of the Southern California Particle Center: The overall objective of the Southern California Particle Center (SCPC) is to bring together outstanding scientists to conduct high priority research to elucidate the underlying basis for health effects associated with exposure to ambient particulate matter (PM). The SCPC makes use of an integrated approach to address the issues of exposure, dosimetry, toxicology, and epidemiology identified in the EPA’s RFA and the Reports of the National Research Council on Particulate Matter. The strengths of the investigators in this center and our demonstrated record of progress, the powerful assortment of equipment available and the unique characteristics of the Los Angeles basin airshed (LAB) taken together are key factors in why Southern California provides a particularly attractive environment and opportunity for PM research studies.

We have assembled a team of highly respected researchers committed to developing strong multidisciplinary programs to address the challenging public health issues posed by PM pollution. Principal investigators in this application include Drs. Constantinos Sioutas (USC), Andre Nel (UCLA School of Medicine), William Hinds and Arthur Cho (UCLA School of Public Health) who were research leaders in the Center during the past five years. Several investigators recognized as being leaders in their disciplines have been added to the Center including Dr. Jack Harkema (Michigan State University), Dr. James Schauer (University of Wisconsin), Drs. Ralph Delfino and Michael Kleinman (UC Irvine), and Dr. Yoshito Kumagai, University of Tsukuba, Japan). Dr. Harkema has recently collaborated with Center investigators (EPA STAR grant), and brings his state-of-the-art trailer for in vivo animal studies. Dr. Schauer is well known for his work on source apportionment and replaces his mentor, Dr. Glen Cass, whose untimely death left a gaping hole in air pollution research. Our collaboration with Dr. Delfino was initiated with recent funding for a panel study of elderly cardiovascular disease patients. Each investigator brings a wealth of talent and diverse resources to the Center. Drs. Beate Ritz, Michelle and Wilhelm Turner are affiliated members of the Center.

The studies undertaken by the SCPC address research priorities identified by the EPA, including source linkages, susceptibility to PM, biological mechanisms for PM, and exposure-response relationships. Our research to address these priorities is integrated across a wide variety of disciplines, including aerosol formation and characterization, advanced analytical chemistry, exposure assessment, chemical toxicology, genetic toxicology and immunology, animal toxicology, epidemiology and biostatistics. Linking the diverse research efforts into a coordinated whole is an overarching theme, as illustrated in the pictorial diagram of the five SCPC projects.
**Project 1:** Constantinos Sioutas (USC) and James Schauer (University of Wisconsin-Madison)

**Project 2:** Andre Nel (UCLA School of Medicine), Jack Harkema (Michigan State University), Michael Kleinman (UC Irvine School of Medicine), Aldonis Lusis (UCLA School of Medicine)

**Project 3:** Arthur Cho (UCLA EHS), John R. Froines (UCLA EHS), Yoshito Kumagai (Universit of Tsukuba, Japan).

**Project 4:** Ralph Delfino (UC Irvine Dept. of Epidemiology), Norbert Staimer (UC Irvine Dept. of Genetic Epidemiology), Susan Neuhausen (UC Irvine Dept. of Physiology and Oxidative Stress).

The Southern California Particle Center has published over 200 peer-reviewed journal articles. A partial list can be found at [www.scpcs.ucla.edu](http://www.scpcs.ucla.edu)
Appendix 4b
Program Details: Fogarty Program in Occupational and Environmental Health
Director: John R. Froines
Total Funding: $1,939,095 (1995-2010)

Since its inception in 1995, the UCLA-Mexico Collaborative Training and Research Program (UCLA-Fogarty Program) has focused on the development of training and research related to environmental and occupational health (EOH) needs in Mexico. A major goal of the program has been to train scientists and professionals to deal effectively with environmental and occupational health issues. Through this program’s efforts, significant numbers of Mexican students, professionals, and government officials have received valuable information and training and relevant research findings have been reported. We believe the UCLA-Fogarty Program in Mexico has had an important role helping to nurture academic programs that address environmental and occupational health, created research on societal needs, and trained persons who will occupy important scientific positions with the potential to influence regulation, and control and reduce morbidity and mortality associated with the workplace and the environment.

The following types of training and related activities have been supported by the program: 1) doctoral and faculty training; 2) Master’s level training; 3) short term training at UCLA; 4) short courses offered at UCLA or in Mexico; 5) curriculum design, 6) professional training, 7) development of a textbook on epidemiology methods in Spanish, 8) conferences in Mexico and UCLA, and 9) an initial commitment to develop online courses for distance learning geared for persons outside Mexico City as well as across Latin America. Most importantly the training has provided an opportunity to develop in-depth relationships with faculty in Mexican universities from which new collaborations have emerged. We have solidified the commitments to long-term activity between UCLA and Mexican institutions/investigators.

Dr. John Froines has directed the Fogarty Program since its outset in 1995. Other participating COEH faculty includes Drs. Collins, Que Hee, Schiestl, Zhang, Kennedy, Hinds, Harber, Robbins, Suffet, Winer, Wilhelm and Ritz.

Collaborators in Mexico include faculty from the National Institute of Public Health (INSP), Centro de Investigaciones Avanzadas (CINVESTAV), Universidad Nacional Autonoma de Mexico (UNAM), Universidad Autonoma Metropolitana-Azcapotzalco (UAM-A), and the Mexican Institute for Social Security (IMSS). U.S. collaborators include respected scientists and faculty from the University of California, Los Angeles (UCLA), University of Southern California (USC), University of California, Irvine (UCI), and the California Air Resources Board (CARB).

Examples of UCLA-Fogarty Program and COEH faculty collaboration in recent years include the following:

Research Projects

- *International Study of Childhood Leukemia and Residences near Electrical Transformer Rooms* (Kheifets/IMSS)
- *Effect of Particulate Matter on DNA Deletions in Mice*, postdoctoral fellow support for Natalia Manzano Leon (Schiestl/UNAM)
• *Lung Function Growth in Children with Long-Term Exposure to Air Pollutants in Mexico City*, research support for MSc student, Victor Miranda (Froines/INSP)

• *Role of the Antioxidant Response Modulated by NRF-2 Transcription Factor in Toxic Damage in the Lung and Heart of Rodents Exposed to Concentrated Ambient Particles*, research support for postdoctoral scholar and Ph.D student (Froines/CINVESTAV)

**Curriculum Development**

• Development of a Risk Assessment Course as part of a Distance Diploma Program (Froines/CINVESTAV, INSP)

• National meeting of occupational medicine residency program directors in Mexico conducted a review and revision of the residency program curricula. COEH faculty member, Phil Harber provided input and commented on the proposed revisions.

• Children’s Environmental Health Course translation and critique. (Froines/INSP)

**Student Support**

• Psychosocial Effects in the Workplace Initiative graduate student and trainee, Javier Garcia (Schnall/UAEM)

• Isabel Garcia-Rojas, a UCLA continuing PhD student currently received Fogarty in support of her Master’s Degree (2006). Three COEH faculty (Froines, Harber, Schnall) currently sit on her doctoral committee.

• Scholarships and travel support for 9 students each summer from 2000-present (72 total) to attend INSP summer program. COEH faculties have also participated by giving short courses on topics such as ergonomics, environmental chemistry, toxicology, etc.

• Rubi Garcia Dominguez, MSc student, was in residence at UCLA for 5 weeks while learning how to perform organic and elemental carbon content determination from PM$_{10}$ and PM$_{2.5}$. (Froines/CINVESTAV)

**Scientific Meetings and Short Courses**

• 2nd forum of the Americas in Investigation on Psychosocial Factors, Stress and Mental Health in the Workplace. Besides providing financial support, COEH member Peter Schnall was a key organizer and participant.

• Workshop on Methodological Issues in Studies of Air Pollution and Perinatal Outcomes, Mexico City. Funded by the UCLA-Fogarty Program and organized by COEH faculty member, Michelle Wilhelm-Turner.
Appendix 4c
Program Details: Southern California Environmental Health Sciences Center (SCEHSC)
Associate Director: John R. Froines
Total Funding: $1,269,693 (2001-2010)
Total does not include supplemental funding for pilot projects (see below)

Goal and Theme: An ever-expanding body of scientific evidence connects the environment with human health. Although progress has been made in understanding the role of the environment in disease causation, we have yet to identify etiologic factors for many common diseases that are associated with substantial morbidity and mortality. Nor have we been able to clearly identify groups of individuals who are at greatest risk for health effects from environmental exposures. In addition, we are still learning the best ways to accurately assess and characterize environmental exposures. To prevent environmental diseases and ill health in diverse human populations, we need to learn more about how to assess both exposure and health outcomes, how host factors contribute to variation in sensitivity, and how to translate research results into preventive action. We have positioned our Center to respond to these challenges and to have a positive impact on public health by designing our Center around the theme of Environmental Exposures, Host Factors and Human Disease.

The goal of our Center is to improve health by identifying environmental risks, genetic co-factors and other susceptibility determinants for disease and ill health. To accomplish this goal, the Center has and will continue to: 1) develop and refine methods for exposure assessment and health outcome assessment; 2) develop informative study designs for addressing risks of environmental exposures, including gene-environment interactions; 3) investigate environmental exposures and determinants of susceptibility to these exposures in diverse human populations; and 4) link its research efforts with the environmental health needs of the communities it serves. The Center has been structured to promote these emphases.

Dr. John R. Froines is Associate Director of the SCHESC overall and Director of the UCLA subcontract. He is Director of the Exposure Assessment Research Core and Dr. William Hinds is director of the Exposure Assessment Service Core. Other UCLA COEH members of the SCEHSC include Drs. Arthur Winer, Nola Kennedy, Beate Ritz, and Arthur Cho.

As a means of achieving its goals, the SCHESC grants a number of pilot project grants each year to promising researchers. Pilot project grants that have been awarded to UCLA researchers in recent years include:

- Arantza Eiguren (Environmental Health Sciences): Modification of the DTT Assay to increase its throughput and its Sensitivity, $28,425
- Nicole Gatto (Epidemiology): Sunlight Exposure & Vitamin D Metabolic Gene Variations in Parkinson's disease, $8,008
- Allen Haddrell (Nanomedicine): Development of Instrumentation to Monitor the Oxidative Stress Potential of Particulate Matter in Near Real-Time, $27,540
- Jo Kay Ghosh (Epidemiology): Exposure to Airborne Allergens and Endotoxins during Pregnancy and the Risk of Preterm Delivery, $15,074
• Nola Kennedy (Environmental Health Sciences): *Concentration Measurements of Aerosolized Carbon Nanotubes in our Environment*, $30,900

• Arantza Eiguren (Environmental Health Sciences): *Effects of Exposure of Naphthalene and its Metabolites on Thiol Enzymes in Lung Epithelial Cells*, $30,900

• Michelle Turner (Epidemiology): *Assessing the influence of difference neighborhood SES measures on asthma and traffic related air pollution in the L.A. FANS cohort*, $38,180

• Masaru Shinyashiki (Pharmacology): *Effects of PM Constituents on Redox Status of Cells*, $38,100

• Robert Schiestl (Environmental Health Sciences): *Analytical Chemistry Cores/Effects of Carcinogen Exposure on DNA rearrangements in Human Cell*, $38,125
Appendix 4d

Program Details: Asthma and Outdoor Air Quality Consortium
Director: John R. Froines
Total Funding: $953,599 (2004-2010)

Asthma incidence rates have increased substantially in the past decades. Approximately one in 12 children are affected by asthma in Southern California, with rates rising to 13% of children under the age of 17 in San Bernardino County. Current research being conducted in Southern California shows strong ties between air pollution and increased symptoms among asthmatics.

In order to further research on the links between air pollution and asthma, the Governing Board of the South Coast Air Quality Management District (AQMD) voted to establish an independent Southern California Consortium on Asthma and Outdoor Air Quality. The Consortium seeks to address the underlying basis and causation of asthma associated with air pollutants, placing emphasis on the mechanistic basis of exposure related health effects, on research which provides additional insights into the sources of pollution responsible for asthma, and on creating greater knowledge of does-response relationships.

Consortium Projects include:

**Cycle A**
- Rob McConnell (USC): *Relationships between PM, Traffic and Asthma*
- Ralph Delfino (UCI): *Exhaled NO in Asthmatic Children and Personal Particulate Matter Exposures*
- Constantinos Sioutas (USC): *Automated Aerosol Concentration System for the Collection of Suspended Particulate Matter in Aqueous Solutions Suitable for Toxicological Assays*
- Beate Ritz (UCLA Epidemiology): *Traffic-related Air Pollution and Acute Respiratory Diseases and Asthma in Children Ages 0-5 in the SoCAB from 1990-2000*
- Arthur Cho (UCLA Environmental Health Sciences): *Interaction of Reactive Organic Compounds with the Capsaicin Receptor*

**Cycle B**
- Ralph Delfino (UCI): *Repeated hospital encounters by children with asthma and exposure to traffic-related air pollutants*
- Beate Ritz (UCLA Epidemiology): *Pre- and Post-Natal Air Pollution Exposure and Early Childhood Respiratory Disease in the UCLA Environment and Pregnancy Outcomes Study (EPOS) Cohort*
- Arthur Cho (UCLA Environmental Health Sciences): *Interaction of 1,2-napthoquinone (1,2-NQ) with the epidermal growth factor receptor (EGFR) system.*
- Michael Kleinman (UCI): *The Roles of Pollutant Components in the Development of Asthma*
Appendix 4e

Program Details: Southern California Education and Research Center

Director: William Hinds

Acting Director: John R. Froines (7/2009-2010)

Total Funding: $6,764,076 (2004-2009), Renewal pending

The Region IX NIOSH ERC for Southern California is directed by Dr. William Hinds of UCLA. The Associate Director is Dr. Dean Baker of UC Irvine. The Center is composed of four core academic programs, five correlated programs, and Center Administration. The core programs are one each in industrial hygiene and occupational health nursing and two in occupational medicine. The correlated programs are Continuing Education that cuts across the four core programs, Hazardous Substances Training, Hazardous Substances Academic Training Program, Pilot Project Research Training Program, and NORA Research Support Program that also involves the four core programs.

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SCERC Values and Vision

The SCERC has as its core values a commitment to worker health, scientific integrity, and excellence in teaching.

The core purpose of the SCERC is to improve worker health through education, research, and service.

The mission of the SCERC is to accomplish our core purpose by educating professionals in the fields of occupational medicine, industrial hygiene, and occupational health nursing through academic programs and continuing education; conducting research in occupational and environmental health and related areas; and providing outreach and resources to educational and professional organizations.

The vision of the SCERC is to be recognized as a leader in education and research in occupational and environmental health.

Center Goals and Objectives - The goals of our Southern California Region IX Educational Resource (ERC) Center are:
1. To educate professionals in the disciplines of occupational and environmental medicine, industrial hygiene and occupational health nursing. We believe the biggest impact our ERC can have is to attract and train bright, energetic leaders in the primary occupational health fields.

2. To provide continuing education for professionals in the field or other person with responsibilities in the occupational safety and health area. We believe that it is extremely important to provide stimulation, updates of information, promotion of interdisciplinary activities and training of professionals and non professionals on occupational health and safety issues.

3. To proliferate occupational safety and health activities through outreach to other educational institutions, other parts of universities and to organizations in a position to influence positively the occupational safety and health area.

4. To provide a focus for research activities in occupational safety and health. The results of this research can be disseminated to organizations and agencies in a position to implement preventive action.

5. To be an occupational safety and health resource to organizations (such as companies and unions) and agencies that need the expertise on occupational safety and health that our ERC possesses.

6. To act as a focus to marshal all types of community resources in occupational safety and health to identify and solve problems in the work setting and environment.

7. To respond to the changing nature of occupational health and safety problems and to develop educational programs to deal with emerging problems and issues.
Appendix 4f
Program Details: Center for Gene-Environment Studies in Parkinson Disease (UCLA-CGEP)
Director: Marie-Francoise Chesselet
Co-Director: Beate Ritz
Total Funding: $12,000,000 (2002-2013)

Overview
The UCLA-CGEP explores mechanisms by which genetic and environmental influences combine to increase the risk for Parkinson's disease (PD) in susceptible individuals through interplay between neurotoxic pesticides and biologic mechanisms regulating the neurotransmitter dopamine in brain cells. Parkinson's disease symptoms are caused by the death of dopamine producing cells and a lack of this neurotransmitter in the brain. There is extensive evidence that pesticides, a suspected risk factor for PD, interact with multiple mechanisms that regulate the intra- and extracellular levels of the dopamine, which itself is a powerful oxidant that can be highly toxic to cells. Critical factors in this interaction of dopamine homeostasis and pesticides may be oxidative stress and the function of the proteasome, an organelle involved in protein degradation in cells. Both dopamine and pesticides can produce oxidative stress; pesticides can directly affect dopamine transporters, thus causing alterations in dopamine homeostasis, and possibly interfere with proteasomal function.

UCLA Project I:
Environmental toxins and genes that influence cytosolic dopamine
Project Leader: Beate Ritz
Co-Investigators: David Krantz, Charles Glatt
This project uses a high throughput genetic approach coupled with cellular assays to assess gene function and address the question of how and whether genetic variations impact dopamine homeostasis in humans that participate in a large epidemiologic study at UCLA. This project also uses the model organism Drosophila melanogaster (the fruit fly) to study gene-environment interactions relevant to dopamine metabolism. We use the power of fly genetics to identify new genes that may contribute to neuroprotective mechanisms relevant to both environmental toxins and dopamine itself.

UCLA Project II:
Interaction between pesticides and genetic alterations of dopamine homeostasis in mice
Project Leader: Marie-Françoise Chesselet
Co-Investigators: Nigel Maidment, Michael Levine, Robert Schiestl
This project employs the extensive mouse colonies at UCLA, specifically mice with genetic alterations in the vesicular and cytoplasmic dopamine transporters as well as in proteins known to cause familial Parkinson's disease. Exposing these mice to certain pesticides, we examine whether variations in dopamine homeostasis due to genetic factors increase the ability of pesticides to cause oxidative stress in dopamine-producing neurons and whether this interaction increases the vulnerability of dopamine neurons in vivo.

UCLA Project III:
Pesticides and proteosomal dysfunction: Genetic susceptibility in cellular models
Project Leader: Jeff Bronstein  
Erik Schweitzer, Robert Schiestl, Allan J. Tobin
One key player in the vulnerability of dopamine neurons in PD is the proteasomal pathway; i.e. growing evidence suggests that proteosomal dysfunction plays a critical role in neurodegenerative diseases. Thus, project III uses immortalized cell lines, primary cell cultures from the genetically engineered mice used in project II, and lymphoblasts from patients identified from the epidemiologic study to examine the effects of pesticides on the function of the proteasome.
# Appendix 5

**UCLA School of Public Health**

**PI Indirect Costs Generated Fiscal Year 2006-2007**

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## Appendix 6
### UCLA COEH Faculty Other Support

#### John R. Froines:

**Other Support - Current**

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<td>Southern California Particulate Matter Supersite (SCPMS)</td>
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<td>01/15/00 12/31/06</td>
<td>$2,660,820</td>
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<td>Delfino, R.</td>
<td>Determination of the Reactive Oxygen Species Activity in PM and Enhanced Exposure Assessment for the NIH/NIEHS study</td>
<td>CARB</td>
<td>Research</td>
<td>06/28/04-31/08</td>
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<td>Froines, J.</td>
<td>Pacific Rim Research Program</td>
<td>UC Office of the President</td>
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<td>Froines, J.</td>
<td>An Automated System for Task-Based Evaluation of Size Distribution of Beryllium Aerosol at the Los Alamos Beryllium Technology Facility</td>
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<td>02/19/99 – 06/30/07</td>
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**Arthur Cho:**

**Other Support – Current**

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<tr>
<td>Sioutas, C.</td>
<td>Physicochemical and toxicological assessment of the semi-volatile and non-volatile fractions of PM from heavy and light-duty vehicles operating with and without emissions control technology.</td>
<td>CARB</td>
<td>Research</td>
<td>02/01/06-12/31/09</td>
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<td>Froines, J.</td>
<td>Physicochemical and toxicological assessment of the semi-volatile and non-volatile fractions of PM from heavy and light-duty vehicles operating with and without emissions control technology.</td>
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<td>Research</td>
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<td>$6,374,074</td>
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**Other Support – Expired**

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<td>Froines, J.</td>
<td>Asthma and Outdoor Air Quality Consortium</td>
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**Michael Collins:**

**Other Support – Current**

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<tr>
<td>Hankinson, O.</td>
<td>UCLA/UC Riverside/Los Alamos consortium in research and training in mechanisms of toxicity</td>
<td>TSR&amp;TP</td>
<td>Training/Research</td>
<td>7/1/00-6/30/08</td>
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**Other Support – Expired**

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<tr>
<td>Collins, M.</td>
<td>Antagonism of all-trans-retinoic acid-induced teratogenesis by up-regulation of the Ha-ras oncogene in a murine model</td>
<td>UCLA Academic Senate</td>
<td>Research</td>
<td>7/01/05-6/30/07</td>
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<td>Collins, M.</td>
<td>Murine strain sensitivity to cadmium teratogenesis</td>
<td>NIH</td>
<td>Research</td>
<td>4/1/01-3/30/07</td>
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<td>Collins, M.</td>
<td>Identification of genetic loci associated with differential sensitivity of two inbred murine strains to all-trans-retinoic acid-induced congenital malformations</td>
<td>Center for Inherited Disease Research (CIDR)/NIH</td>
<td>Research</td>
<td>4/1/02-2/1/03</td>
<td>0 (Genotyping provided by the agency)</td>
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<td>Fukuto, J.</td>
<td>Interactions between cadmium and arsenite in the production of birth defects</td>
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<td>Collins, M.</td>
<td>Cadmium teratogenesis in murine strains: Proteomics</td>
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<td>Delp, L</td>
<td>Young Worker Health Education Project</td>
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<td>1/1/08-12/31/10</td>
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<td>Worker Health Safety Training Cooperative Agreement</td>
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<td>Worker Occupational Safety &amp; Health Educational Program/UCLA</td>
<td>CA/Department of Industrial Relations</td>
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<td>Delp, L</td>
<td>Health and Safety Training for Immigrant Workers</td>
<td>NIOSH</td>
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<td>6/2/08-10/31/08</td>
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<td>Mexico Women Conference</td>
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**Other Support – Expired (Last 5 Years)**

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<td>Delp, L</td>
<td>Worker Health Safety Training Cooperative Agreement</td>
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<td>Delp, L</td>
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### Philip Harber:

**Other Support - Current**

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<tr>
<td>Harber, P.</td>
<td>Collaborative Training Program in Occupational Medicine- King Faisal University.</td>
<td>Training</td>
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<td>2000-2010</td>
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**Other Support – Expired (Last 5 Years)**

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<td>Harber, P.</td>
<td>Health Effects Panel- Hanford Environmental Site/ CH2Mhill.</td>
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<td>Training</td>
<td>2004-2006</td>
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<td>Harber, P.</td>
<td>Workers Compensation Guidelines</td>
<td>RAND</td>
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<td>2004</td>
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<td>Harber, P.</td>
<td>Working Conditions of Dental Hygienists</td>
<td>NIOSH/CDC/ERC</td>
<td>Pilot Project</td>
<td>2003-2004</td>
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<td>Harber, P.</td>
<td>Occupational Medicine Residency</td>
<td>NIOSH/CDC</td>
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<td>2002-2004</td>
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<td>Harber, P.</td>
<td>COPD: Occupation, Airway Responsiveness, and Smoking Effect</td>
<td>Centers For Disease Control and Prevention/Association of American Medical Colleges</td>
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<td>Harber, P.</td>
<td>Occupational Medicine Residency</td>
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<td>Harber, P.</td>
<td>Distributed Occupational Knowledge System</td>
<td>National Cancer Institute</td>
<td>RO1</td>
<td>1999-02</td>
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<td>Harber, P.</td>
<td>Beryllium Exposure Surveillance System</td>
<td>Department of Energy</td>
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<td>Harber, P.</td>
<td>Respirator Effects in Impaired Workers</td>
<td>CDC/ NIOSH</td>
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<td>Harber, P.</td>
<td>Carbon Black Respiratory Effects</td>
<td>International Carbon Black Association</td>
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### William C. Hinds:

**Other Support - Current**

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<tr>
<td>Robbins, W.</td>
<td>Male Reproductive Effects From Occupational Exposure to Boron</td>
<td>CDC/NIOSH</td>
<td>Research</td>
<td>10/01-9/06</td>
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<tr>
<td>Kennedy, N.</td>
<td>Feasibility of Using Respirators as Personal Samplers</td>
<td>SCERC/NIOSH</td>
<td>Pilot</td>
<td>7/02-6/03</td>
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**Nola Kennedy:**

**Other Support – Current**

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<tr>
<td>Hinds, W.</td>
<td>Southern California Education and Research Center</td>
<td>CDC/NIOSH</td>
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<td>07/01/05 - 06/30/09</td>
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<td>Froines, J.</td>
<td>Southern California Particle Center</td>
<td>SCPC</td>
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<tr>
<td>Froines, J.</td>
<td>Environmental Exposures, Host factors, and Human Disease – Analytical Chemistry Cores</td>
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<td>10/01/05 - 09/30/10</td>
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<td>Hinds, W.</td>
<td>Cardiovascular Health Effects of Fine and Ultrafine Particles during Freeway Travel</td>
<td>California Air Resources Board</td>
<td>Research contract</td>
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<td>$580,205</td>
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**Other Support – Expired (Last 5 Years)**

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<tr>
<td>Robbins, W.</td>
<td>Male Reproductive Effects From Occupational Exposure to Boron</td>
<td>CDC/NIOSH</td>
<td>Research</td>
<td>10/01-9/06</td>
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<tr>
<td>Kennedy, N.</td>
<td>Feasibility of Using Respirators as Personal Samplers</td>
<td>SCERC/NIOSH</td>
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<tr>
<td>Hinds, W.</td>
<td>Southern California Education and Research Center</td>
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<td>Froines, J.</td>
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<td>Hinds, W.</td>
<td>Cardiovascular Health Effects of Fine and Ultrafine Particles during Freeway Travel</td>
<td>California Air Resources Board</td>
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<tr>
<td>Tashkin, D.</td>
<td>Distal Lung Inflammation Effect on Asthma Exacerbations</td>
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<td>Hinds, W.</td>
<td>Training Program to Increase Identification Analysis, Remediation &amp; Prevention of Workplace Injuries &amp; Illness among Uninsured (Often Undocumented) Workers</td>
<td>California Wellness Foundation</td>
<td>Training grant</td>
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<td>Hinds, W.</td>
<td>Preventing Workplace Injuries and Illness Among Groundskeepers in the Tourism Industry</td>
<td>Dept of Labor/Harwood</td>
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<td>Froines, J.</td>
<td>An Automated System for Task-Based Evaluation of Size Distribution of Beryllium Aerosol</td>
<td>Los Alamos Beryllium Technology Facility</td>
<td>Research grant</td>
<td>07/01/06-06/30/07</td>
<td>$678,000</td>
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<td>Robbins, W.</td>
<td>Male Reproductive Effects From Occupational Exposure to Boron</td>
<td>CDC/NIOSH</td>
<td>Research grant</td>
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**Leeka Kheifets:**

**Other Support - Current**

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<tbody>
<tr>
<td>Kheifets, L.</td>
<td>Updated Pooled Analysis of Childhood Leukemia and Magnetic Fields</td>
<td>Children with Leukemia (U.K.)</td>
<td>Research</td>
<td>12/1/05-11/30/09</td>
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<td>Kheifets, L.</td>
<td>Feasibility of TrasfEXPO Study</td>
<td>Electrical Power Research Institute</td>
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<td>Kheifets, L.</td>
<td>Replication of Draper Study of Leukemia, Brain Tumors &amp; Distance to Power Lines in California</td>
<td>Electrical Power Research Institute</td>
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**Other Support – Expired (Last 5 Years)**

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<tr>
<td>Kheifets, L.</td>
<td>Update of the pooled Analysis</td>
<td>Children with Leukemia</td>
<td>Research</td>
<td>2006</td>
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<tr>
<td>Kheifets, L.</td>
<td>Draper Replication in California</td>
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<td>2006</td>
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<td>Kheifets, L.</td>
<td>Meta Analysis</td>
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<td>Gene- Environment Interaction</td>
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<td>Kheifets, L.</td>
<td>Neurodegenerative disease and occupational exposure</td>
<td>NEA</td>
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<td>Kheifets, L.</td>
<td>Occupational cohorts, methods</td>
<td>University of Birmingham</td>
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<td>Pooled analysis of Childhood Brain Tumors</td>
<td>EPRI and SCE</td>
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<td>Kheifets, L.</td>
<td>Use of cell phones during pregnancy and in early childhood</td>
<td>UCLA Research Innovation Seed Grant Program</td>
<td>Research</td>
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</table>
Kheifets, L. Development of Environmental Health Criteria WHO Research 2004 $166,000
Kheifets, L. Selection Bias in Case-Control Studies EPRI Research 2004 $50,000
Kheifets, L. Prospective cohort study on mobile phone use and health Extension of pilot UK Department of Health and Industry Research 2004 $200,000
Kheifets, L. Incorporating uncertainty in Analysis of EMF data for Public Health evaluation EPRI Research 2004 $105,000

**Donna McNeese-Smith:**

**Other Support - Current**

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**Other Support – Expired (Last 5 Years)**

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<td>Hinds/Robbins</td>
<td>Training Grant for Occupational Health Nurse Practitioner Program</td>
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<td>Multifactorial Genetic Disease Model: Schizophrenia/HLA</td>
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<td>Male Reproductive Effects from Occupational Exposure to Boron</td>
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**Shane Que Hee:**

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<td>Hinds</td>
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**Other Support – Expired (Last 5 Years)**

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<td>Que Hee/Phalen</td>
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<td>Que Hee</td>
<td>UCLA Academic Senate Award</td>
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<td>Pilot Grant</td>
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<td>Que Hee</td>
<td>CEM Investigator Grant</td>
<td>CEM Corp</td>
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### Que Hee/Phalen
- **Southern California Education and Research Center**
  - CDC/NIOSH
  - Pilot Project
  - Project Period: 01/01/04-06/01/04
  - Total Costs: $15,910

### Que Hee
- **Sharewd Instrumentation Award**
  - NIEHS
  - Instrumentation
  - Project Period: 07/01/03-06/30/04
  - Total Costs: $284,866

- **Association of Schools of Public Health Grant**
  - CDC/NIOSH
  - Grant
  - Project Period: 10/01/02-09/30/04
  - Total Costs: $150,104

- **Cdc/niosh Grant**
  - CDC/NIOSH
  - Grant
  - Project Period: 06/01/00-05/31/04
  - Total Costs: $706,046

### Que Hee/Zhong
- **Toxic Substances Research and Teaching Program Grant**
  - Univ California
  - Grant
  - Project Period: 07/01/2001-06/30/2003
  - Total Costs: $50,000

### Beate Ritz:

**Other Support - Current**

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<td>Project 4: Pesticides and Genes in PD: Studies in Humans</td>
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<td>UCLA Center for Centers for Neurodegeneration Science (CNS; former CGEP)</td>
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<td>Meng, Y.</td>
<td>Development of Exposure and Health Outcome Indicators for Those with Asthma or Other Respiratory Problems</td>
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<td>Disparity in Asthma Among Californians from Pollutant Exposures</td>
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<td>Ritz, B &amp; Hertz-Picciotto (CO-PIs)</td>
<td>Aggregate Exposure Assessment: Longitudinal Surveys of Human Exposure-Related Behaviors</td>
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<td>Ritz, B.</td>
<td>Traffic-Related Air Pollution and Asthma in Economically Disadvantaged and High Traffic Density Neighborhoods in Los Angeles County, California (with LA F.A.N.S.)</td>
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<td>Exposure to mobile source air pollution and adverse birth outcomes in the Los Angeles Air Basin</td>
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**Other Support – Expired (Last 5 Years)**

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<td>Research Project I within the CGEP center “Environmental toxins and genes that influence dopamine in Drosophila and humans”</td>
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<td>Robbins, W</td>
<td>Benefits of Walnuts for Male Reproductive Health</td>
<td>California Walnut Commission</td>
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<td>Robbins, R</td>
<td>Kaiser-UCLA Genetics Initiative for Nurses</td>
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<td>Nursing Center Core Grant: Center for Vulnerable Populations Research</td>
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<td>9/1/04-5/31/09</td>
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**Robbins, W.** Human reproductive Effects from Herbicide Exposure  
UCLA School of Nursing Intramural Grant 9/1/05-  $25,000

**Koniak-Griffin, D.** Center For Vulnerable Populations Research  
NIH/National Institute of Nursing Research  
Research 9/1/09-8/31/04 $1,553,941

**Robbins, W.** Multifactorial Genetic Disease Model: Schizophrenia/Hla  
NIH/National Institute of Nursing Research  
Research 5/1/01-4/30/05 $255,174

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**Robert Schiestl:**

**Other Support - Current**

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<tr>
<td>Kasahara</td>
<td>Evaluation of 6-thioguanine in vivo selection and HLA marker deletion for</td>
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<td>radiation emergency hematopoietic stem cell transplantation (HSCT)</td>
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<td>Effect of Intestinal Microbiota on Genetic Instability and Immune/ Inflammatory</td>
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<td>Responses in Atm Deficient Mice</td>
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<td>McBride</td>
<td>UCLA Center for Biological Radioprotectors</td>
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<td>Effect of Particulate Matter on DNA Deletions in Mice</td>
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<td>Development of the DEL recombination assay in S.cerevisiae for high through</td>
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**Mel Suffet:**
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<td>Suffet, M</td>
<td>Analysis of Organochlorine Pesticides and PCBs to Support TMDL Development for Calleagues Creek</td>
<td>US EPA</td>
<td>Research</td>
<td>2001-2003</td>
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<td>Stenstrom, M.</td>
<td>EPA Chlorinated Hydrocarbons Evaluation of Pesticide Data Available in Calleagues Creek for Development of TMDLs</td>
<td>California State Water Resources Control Board</td>
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<td>2002-2003</td>
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<td>Stenstrom, M</td>
<td>Determination of the Primary Source of Chlorinated Pesticides Entering Lakes in Los Angeles County</td>
<td>California State Water Resources Control Board</td>
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<td>Jason Wang:</td>
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<tr>
<td>Suffet, M (Co-PI)</td>
<td>Pilot Study of Pain, Substance Use, and HIV Risk Behaviors</td>
<td>UCLA AIDS Institute</td>
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<td>06/30/07-08/01/08</td>
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<tr>
<td>Ritz, B.</td>
<td>Ergonomic Interventions for Sewing Machine Operators</td>
<td>CDC/NIOSH</td>
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### Jason Wang:

### Other Support – Current

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<tr>
<td>Wang, J.</td>
<td>An Ergonomics Intervention for Ironing in the Garment Industry</td>
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<td>Sarkisian</td>
<td>Trial to Increase Walking among Sedentary Older Latinos</td>
<td>UCLA/Geriatrics</td>
<td>Research</td>
<td>07/01/08-7/31/10</td>
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<td>Crandall</td>
<td>Analyzing genetic data using data collected by Postmenopausal Estrogen/Progestin Interventions (PEPI)</td>
<td>UCLA/Geriatrics</td>
<td>Research</td>
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<tr>
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<td>Pilot Study of Pain, Substance Use, and HIV Risk Behaviors</td>
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### Michelle Wilhelm:

### Other Support – Current
<table>
<thead>
<tr>
<th>PI</th>
<th>Name of Award</th>
<th>Agency</th>
<th>Type of project</th>
<th>Project Period</th>
<th>Total Costs</th>
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</thead>
<tbody>
<tr>
<td>Wilhelm, M.</td>
<td>Traffic-Related Air Pollution and Ultrasound Measures of Fetal Growth</td>
<td>NIEHS</td>
<td>R03</td>
<td>4/1/09-3/31/11</td>
<td>$230,823</td>
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<tr>
<td>Wilhelm, M.</td>
<td>Ambient Air Toxics and Adverse Birth Outcomes</td>
<td>NIEHS</td>
<td>R03</td>
<td>12/15/08-11/30/10</td>
<td>$143,958</td>
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<tr>
<td>Mortimer, K.</td>
<td>Influence of Genetics and Air Pollution Exposures on Birth Outcomes</td>
<td>NIEHS</td>
<td>R03</td>
<td>1/1/07-12/31/09</td>
<td>$25,087 (UCLA Subaward)</td>
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<tr>
<td>Meng, Y.</td>
<td>Development of Exposure and Health Outcomes Indicators For Those with Asthma or Other Respiratory Problems</td>
<td>U.S. EPA</td>
<td>Research</td>
<td>9/1/07-8/31/10</td>
<td>$510,000</td>
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<tr>
<td>Meng, Y.</td>
<td>Is Disparity in Asthma Among Californians due to Higher Pollutant Exposures, Greater Susceptibility, or Both?</td>
<td>CARB</td>
<td>Research</td>
<td>2/15/08-2/14/10</td>
<td>$303,600</td>
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<tr>
<td>Ritz, B.</td>
<td>Traffic-Related Air Pollution and Asthma in Economically Disadvantaged and High Traffic Density Neighborhoods in Los Angeles County, California</td>
<td>CARB</td>
<td>Research</td>
<td>6/1/05-5/31/09</td>
<td>$422,089</td>
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**Other Support – Expired (Last 5 Years)**

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<th>Name of Award</th>
<th>Agency</th>
<th>Type of project</th>
<th>Project Period</th>
<th>Total Costs</th>
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<tbody>
<tr>
<td>Wilhelm, M.</td>
<td>Re-Contact of a Birth Cohort for a Study of Outdoor Air Pollution and Respiratory Health in Early Childhood</td>
<td>UCLA School of Public Health Seed Money</td>
<td>Research</td>
<td>4/1/06-3/31/07</td>
<td>$11,998</td>
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<tr>
<td>Wilhelm, M.</td>
<td>Outdoor air pollution and asthma exacerbations in LA FANS children</td>
<td>RAND</td>
<td>Research</td>
<td>5/1/04-5/31/05</td>
<td>$25,000</td>
</tr>
<tr>
<td>Wilhelm M.</td>
<td>Assessing the influence of different neighborhood SES measures on asthma and traffic-related air pollution in the LA FANS cohort</td>
<td>SCEHSC</td>
<td>Research</td>
<td>5/1/05-5/31/06</td>
<td>$38,180</td>
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<tr>
<td>Ritz, B.</td>
<td>Traffic-related air pollution and risk of acute respiratory diseases in California children ages 0-5 from 1990-2001</td>
<td>SCAQMD</td>
<td>Research</td>
<td>1/1/04-12/31/05</td>
<td>$57,691</td>
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**Arthur Winer:**

**Other Support – Current**

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<tr>
<th>PI</th>
<th>Name of Award</th>
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<th>Project Period</th>
<th>Total Costs</th>
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<tbody>
<tr>
<td>Winer, A.</td>
<td>Investigation and Characterization of Pollutant Concentrations and Gradients in the Ports, West and Downtown Areas of Los Angeles, CA Using an Instrumented Mobile Platform</td>
<td>CA EPA/ARB</td>
<td>Research</td>
<td>09/20/05—6/30/2010</td>
<td>$428,000</td>
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**Other Support – Expired (Last 5 Years)**
<table>
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<tr>
<th>PI Name of Award</th>
<th>Agency</th>
<th>Type of project</th>
<th>Project Period</th>
<th>Total Costs</th>
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</thead>
<tbody>
<tr>
<td>Winer, A. Measuring Heavy-Duty Diesel Truck Volumes in Port-Adjacent Communities*</td>
<td>University of California Transportation Center</td>
<td>Research</td>
<td>8/01/07-12/31/08</td>
<td>$39,000</td>
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<tr>
<td>Winer, A. Measurements of Ammonia and Nitrous Oxide from California In-Use Light Duty Vehicles</td>
<td>CA EPA/ARB</td>
<td>Research</td>
<td>6/15/06—06/30/08</td>
<td>$149,000</td>
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<tr>
<td>Winer, A. (Co-PI) Cyclical Deposition and Resuspension of Aerosol-Associated Toxic Contaminants</td>
<td>CA EPA/Air Resources Board</td>
<td>Research</td>
<td>7/1/04-12/31/06</td>
<td>$77,000</td>
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<tr>
<td>Winer, A (Co-PI). Evaluation of Mechanisms of Exhaust Intrusion into School Buses and Feasible Mitigation Measures</td>
<td>CA EPA/Air Resources Board</td>
<td>Research</td>
<td>7/1/04 – 6/30/06</td>
<td>$105,055</td>
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**Zuo-Feng Zhang:**

**Other Support - Current**

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<tr>
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<th>Project Period</th>
<th>Total Costs</th>
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<tr>
<td>Zhang, Z</td>
<td>Cancer Epidemiology Training Program</td>
<td>NIH</td>
<td>Training</td>
<td>1998-2009</td>
<td>$3,920,770</td>
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<tr>
<td>Zhang, Z</td>
<td>Training in Molecular Epidemiology of HIV related cancer in China</td>
<td>NIH Fogarty</td>
<td>Training</td>
<td>2008-2011</td>
<td>$455,994</td>
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<tr>
<td>Zhang, Z</td>
<td>Training in HIV related cancer in China</td>
<td>NIH Fogarty</td>
<td>Training</td>
<td>2007-2010</td>
<td>$110,000</td>
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<tr>
<td>Bastani, R.</td>
<td>UCLA Cancer Education and Career Development Program</td>
<td>NIH</td>
<td>Training</td>
<td>2000-2010</td>
<td>$5,310,830</td>
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<tr>
<td>Zhang, Z</td>
<td>Project 1, Molecular Epidemiology of Cancer, UCLA Spore in Lung Cancer</td>
<td>NIH</td>
<td>Research</td>
<td>2001-2009</td>
<td>$2,020,327</td>
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<tr>
<td>Detels, R</td>
<td>The Natural History of AIDS in Homosexual Men</td>
<td>NIH</td>
<td>Research</td>
<td>2004-2014</td>
<td>$4,557,236</td>
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**Other Support – Expired (Last 5 Years)**

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<tbody>
<tr>
<td>deKernion</td>
<td>Developing Project: Molecular Epidemiology of Prostate Cancer</td>
<td>NIH</td>
<td>Research</td>
<td>2005-2007</td>
<td>$75,000</td>
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<tr>
<td>deKernion</td>
<td>Developing Project: Molecular Epidemiology of Prostate Cancer</td>
<td>NIH</td>
<td>Research</td>
<td>2005-2007</td>
<td>$75,000</td>
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<td>Dubinette</td>
<td>UCLA Spore in Lung Cancer</td>
<td>NIH</td>
<td>Research</td>
<td>2001-2007</td>
<td>$12,237,912</td>
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<tr>
<td>Zhang, Z</td>
<td>Molecular Epidemiology and Gene-Environment Interaction</td>
<td>NIH</td>
<td>Research</td>
<td>2002-2007</td>
<td>$650,694</td>
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<td>Mao</td>
<td>Lung Cancer Chemo-prevention with Celecoxib in Ex-smokers.</td>
<td>NIH/NCI</td>
<td>Research</td>
<td>2002-2007</td>
<td>$5,144,465</td>
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<td>Braun</td>
<td>Consented High-Performance Index/Retrieval Path System</td>
<td>NIH/NCI</td>
<td>Research</td>
<td>2001-2006</td>
<td>$1,382,272</td>
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<td>Roth</td>
<td>Pulmonary Effects of Habitual Use of Marijuana</td>
<td>NIH/NIDA</td>
<td>Research</td>
<td>2001-2006</td>
<td>$2,635,213</td>
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</table>


Taguchi, K., Shimada, M., Fujii, S., Sumi, D., Pan, X., Yamano, S., Nishiyama, T., Hiratsuka, A., Yamamoto, M., Cho, A, **Froines, J.**, and Kumagai, Y., Redox cycling of 9,10-phenanthraquinone to cause oxidative stress is terminated through its monoglucuronide


Okoji RS, Yu RC, Froines JR. (2002) Sodium Arsenite Administration via Drinking Water Increases Genome-Wide and Ha-ras DNA Hypomethylamine in Methyl-deficient C57BL/6J Mice. Carcinogenesis, 23:777-785,


Arthur Cho:


Kikuno, S., Taguchi, K., Iwamoto, N., Yamano, S, Cho, AK., Froines, JR, and Kumagai, Y. 1,2-Naphthoquinone activates vanilloid receptor 1 through increased protein tyrosine


Rodriguez, CE, Fukuto, JR, Taguchi, K., Froines, JR and **Cho, AK**. The interactions of 9,10-phenanthrenequinone with glyceraldehyde-3-phosphate dehydrogenase (GAPDH), a potential site for toxic actions. *Chemico-Biological Interactions*. 155(1-2) 97-110. 2005


Segal, D. S., Kuczenski, R., O'Neil, M. L., Melega, W. P., **Cho, A. K**. Escalating Dose Methamphetamine Pretreatment Alters the Behavioral and Neurochemical Profiles Associated
with Exposure to a High-Dose Methamphetamine Binge. *Neuropsychopharmacology* 10: 1730-1740. 2003


**Michael Collins:**


Linda Delp


Philip Harber:


**William C. Hinds:**


Books/Book Chapters:


Reports:
Nola Kennedy


Leeka Kheifets


Kheifets, L., J. Sahl, R. Shimkhada, and M. Repacholi. “Developing policy in the face of scientific uncertainty: interpreting 0.3 µT or 0.4 µT cut points from EMF epidemiologic studies”, Risk Analysis, 25(4):927-935(9).


Donna McNeese-Smith:


McNeese-Smith, D.K., Wickman, M., Earvolino-Ramirez, M., Moncrieff, M., Robertson, S. Program Directors’ Views of the Effect of Managed Care on Substance Abuse Programs in Southern California. Journal of Addictions Nursing, 17. 2006

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McNeese-Smith, D.K., Hu, Yan, Yang, Ying-hua The influence of managers' use of leadership behaviors on staff nurses in China and the United States. Hong Kong Nursing Journal, 36(3), 7-17. 2000

Shane Que Hee:


Phalen RN, Que Hee SS. Variability in surface infrared reflectance of thirteen nitrile rubber gloves at key wavelengths for analysis of captan. Appl Spectrose., 61(2):204-11


Beate Ritz:

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Wilhelm M, Qian L, **B. Ritz.** Outdoor Air Pollution, Family And Neighborhood Environment, And Asthma In LA FANS Children. *Health Place.* 2008 Feb 14


Wilhelm M, Ritz, B. Local variations in CO and particulate air pollution and adverse birth outcomes in Los Angeles County, California. *Environ Health Perspect*; Sep;113(9):1212-21. 2005


**Wendie Robbins:**


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Robert Schiestl:


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Howlett N.G., **R.H. Schiestl**. “Nucleotide excision repair deficiency causes elevated levels of chromosome gain in Saccharomyces cerevisiae.” DNA Repair 3 (2004): 127-134.


Peter Schnall:


**Irwin Suffet**

I. H. (Mel) Suffet, V. Decottignies, E. Senante, A. Bruchet, Assessment and Characterization of Odor Nuisance Emissions During the Composting of Wastewater Biosolids, Water Environmental Federation, In Press.


J. A. Pedersen, M. A. Yeager, and I.H. (Mel) Suffet, Xenobiotic Organic Compounds in Runoff from Field Irrigated with Treated Wastewater”, J. Agriculture and Food Chemistry, 51 (2003): 1360-1372,


**Pin-Chieh (Jason) Wang**


Ober, A, Shoptaw, S, **Wang PC**, et al. (2009). Factors associated with event-level stimulant use during sex in a sample of older, low-income men who have sex with men in Los Angeles. Drug Alcohol Depend (E Pub)


**Michelle Wilhelm**


Arthur Winer


Naumova, Y. Y., et.al. 2003. (**AMW** is listed 11th of 17 authors) “Gas/Particle Distribution of Polycyclic Aromatic Hydrocarbons in Coupled Outdoor/Indoor Atmospheres.” Atmospheric Environment, **37**: 703-719.


Zuo-Feng Zhang:


Kurtz RC, **Zhang ZF**. Gastric Cardia Cancer and Dietary Fiber. *Gastroenterology* 2001; 120(2): 568-570.


Review, Chapter, Monographs, Comments, and Proceedings:


REFERENCE 4
EHS Bylaws
UCLA - SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

BY-LAWS

Professional Research Series Appointments

Appointment as Associate Researcher and Researcher requires:

a. A nomination letter by a Principal Investigator addressed to the Department Chair;

b. A complete dossier;

c. A letter by the Chair to the Dean requesting the appointment; and

d. Dean and CAP approval.

Where no Principal Investigator can be identified in the Department, the Chair may act directly.

No faculty vote is required.

Appointment as Assistant Researcher:

The same requirements apply as listed above with the exception that CAP approval is not needed.

UCLA - SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

BY-LAWS

Rights of Emeriti/ae

Emeriti/ae, as a class, are extended the right to vote on all non-personnel matters.

Voted on: March 18, 1993.
UCLA - SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

BY-LAWS REGARDING ACADEMIC PROGRAMS AND DEGREES

EHS TRACK CONSTITUTION

By-Law 1: The Department should continue to carry on and develop its educational and research programs along tracks of specialization.

By-Law 2: For a track to be approved by the EHS faculty it should be supported by at least two faculty members who must also be willing to assume the main responsibility for (a) the development of the track core curriculum and (b) the continuous advancement and educational obligations of the track (as specified below).

By-Law 3: Each track should be administered by two track core faculty appointed by the EHS Chair as Head and Associate Head.

By-Law 4: All interested in a track EHS faculty members could be appointed to the track faculty by the EHS Chair as affiliated faculty. A major condition for such an appointment should be the willingness to (a) develop and teach desirable track courses and (b) participate in track and student committees.

By-Law 5: If a deadlock develops among the track faculty when administering the track, the EHS Chair should resolve the issue with (if so chooses) the advice of the whole EHS faculty.

By-Law 6: The autonomy given to a track under no circumstance should be interpreted as superseding the authority and obligations of the EHS Chair and EHS academic senate faculty.

By-Law 7: Each EHS faculty member must belong to the core faculty of at least one track but can be the Head of only one track. The EHS Chair may choose to temporarily withdraw from his/her track faculty assignments during his/her tenure.

By-Law 8: The core and affiliated faculty of each track should submit to the department, via its chair, every three years: (a) a review of the track curriculum; (b) a report of educational and research accomplishments; (c) an assessment of track viability; and (d) an updated master plan of future activities and growth objectives.

By-Law 9: The following tracks appear viable given the present EHS faculty expertise and research interests:

M.S. REQUIREMENTS AND PROCEDURES

School Core Curriculum

By-Law 10: Waive the core curriculum required by the school for all MS degrees.

Presently, this curriculum consists of two courses in Biostatistics and one course in Epidemiology. The committee recognizes the value of these courses but recommends that the department asserts its right to establish its own degree curricula.

Departmental Core Curriculum

By-Law 11: There should be no departmental core curriculum. Instead, the EHS faculty should approve a separate core curriculum for each track. Faculty who are interested in establishing a track should submit to this committee their recommendation and the committee should advance it to the EHS faculty with their comments.

By-Law 12: The minimum total credit hours of each track core curriculum should not be lower than 28 and the maximum should not exceed 50% of the total credit hours required for graduation (see next recommendation). These limits should not include required seminars and thesis or report research.

By-Law 13: The minimum total credit hours required for graduation may vary among tracks but it should not be less than 60. This limit should not include required seminars and thesis or report research.

By-Law 14: Each track core curriculum should include either the Biostatistics courses currently required or substitute courses from other campus departments.

By-Law 15: Each track core curriculum should also include at least one track seminar.

Admission and Other Degree Requirements

By-Law 16: The faculty of a track should also submit to this committee for the approval of all the EHS faculty a proposed procedure and format for the comprehensive examination required for all of its Plan II students.

By-Law 17: MS thesis committees should include at least two faculty from the student’s track.

By-Law 18: The existing admission requirements may be augmented by a track but not reduced. Additional track admission requirements should be approved by the EHS faculty and explicitly stated in the Department’s handbook. When an applicant without a clear statement of track preference does not satisfy the admission requirements of all tracks, the letter of admission should also emphasize (a) for which tracks the admission is valid and (b) which additional requirements should be fulfilled for each of the remaining tracks.

By-Law 19: Applicants should be evaluated by a departmental admissions committee on the basis of the general departmental admission requirements. However,
applicants with a clear statement of track preference should be evaluated by the faculty of their chosen track.

**By-Law 20:** All MS students should declare their track choice no later than the beginning of their second year of study. However, this delayed action should not negate the requirement for the student to satisfy any additional admission requirements of the chosen track.

The declaration should take the form of the completion of a standardized track study form signed by the student, the two core track faculty, and the EHS Chair.

The track study form should include both the track core courses and the electives agreed upon by the student and his/her advisor.

**Ph.D. REQUIREMENTS AND PROCEDURES**

**Core Curriculum**

**By-Law 21:** No doctoral student should graduate without satisfying the MS core curriculum of his/her track.

**By-Law 22:** It should be a track decision to require a Ph.D. core curriculum. However, all tracks must institute a Doctoral Seminar Series as a requirement.

**Admission and Other Degree Requirements**

**By-Law 23:** The faculty of each track should submit to this committee for the approval of the EHS faculty an explicit set of procedures and requirements for (a) cognate fields and their satisfaction; and (b) advancement to candidacy examinations. These procedures and requirements should be uniform for all the students of the track.

**By-Law 24:** Admissions should be offered by each track according to its faculty strength, resources, and doctoral enrollment.

The current practice of admitting a doctoral student only if there is a sponsoring advisor should be phased out. Academic advisors should be appointed who may be different from Thesis research advisors. Thesis research advisors should be appointed at the beginning of the student’s second year of study.

**By-Law 25:** Exceptional students without an M.S. may be admitted directly to the Ph.D. program, provided that they understand the requirement of having to complete the M.S. core curriculum of their track (according to recommendation 21).
M.P.H. REQUIREMENTS AND PROCEDURES

*By-law 26:* The M.P.H. degree should be offered only by the Industrial Hygiene (IH) track and a new track that should be called MPH-EHS.

*By-law 27:* The MPH-EHS track could be formed and administered by only one core faculty because of its special nature.

School Core Curriculum

The MPH is a PH School degree. Hence, the department has to accept the curriculum and other degree requirements imposed by the school.

Departmental Core Curriculum

*By-law 28:* A separate core curriculum could be approved for the IH and MPH-EHS tracks.

*By-law 29:* The core courses might be developed by the IH and MPH-EHS tracks or by the other tracks depending on their focus area.

*By-law 30:* EHS faculty involved in the core courses should assist the IH and MPH-EHS track faculty in the administration of the comprehensive examinations.

Admission and Other Degree Requirements

*By-law 31:* Current admission and graduation requirements should remain in effect.

Voted on: *February 8, 1992*
UCLA - SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

RULES AND REGULATIONS

ACCELERATED MERIT ADVANCEMENTS

The rules for EHS Faculty promotion and merit advancement are amended as follows: Accelerated merit advancement for more than one year requires at least four letters from extramural evaluators, two from evaluators selected by the Chair and two from evaluators selected by the Faculty member under evaluation.

Voted on: March 23, 1994 [10 yes votes with two eligible faculty absent]
UCLA - SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCES

BY-LAWS

Rights of Emeriti/aes

Emeriti/aes, as a class, are extended the right to vote on all non-personnel matters.

Voted on: March 18, 1993.
Department of Environmental Health Sciences
Procedures for Faculty Actions

Effective July 1, 1989
(Revised February 1991)

A. Voting eligibility

For all faculty actions: All Senate faculty are eligible to vote.

B. Normal Merit Increase

1) Dossier prepared by the candidate.
2) Dossier reviewed by all faculty eligible to vote on the merit.
3) Discussion at faculty meeting.
4) Secret ballot vote.
5) Chair prepares letter and forwards dossier to Associate Dean and Dean.

C. Appointment (except categories listed in Section D), Promotion, Fourth Year Appraisal, Accelerated Merit, Merit to Professor VI and above, or five year review (if established).

1) Dossier and detailed self-evaluation letter prepared by candidate.
2) Solicitation of extramural/intramural letters where required.
3) Dossier reviewed by Promotion Evaluation Committee (PEC) (see Section E).
4) PEC prepares a letter on adequacy and quality of candidate’s Research, teaching and Service. See Section F for information to be included in evaluating teaching.
5) PEC presents its conclusions and recommendations to faculty eligible to vote on the action (candidate excluded). Faculty discusses action.
6) Secret ballot vote.
7) Chair incorporates PEC’s letter into his or her letter and forwards it to the Associate Dean and Dean. The Dean sends it to CAP.
D. Appointment and Reappointment of Adjunct Assistant Professor and all ranks of Lecturer, Researcher, Visiting Professor and Visiting Researcher.

1) Dossier prepared by candidate. This usually consists of a CV plus any teaching evaluations.

2) Dossier reviewed by faculty and discussed at faculty meeting.

3) Secret ballot vote.

4) Chair prepares letter and forwards dossier to Associate Dean and Dean.

E. Promotion Evaluation Committee (PEC)

An ad-hoc PEC is to be established for each faculty action under category C.

1) It will consist of two or three members.

2) One member is selected by the Chair and one is selected by the candidate.

3) The Chair may select an optional third member who may be from outside the Department; a third member from the ESE-IDC is required for ESE candidates.

F. In its evaluation of the adequacy and quality of teaching the PEC should balance the importance of research teaching and classroom teaching, and should consider the following whenever possible.

1) Quantitative information
   a. Teaching load
      1. Number of classes, type of classes, number of advisees
      2. Chair or member of masters or doctoral committees
      3. Compare 1. and 2. above to median for department
      4. Member of Department Comprehensive Exam Committee
   b. Numerical scores on student course evaluations - compare to department medians
   c. Anonymous exit survey of graduating students - this survey will include evaluation of tracks, programs, and the department
   d. Surveys, similar to c. above, conducted for alumni two to five years after graduation

2) Qualitative information
   a. Written comments on student course evaluations
   b. Course materials, syllabi, reading lists, handouts, and exams
   c. Solicit input from faculty by questionnaire that will include:
      1. Assessment of the quality of seminars presented by faculty member
2. Assessment of preparation of doctoral candidates for qualifying exams
3. Evaluation by co-instructors in co-taught courses
4. Other appropriate information
d. Lists of theses and MS reports and duration of MS and PhD students
ADDENDUM TO EHS PROCEDURES FOR FACULTY ACTIONS

7/21/91 (updated 12/16/91)

Ballots:

1. Ballot packets to include small blue envelopes to ensure confidentiality of ballots. Faculty members will place completed ballot inside small envelope, which s/he will then place in a larger envelope and seal and sign this larger envelope. Envelope to be returned to Department Administrator.

2. Two faculty members to open and count ballots with assistance of Department Administrator (or, in Administrator's absence, the Department Secretary).

The faculty members to sign the completed Department Vote form. Form is then submitted to Department Chair.
Department of Environmental Health Sciences

Policy on S/U Grading
2/28/91

1) MSEHS students may take up to one course outside our department per quarter on an S/U basis, but all school, department (including ESE), and track core courses that are offered on an ordinal grading basis must be taken on that basis.

2) Courses taken on an S/U basis do not count towards school or department unit requirements.

3) The department recommends the above policy for MPH students.

7/31/91 - from Glenda Baker, SA0:
This is internal Department policy. Does not need to be approved by Graduate Division.
REFERENCE 5
Urban Planning concurrent degree proposal
PROPOSAL

Concurrent Degree Program:
Master of Public Health (MPH) in Environmental Health Sciences and
Master of Arts (MA) in Urban Planning

11/9/09

I. Introduction

There is a growing awareness among scholars and practitioners in public health and urban planning that the significant interconnections between these two disciplines provide innovative opportunities for solving some of today’s most critical health and environmental challenges. From scholarly and funder organizations, such as Robert Wood Johnson Foundation and the National Academies of Science, to professional associations, such as the American Planning Association and the American Public Health Association, there is wide acknowledgement that the issues facing planning and public health require an incorporation and integration of knowledge and skills.

There have been increasing efforts to bridge the disciplinary divides that separate these two areas to develop innovative and effective policies and programs that address the leading health and environmental challenges of the 21st century. Much of this effort has focused on research on the environmental impacts of urban development. From air and water pollution to creation of urban heat islands and the degradation of natural ecosystems, public health and urban planning professionals and scholars are finding common ground in designing and implementing policies that address the very complex world in which we live. Although faculty at UCLA have been working together across this disciplinary divide to devise research projects that address such complex and urgent problems as urban air pollution, land use and physical activity, and environmental justice, there is no graduate training program that educates future practitioners in this exciting and expanding field linking urban planning to environmental health sciences.

The time is right for a joint Masters degree program in the School of Public Health (Department of Environmental Health Sciences) and the School of Public Affairs (Department of Urban Planning) to provide the interdisciplinary skills and knowledge that will enable practitioners to be effective at the community, municipal, regional, state, national, and international levels in addressing these problems.

In this proposal, we describe the scholarly rationale and motivation for this concurrent degree program, present an overview of existing similar programs in California and nationally, and provide an articulation of a three-year program and a curriculum that would satisfy the requirements for a concurrent graduate degree in both departments.
II. Academic Rationale: A growing nexus between public health and urban planning

This concurrent degree program would train future scholars and practitioners at the interface between urban planning and public health/environmental health sciences. The graduates of the program would be uniquely poised to develop approaches and strategies that effectively address the complex nature of contemporary public health/environmental challenges that arise from urban development.

The field of urban planning owes its origins in part to public health efforts to design environments that limit the spread of diseases and epidemics (e.g. by creating infrastructure to provide citizens in urban environments with clean, potable water). Recently, public health and urban planning scholars and practitioners have been strengthening the connections between the two disciplines, particularly with respect to the links between urbanization and environmental impacts. Public health scholars have increasingly emphasized the linkages between population/environmental health and land use/development patterns. In addition, there is a renewed focus on community-based approaches in urban planning that necessarily dovetails with studies on how to promote environmental health and minimize environmental impacts. At the national level, the interconnectedness of the disciplines is now increasingly recognized. In 2002, the Centers for Disease Control and Prevention convened a workshop to develop a scientific research agenda on how the built environment impacts health. Public health practitioners tended not to understand the principles and practices of community planning and its many implications for the mental, physical, and social well-being of the population. The resulting research agenda contained 37 specific questions, and highlighted the need for more education and training to address these critical health issues.

In recent years, practitioners and scholars in both environmental health and urban planning have increasingly focused on transportation and land use patterns, as well as on physical activity and urban form, especially sprawl and suburban neighborhood developments, to understand national trends in obesity. Urban planning and environmental health scholars have provided conceptual frameworks, empirical studies, and evaluations of programs that inform policy makers, practitioners, and communities about improving community and population health by reducing

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environmental impacts across a variety of substantive areas and geographic scales. From household nutrition to environmental justice, planners and public health researchers have increasingly contributed in critical ways to understanding the influence of environmental, built environment, and land use factors on health. Similarly, an analysis of the impacts of climate change and the built environment on each other – and the development of tractable and innovative solutions that will help improve the quality of life for future generations -- require individuals who are fluent in the languages, tools, and methodologies of both environmental health and urban planning. The program that we propose will explicitly address this training need.

There are five primary themes or areas that guide and organize much of what professionals trained in this concurrent masters degree program would address: (a) urban design and land use patterns, (b) economic impacts, (c) equity and social justice, (d) governance and institutional management, and (e) sustainability. The concurrent degree program proposed herein is designed so that all students who complete the program will receive training in each of these five thematic areas. In some cases, there are specific courses which are required for the concurrent degree program which cover the thematic area; in others, the topics are covered as integral components of a number of the required courses.

A. Urban design and land use patterns
Using urban design to alter and steer land use patterns is a subfield in which public health and urban planning collaborations have been increasingly visible and effective. This is primarily because land use and development patterns influence physical activity with its own health benefits, and less directly, obesity. There has been a proliferation of studies in both public health and urban planning that have examined the possible linkages among urban design, development patterns, and physical activity. A recent National Academies committee which was convened to study this topic specifically identified the need for greater collaboration for devising interdisciplinary approaches to address these problems.

B. Economic impacts
This area is broadly concerned with the economic vitality of communities, cities, counties, regions, states, and nations. Research in this area spanning the public health-urban planning divide has typically highlighted the health dimensions of transportation, housing, and community economic development. Indeed, the historical roots of urban planning stem from a societal acknowledgement in the early 1900s that substandard housing for immigrants and impoverished

groups was unacceptable, though not always for the contemporary arguments of equity and justice. For instance, economic approaches for investigating health have linked health disparities with income inequality and maldistribution of wealth across places and populations. Likewise, economic strategies that address uneven distribution of resources have focused on the urban health dimensions of transportation (e.g., enhancing transit and automobile access, and addressing the deleterious effects of traffic congestion), housing (e.g., working for more and better quality affordable housing), and community economic development (e.g., expanding economic opportunities in local communities experiencing marginal income earning capacity or relatively low rates of economic growth). Students who wish to pursue careers addressing these problems must be cross-trained not only in urban planning and environmental health, but must also have a firm grounding in economics and policy.

C. Equity and social justice
Equity and social justice concerns are common themes guiding cutting edge research that spans urban planning and public health. Research in this area frequently builds on the health disparities approach (discussed in the economics section previously) to prioritize improved and expanded services and to address historical and contemporary concentrations of environmental and other public burdens experienced by particular communities, for example, low-income, elderly, racial/ethnic minority, and immigrant households. Environmental justice and uneven concentrations of public “bads” such as air pollution constitutes a mainstay of research and practice in this area. From this perspective, research and practice is “applied, action oriented, problem-solving, …particularly concerned with socially, economically and politically disadvantaged populations” and “seeks to promote social justice through such activities as critical analyses of the distribution costs and benefits of public policies and the development of institutions that empower people at the grassroots.”

D. Governance and institutional management
Governance relates to decisions that define expectations, grant power, or verify performance. While governing may primarily reside in the public sector, effective governance depends on a much broader base that includes the nonprofit and charitable sectors and the private sector, as

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well as individuals and communities. As they have become an important sector in health care
design and delivery, non-governmental agencies (e.g., health care organizations, foundations,
among community-based organizations), have experienced both an expanding presence in service
delivery and a growing influence in designing and enforcing regulations. Institutional
management refers to the challenges and opportunities inherent in the intra- and inter-
organizational relationships that often define health care, transportation, environmental
management, etc. Scholars have pointed to varying types of organizational relationships that
define intra- and inter-organizational relationships: cooperation, collaboration, and conflict.
The management of these new institutional relationships and the contemporary shifting context
that defines governance in the US and abroad will require cross-disciplinary efforts, both within
the academy and in practice, and certainly will require a cadre of new professionals who have
been explicitly trained across these disciplines.

E. Sustainability
Sustainability is a widely diverse field that offers a larger framework within which planning and
health must be considered. A sustainability approach focuses research and practice on the multi-
faceted issues of environmental degradation and regeneration, pollution and pollution control and
prevention, habitat regulation and protection, and environmental management (so called “green”
development). Beyond the issues typically associated with environmentalist ideals,
sustainability also concerns the development of so-called brownfields and formerly toxic sites,
the effective management of water, air, and other natural resources, and the long-term planning
of land development. Within the fields of urban planning and public health, there is recognition
that growth and expansion cannot be sustained without understanding environmental impacts at
the local, regional, and national levels, over short and long time frames, and across ecological
types and population centers. However, to tackle these complex and significant problems,
society needs new kinds of practitioners who have been trained in an innovative and forward
looking concurrent graduate degree program that provides an interdisciplinary set of knowledge
and skills.

III. Urban Planning/Public Health Graduate Degrees in California and Nationally: Top-
ranked programs are instituting similar degree programs

Other institutions have recognized this need as well, and have already instituted joint/dual
graduate degree programs. Many of the elite public health and urban planning programs in the

Labor Market Participation" in Jobs and Economic Development in Minority, edited by P Ong
14 Gaber SL. (1996). From NIMBY to Fair Share: The Development of New York City’s
Contradictions of Sustainable Development. Journal of the American Planning Association
62(3): 296-312.
16 Pendleton L. (2001). Managing Beach Amenities to Reduce Exposure to Coastal Hazards:
nation have instituted joint graduate degree programs. The University of Michigan, the University of North Carolina – Chapel Hill, and Columbia University, all highly rated institutions in both public health and urban planning, have joint/dual masters programs in public health and urban/city planning. In the UC system, only Berkeley has a concurrent degree program in public health and urban planning.

The University of Michigan’s three-year joint degree program (Master of Urban Planning/Master of Public Health) is a “student-initiated dual degree” in Urban and Regional Planning and Health Behavior and Health Education. The M.U.P./M.P.H. degree requires 90 units (60 for the M.P.H. and 48 for the M.U.P., with 18 units counted concurrently), with at least 30 units in Urban and Regional Planning and at least 30 units in Health Behavior and Health Education and 10 units in Public Health but not in Health Behavior and Health Education.

The University of North Carolina – Chapel Hill offers three different dual degrees that can be completed in three years between the School of Public Health (SPH) and the Department of City and Regional Planning (DCRP). There are 39 units required in Public Health and 36 units in City and Regional Planning to fulfill the dual degree program requirements; in addition, students are required to “produce Master’s Projects for both DCRP and SPH at the end of the program that demonstrate mastery of the two fields and an understanding of the interconnections between the fields.” The three dual degree programs are: an MPH/MRP in the Department of Health Behavior and Health Education in SPH and the DCRP; an MHA/MRP in the Department of Health Policy and Administration in SPH and the DCRP; and an MSPH/MRP in the Department of Health Policy and Administration in SPH and DCRP. Students in the dual degree program spend the first year taking courses in one department, the second year taking courses in the other department, and the third year taking courses in both departments.

The UC Berkeley MPH/Master of City Planning (MCP) concurrent degree program requires that students complete the core curricula in both departments, “after which they may specialize in areas such as community health and human development, environmental health, or economic and regional planning.”

Columbia University offers a dual MPH/MSUP degree with the Graduate School of Architecture, Planning, and Preservation. The dual degree is open to students from the General Public Health program or the Environmental Health Sciences or Health Policy and Management departments in the School of Public Health. Additionally, students in the Sociomedical Sciences department of the SPH can pursue a MPH in Urbanism and Built Environment. This concentration focuses on the “special health challenges of urban populations…[and] is designed for students with an interest in city life and the intersections between the built environment, urban planning, and public health.”

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18 [www.planning.unc.edu/program.jointHealth.htm](http://www.planning.unc.edu/program.jointHealth.htm) accessed 29 March 2006.
19 [sph.berkeley.edu/degrees/degreeprog/city.htm](http://sph.berkeley.edu/degrees/degreeprog/city.htm) accessed 29 October 2009.
IV. Proposed Program and Sample Curricula

A. Overview
The proposed three-year concurrent degree program takes the best components of these competing programs and leverages the extensive expertise and resources in the Department of Environmental Health Sciences (EHS) in the School of Public Health, and the Department of Urban Planning (UP) in the School of Public Affairs. The strengths of the proposed concurrent degree program compared to competing programs in California and across the nation are its substantive complementarities in terms of courses, and the clear curricular structure that the program offers to prospective students.

Given the increasing popularity of integrating these disciplines at the graduate level, scholars have identified a number of model curricula from universities across the nation, each of which addresses the linkages between the built environment and health. These curricula provide practical guidance on how to structure courses, directing faculty and students on how to bridge the divide between disciplines.22

Because we believe that the professional master’s degree offered within Environmental Health Sciences (MPH) is a better fit for students who are likely to be interested in the concurrent degree program, we are proposing that the concurrent degree program be for a Masters in Public Health (MPH) with an emphasis in Environmental Health Sciences and a Master Degree (M.A.) in Urban Planning. The Department of Urban Planning has recently proposed to change their master’s program to a Professional Degree (Master’s of Urban and Regional Planning, MURP); this proposal is currently under review by the Graduate Council. We anticipate that it will take a while for the MURP proposal to go through all of the necessary approving bodies and are therefore submitting the proposal for the concurrent degree to be for the MA in Urban Planning. However, assuming that the separate MURP proposal is eventually approved, it is our intention that the concurrent degree program would be for the MPH in Environmental Health Sciences and the MURP in Urban Planning.

The proposed concurrent program (MPH in Environmental Health Sciences and MA in Urban Planning) at UCLA has an integrated curriculum of a 110 units. A suggested curriculum is outlined below with a view toward a balanced exposure to both PH and UP. The 110 units required for the concurrent degree program are significantly less than the number of units that would be required were a student to pursue both degrees independently. Currently, students who elect to pursue the two degree programs sequentially would need to take 128 units (56 units for the MPH in Public Health with an emphasis in Environmental Health Sciences23,24 and 72 units

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23 Please see Appendix I for the current program requirements (downloaded from the Graduate Division website on November 9, 2009) for the M.P.H with an emphasis in Environmental Health Sciences.
for the M.S. in Urban Planning\textsuperscript{25}). Please note that there was confusion based on our last application because the degree requirements for EHS that are posted on the Graduate Division Website are not as clearly written as they could be. Therefore, we have attached (See Appendix II) a table showing the units for all of the courses required for the M.P.H. with an emphasis in Environmental Health Sciences (which corresponds directly to those courses listed in the program requirements on the Graduate Division Website). When all of the units for the required courses for the M.P.H. in Environmental Health Sciences are added up, they equal 56, which is the number of units required by our accrediting body, the Council on Education for Public Health (CEPH).

\textbf{B. Advising and Administration}

An oversight committee for the concurrent degree program will be established, which will consist of at least two faculty from each department (Environmental Health Sciences and Urban Planning) who work at the interface of the two disciplines. This committee will be responsible for providing administrative oversight for the program and will have the following roles:

- Serve as liaisons to the admissions committees in the two departments to help identify potential students for the concurrent degree program;
- Serve as advisors to students in the concurrent degree program (each student in the program will be assigned to one advisor from each department);
- Provide guidance and contacts for internships that would allow students in the concurrent degree program to synthesize knowledge and skills from the two disciplines.
- Identify important emerging areas at the interface of Environmental Health Science and Urban Planning and suggest new courses that would strengthen the program (or help to disseminate critical aspects of the program to a broader audience).

As the proposed size of the concurrent degree program is small, both UP and EHS expect to accommodate student advising with current staff and faculty. No new staff or faculty is required to manage the concurrent degree program.

\textbf{C. Admissions}

This proposal projects that a minimum of 3-4 students would be admitted each year, eventually becoming a cohort of at least 9-12 students in a steady state.

To enroll in the concurrent degree program, prospective students will be required to satisfy the regular admissions requirements of both schools and departments. In addition, students enrolled in the graduate program in EHS or UP will be allowed to apply for admission to the concurrent degree program during their first year of residence. Because each school/department has its own entrance requirements, there is no guarantee that an individual who is already a student in good standing in one school will be accepted by the other school/department. As noted above, the

\textsuperscript{24} Please see Appendix II for a table of course requirements for the M.P.H. with an emphasis in Environmental Health Sciences (which corresponds directly to those courses listed in the program requirements on the Graduate Division Website).

\textsuperscript{25} Please see Appendix III for the current program requirements (downloaded from the Graduate Division website on November 9, 2009) for the M.S. Urban Planning.
faculty oversight committee will serve as liaisons to the admissions committees in the two departments to help identify potential students for the concurrent degree program.

D. Degree Requirements
Students enrolled in the concurrent degree program in Environmental Health Sciences (MPH) and Urban Planning (UP) must take a total of 110 units (see PROGRAM REQUIREMENTS FOR CONCURRENT DEGREE PROGRAM IN EHS (MPH) AND UP (MA), below):

- 82 units of required courses
- 16 units of Urban Planning Stream electives
- 12 units of Environmental Health Sciences/Public Health electives

The differences between the requirements for the concurrent degree program versus the courses that would be required if a student were to pursue the MPH in Environmental Health Sciences and MA in Urban Planning sequentially are as follows:

- Students in the concurrent degree program are required to take two courses that are not required for “regular” students in either of the two degree programs:
  - EHS 208 (Built Environment and Health), which should be taken in the first year of study and provides a critical overview of the interface between Environmental Health Sciences and Urban Planning) and
  - UP269 (Special Topics in Environmental Analysis and Policy: Introduction to Environmental Policy and Planning), which provides an important background in policy which is deemed to be essential to students working at this interface (see II. Academic Rationale: A growing nexus between public health and urban planning/D. Governance and institutional management, above) but is not usually required for “regular” EHS MPH or UP MA students.

- Students in the concurrent degree program may elect to take either Biostat 100A or UP 220A, which the two departments consider to be roughly equivalent in scope, although the examples used in the two courses differ. Likewise, students in the concurrent degree program may elect to take either Biostat 100B or UP 220B. By contrast, students who pursued the two degrees independently would be required to take all four of these courses.

- Students in the concurrent degree program are required to complete a 400-hour summer internship (usually during the summer after their first year) that combines concepts and skills from the two fields of Public Health and Urban Planning. Students in the concurrent degree program are expected to write a single report describing this experience (to be submitted to both departments for approval) and register for either EHS 400 (Field Studies in Environmental Health Sciences) or UP 496 (Field Studies in UP and Environmental Health Sciences). By contrast, students who pursued the two degree programs independently would be required to perform a 400 hour internship in Environmental Health Sciences/Public Health (and write a report/register for EHS 400) and perform a 300 hour internship in Urban Planning (and write a report/register for UP 496). Students in the concurrent degree program are expected to work jointly with their two faculty advisors (one from EHS and one from UP) to ensure that the internship project and report have a scope that allows them to synthesize information and concepts from the two fields.
Students in the concurrent degree program are expected to pursue a capstone project (a requirement of all students pursuing a MA in UP, including those in the concurrent degree program) that allows them to demonstrate that they can *synthesize and integrate* concepts from the two fields (Urban Planning and Public Health). By contrast, “regular” students in the UP planning are not required to choose a capstone project that overlaps with the field of Environmental Health Sciences/Public Health.

**PROGRAM REQUIREMENTS FOR CONCURRENT DEGREE PROGRAM IN EHS**

**(MPH) AND UP (MA) – 110 units**

**REQUIRED COURSES (82 Units)**

BIOST 100A (Introduction to Biostatistics) *or* UP 220A (Quantitative Analysis in Urban Planning) - **4 units**

BIOST 100B (Introduction to Biostatistics) *or* UP 220B (Quantitative Analysis in Urban Planning II) - **4 units**

CHS 100 (Introduction to Community Health Sciences) - **4 units**

HS 100 (Health Services Organization) - **4 units**

EPID 100 (Principles of Epidemiology) - **4 units**

EHS C200A (Foundations of Environmental Health Sciences) - **6 units**

EHS C200B (Foundations of Environmental Health Sciences) - **6 units**

EHS 201 (Seminar Health Effects of Environmental Contaminants) - **2 units**

EHS 208 (Built Environment and Health) - **4 units**

EHS C240 (Fundamentals of Toxicology) - **4 units**

EHS 401 (Environmental Measurements) - **4 units**

EHS M411 (EHS Seminar) once a year for two years - **4 (2 X 2) units**

EHS 400 (Field Studies in Environmental Health Sciences) OR UP 496 (Field Studies in UP and Environmental Health Sciences) - **4 units**

UP 205-1 OR UP205-2 (MA Thesis/Applied Planning Research Project) - **4 units**
UP207 (Applied Microeconomics for Urban Planning) - 4 units

UP222A (Introduction to Histories and Theories of Urban Planning) - 4 units

UP 254 (Transportation, Land Use and Urban Form) - 4 units

UP269 (Special Topics in Environmental Analysis and Policy: Introduction to Environmental Policy and Planning) - 4 units

UP 281 (Introduction to the History of the Built Environment) - 4 units

UP598 (Preparation for MA Thesis) - 4 units

**URBAN PLANNING STREAM ELECTIVES (16 units).** Students in the concurrent degree program must choose 4 electives (total) from the courses listed for their two streams listed below (*Built Environment Stream* and *Natural Environment Stream*), with at least one elective in each stream.

*Built Environment Stream*

UP219 (Special Topics in the Built Environment: Green Urbanism)

UP253 (Sprawl)

UP256 (Travel Behavior Analysis)

UP261 (Land Use Planning)

UP273 (Site Planning)

UP274 (Introduction to Physical Planning)

UP279 (Seminar on Public Space)

UP282 (Urban Design: Theories, Paradigms, Applications)

M291 (Introduction to Sustainable Architecture and Community Planning)

UP206B (Advanced Geographic Information Systems)

*Natural Environment Stream*

UP242 (Locational Conflict)
UPM258 (Transportation and Environmental Issues)

UP260 (Environmental Politics and Governance)

UP262B (Urban Environmental Problems: Water Resources)

UPM264 (Environmental Law)

UP265 (Environmentalism: Past, Present, and Future)

UP266 (Global Environment and Development: Problems and Issues)

UP267 (Environmental and Resource Economics and Policy)

UP269 (Advanced Seminar in Environmental Justice)

ENVIRONMENTAL HEALTH SCIENCE/PUBLIC HEALTH ELECTIVES (12 units)

To fulfill the requirement from our accrediting body (CEPH) that all MPH students take at least 56 unit of public health (or equivalent) coursework, students in the concurrent degree program must also take 12 units of electives from courses offered in any of the departments within the School of Public Health (Biostatistics, Community Health Sciences, Environmental Health Sciences, Epidemiology, or Health Services). Students are encouraged to consult with their advisor(s) regarding which courses may be most appropriate given their background and interests.
SAMPLE SCHEDULE (THREE-YEARS) FOR THE CONCURRENT MA IN URBAN PLANNING AND MPH IN ENVIRONMENTAL HEALTH SCIENCES DEGREE PROGRAM. (Total units: 110)

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REFERENCE 6
2009 EHS Independent Department Review
SCHOOL OF PUBLIC HEALTH
UNIVERSITY OF WASHINGTON

Professor Richard A. Fenske, PhD, MPH
Department of Environmental and Occupational Health Sciences
P.O. Box 357234, Seattle, WA 98195-7234

May 18, 2009

Richard J. Jackson MD MPH
Professor and Chair, Environmental Health Sciences
UCLA School of Public Health, 56-070 CHS
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Dr. Jackson,

I am writing on behalf of Dr. Patricia Buffler, Dr. Jack Spengler and myself regarding our recent visit to the Department of Environmental Health Sciences. We would like to first thank you for the very cordial reception afforded us by all members of the EHS community and for the generous amount of time that faculty, students and staff set aside to meet with us. We wanted to provide you with our observations and suggestions regarding the current status and future direction of the department.

We had the opportunity during this visit to meet with SPH Dean Rosenstock, Associate Dean Godwin, Assistant Dean for Student Affairs Clark, and the leaders of several programs housed within the department, including Rich Ambrose and Mel Sufflet (ES&E), Bill Hinds (ERC), and John Froines (COEH). We received written materials describing each of these programs, as well as faculty biographies, course listings and other relevant information. In addition, Jack and I had a productive and quite enjoyable discussion with a group of EHS students on the second day of our visit.

We were very pleased with the enthusiasm expressed by students as they recounted their experiences in the department and their career plans. They all seem to feel that their EHS education will provide a solid foundation for the work they hope to undertake after graduation.

We also learned that Environmental Science and Engineering has a very strong endorsement from students, and our meeting with its faculty leaders impressed upon us the great value of this program for the region, the state and the country. We believe the department should fully support the program and encourage more EHS faculty to play an active role in its unique educational mission.

Finally, we recognize the high quality of research being conducted by many EHS faculty, and particularly the exceptional program that John Froines has developed in the field of air quality and health. We hope that this critical area of research will continue to thrive at UCLA in order to meet the special challenges of the southern California region.

Beyond these very positive aspects of the department, however, we noted several potential areas for improvement over the next several years.

We were surprised by the organizational structure of the department. It seems that the very programs that bring strength to the department tend to have a deleterious impact on the overall

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coherence of the EHS academic community. During our visit, departmental faculty lines were discussed as if they were owned by particular programs, and in fact some of these programs were referred to as "departments" in the course of several conversations. We view these fissures in the department to be a very serious impediment to the development of an outstanding academic enterprise. We also noted that there appears to be ample administrative support overall, but the distribution of this support across centers and programs limits to a great degree the ability of the chair to guide the department effectively or implement new initiatives. Consolidation of administrative staff would likely lead to greater efficiencies and higher productivity within the department.

While the retirement of William Hinds from the faculty and as the Director of the ERC creates a gap, it also presents an opportunity for new leadership for the ERC. As the search for a new director continues it would make sense to place the ERC management in the Dean's office. Dr. Rosenstock is eminently qualified to serve as interim ERC director until a new appointment is made. As new faculty are hired it will be important to make clear to them that they are faculty members of EHS first and that they report to the department's chair.

The Environmental Science and Engineering program should be encouraged to develop a closer relationship with the Institute of the Environment and expand the influence of environmental health in other sectors of the university. The EHS chair should play a more active role in this integrative function. When new faculty are added to the core faculty of ES&E, they should consider that they remain in the first instance EHS faculty who contribute to the overall mission of the EHS department.

The EHS chair, in concert with the Dean's office and the other SPH department chairs, should explore the feasibility of developing an undergraduate major in Urban Health. We believe such a major could create a multi-disciplinary curriculum that would make use of resources across the campus and that would be very popular among students. This new initiative could be used as the focus for bringing additional faculty and resources to the school, and would serve as an opportunity to reorient the efforts of some existing faculty.

The UCLA Department of Environmental Health Sciences is among the strongest departments of its kind in the nation. Still, we see the need for substantial reorganization and refocusing if the department is to reach its full potential. Happily, the department has secured as its chair a truly outstanding environmental health leader who is fully capable of building an innovative and visionary program to serve the needs of the public, and who enjoys the full support of the Dean's office in his efforts to build an innovative program in this critical period for our nation.

We thank you again for the opportunity to provide these comments and would be happy to follow up with you on any or all of these observations and suggestions.

Best regards,

Richard Fenske

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Professor & Associate Chair, Department of Environmental and Occupational Health Sciences
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EHS Faculty *Curriculum Vitae*
CURRICULUM VITAE

RICHARD F. AMBROSE

Environmental Science & Engineering Program  
Department of Environmental Health Sciences  
School of Public Health  
University of California  
Los Angeles, CA  90095-1772

(310) 825-6144  
(818) 889-9851  
FAX (310) 206-3358  
rambrose@ucla.edu

EDUCATION

Ph.D.  1982  University of California, Los Angeles.  
B.S.  1975  University of California, Irvine.

PROFESSIONAL EXPERIENCE

1998-present  Director  
Environmental Science and Engineering Program, UCLA

2000-present  Professor  
Department of Environmental Health Sciences  
Institute of the Environment (joint appointment 2008-present)  
University of California  
Los Angeles, CA  90095-1772

1992-2000  Associate Professor  
Department of Environmental Health Sciences  
University of California  
Los Angeles, CA  90095-1772

1991-1997  Associate Research Biologist  
Marine Science Institute  
University of California  
Santa Barbara, CA  93106

1985-1991  Assistant Research Biologist  
Marine Science Institute  
University of California  
Santa Barbara, CA  93106

1983-1984  Postdoctoral Fellow  
Department of Biological Sciences  
Simon Fraser University  
Burnaby, B.C., Canada  V5A 1S6

1982  Visiting Lecturer  
Department of Biology, UCLA
RESEARCH

Major Research Interests

- Restoration ecology, especially for coastal marine and estuarine environments
- Ecology of coastal wetlands and estuaries
- Long-term ecological monitoring
- Development and scientific evaluation of mitigation techniques
- Development of habitat valuation techniques
- Ecology of artificial and natural reefs
- Marine ecology
- Interface between environmental biology and resource management policy

Research Grants and Contracts, R.F. Ambrose - Principal Investigator

<table>
<thead>
<tr>
<th>Organization</th>
<th>Project Description</th>
<th>Start Date</th>
<th>End Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Review Committee, Inc.</td>
<td>A study of mitigation</td>
<td>3/1/85-9/30/92</td>
<td></td>
<td>$1,134,154</td>
</tr>
<tr>
<td>California State Lands Commission</td>
<td>Assistance on the California Comprehensive Offshore Resource Study</td>
<td>4/17/89-7/17/89</td>
<td></td>
<td>$24,758</td>
</tr>
<tr>
<td>Minerals Management Service</td>
<td>An Updated Inventory of Shoreline Resources</td>
<td>8/15/91-12/31/95</td>
<td></td>
<td>$304,916</td>
</tr>
<tr>
<td>California State Lands Commission</td>
<td>Assistance on Assessing Impacts to the Marine Environmental</td>
<td>1/1/92-9/30/94</td>
<td></td>
<td>$40,000</td>
</tr>
<tr>
<td>California Coastal Commission</td>
<td>Mitigation Analysis and Habitat Evaluation Techniques for Coastal Development in California</td>
<td>6/1/92-9/30/94</td>
<td></td>
<td>$35,000</td>
</tr>
<tr>
<td>County of Santa Barbara</td>
<td>Inventory of Coastal Wetland Resources in Santa Barbara County</td>
<td>7/1/92-12/31/95</td>
<td></td>
<td>$76,011</td>
</tr>
<tr>
<td>Las Virgenes Municipal Water District</td>
<td>Enhanced Monitoring Program for Malibu Creek and Lagoon</td>
<td>3/1/93-5/31/94</td>
<td></td>
<td>$112,686</td>
</tr>
<tr>
<td>UC Toxic Substances Research and Teaching Program - Coastal Environmental Toxicology Component</td>
<td>Ecotoxicology of Southern California Wetlands</td>
<td>7/1/93-6/30/06</td>
<td></td>
<td>$405,000</td>
</tr>
<tr>
<td>California Coastal Commission</td>
<td>Inventory of Coastal Ecological Resources in Ventura and Los Angeles Counties</td>
<td>3/1/94-10/31/98</td>
<td></td>
<td>$318,579</td>
</tr>
<tr>
<td>California Coastal Commission (through SCEI)</td>
<td>Inventory of Coastal Ecological Resources of the Northern California Channel Islands</td>
<td>3/1/94-10/31/98</td>
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<td>$27,010</td>
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### Research Grants and Contracts, R.F. Ambrose - Principal Investigator (continued)

<table>
<thead>
<tr>
<th>Grantor</th>
<th>Project Description</th>
<th>Start Date</th>
<th>End Date</th>
<th>Amount</th>
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<tbody>
<tr>
<td>California Coastal Commission (through SCEI)</td>
<td>Inventory of Coastal Ecological Resources of the Northern California Channel Islands</td>
<td>3/1/94-10/31/98</td>
<td>$276,206</td>
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</tr>
<tr>
<td>(with J. Engle &amp; P. Raimondi)</td>
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<tr>
<td>UC Toxic Substances Research and Teaching Program</td>
<td>An Integrated Assessment of Three Wetlands at Mare Island Naval Shipyard: Wetland Restoration</td>
<td>7/1/95-6/30/03</td>
<td>$47,000</td>
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<tr>
<td>Minerals Management Service - Coastal Marine Institute (with J. Engle &amp; P. Raimondi)</td>
<td>Inventory of Rocky Intertidal Resources in San Luis Obispo, Santa Barbara &amp; Orange Counties</td>
<td>10/1/95-9/30/97</td>
<td>$197,199</td>
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</tr>
<tr>
<td>City of Malibu</td>
<td>Evaluation of Marine Protected Areas: Analysis and Management Recommendations for the Proposed Malibu Marine Refuge</td>
<td>6/1/96-6/16/97</td>
<td>$20,869</td>
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<tr>
<td>U.S. Navy (with R. Vance)</td>
<td>Wetland Ecology and Restoration Planning at Mugu Lagoon</td>
<td>1/1/96-9/30/04</td>
<td>$786,500</td>
<td></td>
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<tr>
<td>UCLA Academic Senate</td>
<td>Restoring damaged coral reef habitats in the South Pacific</td>
<td>7/1/96-6/30/97</td>
<td>$2,688</td>
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<tr>
<td>Southern California Educational Initiative</td>
<td>Evaluating the Impact of Oil Spills on Southern California Rocky Intertidal Populations and Communities</td>
<td>7/1/96-6/30/97</td>
<td>$58,108</td>
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</tr>
<tr>
<td>Minerals Management Service (With J. Engle &amp; P. Raimondi)</td>
<td>Interagency Rocky Intertidal Monitoring Network Workshop</td>
<td>12/9/96-7/14/97</td>
<td>$36,942 (through UCSB)</td>
<td></td>
</tr>
<tr>
<td>California State Coastal Conservancy (with A. Orme and 5 co-investigators)</td>
<td>Lower Malibu Creek and Malibu Lagoon Resource Enhancement and Management Project</td>
<td>8/14/97-12/31/99</td>
<td>$246,805</td>
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</tr>
<tr>
<td>Minerals Management Service - SCEI</td>
<td>Inventory of Rocky Intertidal Resources in Santa Barbara, Ventura and Orange Counties</td>
<td>1/1/98-6/3/00</td>
<td>$139,730</td>
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</tbody>
</table>
**Research Grants and Contracts, R.F. Ambrose - Principal Investigator (continued)**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Project Details</th>
<th>Start Date</th>
<th>End Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>County of Santa Barbara - SCEI</td>
<td>Inventory of Rocky Intertidal Resources in Santa Barbara, Ventura and Orange Counties</td>
<td>3/6/98</td>
<td>3/6/01</td>
<td>$21,289</td>
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<tr>
<td>U.S. Navy (with R. Vance)</td>
<td>Monitoring Wetland Restoration Sites at Mugu Lagoon</td>
<td>10/1/99</td>
<td>4/30/06</td>
<td>$620,688</td>
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<tr>
<td>U.S. Environmental Protection Agency (with M. Suffet and M. Stenstrom)</td>
<td>A Study of Analytical Chemical Procedures for a Southern California Watershed Monitoring and Assessment Program</td>
<td>11/1/98</td>
<td>10/31/00</td>
<td>$396,500</td>
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<tr>
<td>Minerals Management Service - SCEI</td>
<td>Inventory of Rocky Intertidal Resources in Southern Santa Barbara, Ventura and Los Angeles Counties</td>
<td>7/1/00</td>
<td>12/31/02</td>
<td>$103,083</td>
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<tr>
<td>Environmental Defense</td>
<td>A test of the spillover effect from no-take marine reserves using benthic rockfish in central California</td>
<td>1/1/01</td>
<td>6/30/01</td>
<td>$15,000</td>
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<tr>
<td>UC Pacific Rim Research Program</td>
<td>Assessment of coral reef marine protected area health and management practices in Australia and Thailand</td>
<td>9/1/00</td>
<td>8/31/01</td>
<td>$35,000</td>
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<tr>
<td>Los Angeles Regional Water Quality Control Board</td>
<td>Environmental monitoring and bioassessment of Ventura and Los Angeles County watersheds</td>
<td>1/1/01</td>
<td>6/30/02</td>
<td>$125,000</td>
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<tr>
<td>California Department of Transportation</td>
<td>Environmental monitoring of rocky intertidal habitats near sediment disposal sites along the Malibu coast</td>
<td>2/6/01</td>
<td>7/30/01</td>
<td>$20,976</td>
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<tr>
<td>Coastal Marine Institute/UCSB (through UCSC with P. Raimondi)</td>
<td>Spatial and temporal variation in recruitment to rocky shores: Relationship to recovery rates of intertidal communities</td>
<td>7/1/01</td>
<td>9/30/04</td>
<td>$140,877</td>
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</tbody>
</table>
### Research Grants and Contracts, R.F. Ambrose - Principal Investigator (continued)

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Dates</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Santa Monica Bay Restoration Project</td>
<td>Feasibility study for the restoration of natural resources in rocky intertidal habitats in Santa Monica Bay</td>
<td>4/1/02-9/30/03</td>
<td>$88,421</td>
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<tr>
<td>University of California Center for Water Resources (with P. Rundel)</td>
<td>Influence of nutrient loading in the invasion of an alien plant species, Giant Reed (<em>Arundo donax</em>), in Southern California Riparian Ecosystems</td>
<td>7/1/02-6/30/04</td>
<td>$56,000</td>
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<tr>
<td>Minerals Management Service (subcontract through UCSC)</td>
<td>Determining Long-Term Changes in Species Abundances and Community Structure in Southern California Rocky Intertidal Habitats</td>
<td>5/30/02-4/30/10</td>
<td>$690,511</td>
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<tr>
<td>Los Angeles Regional Water Quality Control Board</td>
<td>Success of wetland mitigation sites in Los Angeles and Ventura Counties, California</td>
<td>4/1/03-10/30/04</td>
<td>$93,999</td>
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<tr>
<td>Southern California Coastal Water Research Project</td>
<td>Assessment of water quality loadings from natural landscapes</td>
<td>1/1/04-3/15/06</td>
<td>$125,735</td>
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<tr>
<td>California State Water Resources Control Board</td>
<td>Success of compensatory wetland mitigation required under Section 401 of the Clean Water Act in California</td>
<td>6/1/04-3/31/06</td>
<td>$500,000</td>
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<tr>
<td>California Department of Fish and Game, Office of Spill Prevention and Response</td>
<td>Development of a response protocol to spills that can be formalized into “Coastal Habitats Quick-Response Procedures Kits” for sandy, rocky and wetland shoreline habitats</td>
<td>11/1/05-9/30/07</td>
<td>$59,104</td>
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<tr>
<td>California State Water Resources Control Board</td>
<td>Review of Compensatory Mitigation Compliance Monitoring Study</td>
<td>6/1/05-3/31/07</td>
<td>$16,691</td>
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<tr>
<td>California State Coastal Conservancy</td>
<td>Development of Field Sampling Protocols for the Integrated Wetlands Regional Assessment Program (IWRAP)</td>
<td>7/1/07-6/30/07</td>
<td>$44,600</td>
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<tr>
<td><strong>U.S. Minerals Management Service</strong></td>
<td>Field testing of Pre-Spill biological assessment protocols for rocky intertidal, wetland and sandy beach habitats</td>
<td>9/24/07-9/21/08</td>
<td>$5,177</td>
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<tr>
<td><strong>Southern California Coastal Water Research Project</strong></td>
<td>Habitat mix and distribution framework for restoration of coastal wetlands of southern California</td>
<td>1/8/08-9/30/08</td>
<td>$30,802</td>
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</table>

**Co-Investigator:**

| **U.S. Environmental Protection Agency** | Integrated Urban Watershed Analysis: The Los Angeles Basin and Coastal Environment | 1/1/97-12/31/99 | $1,200,000 |
| R. Turco (PI), with 19 co-investigators |  |  |  |

| **U.S. Environmental Protection Agency** | Using Multilevel Statistical Models to Address Representativeness and Data at Different Spatial and Temporal Scales | 7/1/98-6/30/00 | $415,381 |
| Dick Berk (PI), with Jan DeLeeuw, Robert Gould, and Rich Turco |  |  |  |

| **UC Marine Council** | Coastal Water Quality: The Role of Wetlands in Mitigating the Effects of Urban and Rural Runoff | 7/1/02-6/30/06 | $611,146 |
| S. Grant (PI, UCI), with B. Sanders, L. Levin, and C. Winant |  |  |  |

| **National Science Foundation** | Information Technology Research (ITR): Networked Infomechanical Systems (NIMS) | 10/1/03-9/30/08 | $7,499,303 |
| W. Kaiser (PI), with co-investigators |  |  |  |

| **Sweetwater Reservoir Organization** | Development of Best Management Practices for Sweetwater Reservoir | 11/2/03-12/31/04 | $250,000 |
| I.H. Suffet (PI), with M. Stenstrom |  |  |  |

| **UC Marine Council** | Fate, persistence and source identification of pathogens, pathogen indicator bacteria and human specific markers in coastal beach and wetland sediments of southern California | 7/1/08-6/30/09 | $250,000 |
| Sharon Walker (co-PI, UCR), Jenny Jay (co-PI), Trish Holden (UCSB) |  |  |  |

**Scientific Expeditions and Research Locales**

- Research along California coast, including Channel Islands (Anacapa Island, Santa Barbara Island, Santa Catalina Island, Santa Cruz Island, San Miguel Island, San Nicolas Island).
• U.C. Berkeley Gump Marine Laboratory, Moorea, French Polynesia, 1996.
• Heron Island Research Station, Great Barrier Reef, Australia, 2001.
• West Indies Laboratory, St. Croix, U.S. Virgin Islands, 1981. (Including a week-long mission in the undersea laboratory HYDROLAB.)
• Laboratoire Arago, Banyuls-sur-Mer, France, on the Mediterranean, 1980.
• Scripps Institute of Oceanography Expedition, Baja California, 1977. (Co-Organizer)
• Other field experience: Baja California, British Columbia, Alaska, Hawaii.

HONORS

Commendation from California Senate for service to Santa Monica Bay Restoration Commission
Delta Omega Society
University Fellowship, UCLA
Chancellor's Intern Fellowship, UCLA
President's Scholarship, UC Irvine
Honors in Biological Sciences at graduation, UC Irvine

TEACHING

Courses Taught

University of California, Santa Barbara. Environmental Studies Program.

Coastal Processes and Management (Environmental Studies 134) - 1991

University of California, Los Angeles. Biology Department.

Oceans (Biology 25) - 1977

Ecology and Evolution (Biology 6) - 1982

Introductory Biology (Biology 5) - 1982

University of California, Los Angeles. Environmental Science and Engineering Program, Department of Environmental Health Sciences, School of Public Health.

Applied Ecology (Environmental Health Sciences 212) - 1993-2008

Environmental Science and Engineering Problems Course (Environmental Science and Engineering 400 A, 400B, 400C) - 1993-2007

Environmental Science and Engineering Problems Course Workshop (Environmental Science and Engineering 410 B) - 1995-97

Graduate Seminar in Ecotoxicology (Environmental Health Sciences 203) with M. Collins - 1995-2006

Graduate Seminar in Coastal Ecology and Management (Environmental Health Sciences 206) – 2000-2004
Fundamentals of Environmental Health Sciences (Environmental Health Sciences 200B) – 1999-2008 (co-organizer 2008)

University of California. Multicampus course.

Experimental Approaches to Problems in Coastal Toxicology (UC Davis PTX 230) – Summer 1999-2005

Doctoral Committees - Ph. D. Degree

Chair

Current Students
Donna Ferguson (co-chair with J. Jay)
Robert Gilbert
Steven Lee
Demian Willette

Graduates
Travis Longcore, 1999 (Geography, co-chair with M. Savage). “Terrestrial Arthropods as Indicators of Restoration Success in Coastal Sage Scrub.” (current employer: USC and UCLA)
Jayson Smith, 2005 (Ecology and Evolutionary Biology [EEB], co-chair with P. Fong). “Factors Affecting Geographic Patterns and Long-Term Change of Mussel Abundances (Mytilus californianus Conrad) and Bed-Associated Community Composition along the California Coast.” (current employer: California State University, Fullerton)

Member

Current Students
Sarah Bryson (EEB)
Li-Cheng Chan (Civil and Environmental Engineering)
Min-Mo Chung (Civil and Environmental Engineering)
Lauri Green (EEB)
Simon Ha (Civil and Environmental Engineering)
Tonya Kane (EEB)
Sunhyung (Sunny) Kim (Civil and Environmental Engineering)
Shao-Yuan (Ben) Leu (Civil and Environmental Engineering)
Chu-Ching Lin (Civil and Environmental Engineering)  
Kathleen Shaver (EHS)  
Amarjeet Singh (Electrical Engineering)  

Graduates  
Aaron Allen, 1999 (Geography)  
Sean Anderson, 2004 (Organismic Biology, Ecology and Evolution [OBEE])  
Anna Armitage, 2003 (OBEE)  
Kathy Boyer, 2002 (OBEE)  
Karleen Boyle, 2002 (OBEE)  
Tracey Brown, 1999 (OBEE)  
Wei Chen, 2004 (EHS)  
Michael Chotkowski, 1994 (Biology)  
Risa Cohen, 2003 (OBEE)  
Cathy Crouch, 2002 (OBEE)  
Suzanne Dallman, 2001 (Geography)  
Paul Di Giacomo, 1999 (OBEE)  
Krista Kamer, 2000 (OBEE)  
Joohyon Kang, 2005 (Civil and Environmental Engineering)  
Rachel Kennison, 2008 (EEB)  
John Lambrinos, 2000 (OBEE)  
Raul Lejano, 1998 (EHS)  
Jeong-Hee Lim, 2005 (Civil and Environmental Engineering)  
Michael (Chen-Hung) Lin, 2001 (EHS)  
Kristina D. Louie, 2003 (OBEE)  
John Malone, 2002 (OBEE)  
Laura Martin, 1999 (OBEE)  
Sarah May, 2003 (OBEE)  
Jim Noble, 1996 (EHS)  
Daniel Pondella, 2001 (OBEE)  
Alex Reich, 2000 (OBEE)  
Ken Schwarz, 1999 (Geography)  
Linda Schweitzer, 1998 (EHS)  
Lei Lani Stelle, 2001 (OBEE)  
Mary A. Soliman, 2002 (EHS)  
Matt Wartian, 2006 (EEB)  
Karina Wiesenthal, 2006 (EHS)  
Louis Zeidberg, 2003 (OBEE)  
James Zoulas, 2007 (Geography)  

Doctoral Committees - D.Env. Degree  

Chair  

Current Students  
Todd Bear (current employer: Psomas)  
Valerie Chan (in residence at UCLA)  
Steven Estes (in residence at UCLA)  
Cori Farrar (co-chair with Linwood Pendleton) (current employer: U.S. Army Corps of Engineers)  
Amy Hensley (current employer: U.S. Environmental Protection Agency)  
Laurie Ikuta Monarres (current employer: U.S. Army Corps of Engineers)  
Stacey Jensen (current employer: U.S. Army Corps of Engineers)
Calvin Kwan (in residence at UCLA)
Jennifer Liebeler Michael (current employer: Chevron)
Shannon Pankratz (current employer: U.S. Army Corps of Engineers)
Glenn Sias (in residence at UCLA)
Forrest Vanderbilt (current employer: U.S. Army Corps of Engineers)

Graduates

Jae Chung, 2006. “Cumulative Impacts to Riparian Wetlands in the Aliso Creek and San Juan Creek Watersheds.” (current employer: U.S. Army Corps of Engineers)
Alice Kwan, 1996. “Evaluation of a Decision Making Method Utilizing Spatial, Stakeholder, and Multi-Attribute Analyses: Application to a Conflict between Habitat Preservation and Development.” (current employer: Hong Kong Airport Authority)
Shelley Luce, 2003. “Urbanization and Aquatic Ecosystem Health in Malibu Creek, California: Impacts on Periphyton, Benthic Macroinvertebrates, and Environmental Policy.” (current employer: Santa Monica Bay Restoration Commission)
Whitman Miller, 2001. “Assessing the Importance of Biological Attributes for Invasion Success: Easter Oyster (Crassostrea virginica) Introductions and Associated Molluscan Invasions of Pacific and Atlantic Coastal Systems.” (current employer: Smithsonian Environmental Research Center)


Mark Sudol, 1996. “Success of Riparian Mitigation as Compensation for Impacts due to Permits Issued through Section 404 of the Clean Water Act in Orange County, California.” (current employer: U.S. Army Corps of Engineers)


Matthew Vandersande (co-chair with L. Pendleton, ESE), 2006. “Regulation of non-wetland riparian areas in the arid and semi-arid southwest: Section 404 of the Clean Water Act, bank stabilization, and a policy recommendation.” (current employer: U.S. Army Corps of Engineers)


Member

Current Students

Jane Curren
Fred Gerringer
Suzan Given
Adrienne Katner
Chad Nelsen

Graduates

Cara Augustenborg, 2007
Gnachi Amah, 2004
Laura Bloch, 1996
Maria Echarte, 2006
Chris Gabelich, 2001
Betty Grizzle, 1993
John Karlik, 1998
Chad Lewis, 2005
Tim McPherson, 2001
Heesu Park, 2006
Joel Pedersen, 2001
Master's Students - M.S. Degree

Chair

Current Students
Melissa McMeechan
Jackie Prange
John Prokup
Brianna Tarnower
Tiffany Yap

Graduates
Lesley Dobalian, 1999. “Can wetland restoration meet compensatory mitigation goals of overall no net loss?”
John Howe, 2001
Sharon Landau, 1996
Lena Maun, 2002. “Marine Reserves: Effective answers to the coral reef crisis or only part of the solution in the Caribbean Region?”
Whitman Miller (co-chair with Dr. R.R. Vance, Biology), 1994

Member
Vanessa Thulsiraj (CEE)

Graduates
Navreet Aujla, 2003
Kristine Becker, 2000
Colleen Bouzan, 1999
Richard Brody, 2004 (Geography)
Jane Curren, 2007
Steven Estes, 2007 (EEB)
Bryn Evans, 2001 (OBEE)
Tom Ford, 2005 (EEB)
Brett Fredericks, 1999 (OBEE)
Dean Gerdeman, 1999 (OBEE)
Suzie Given, 2003
Kelly Havens, 2008 (CEE)
Sapna Hira, 2003
Setsuko Ichikawa, 2000
Ruby Rowe, 1999
Nancy Meck, 1998
Tony Moeller, 1994
Sylvia Rostami, 1995
Katherine Smith, 2005 (EEB)
Judi Tamasi, 2008 (EEB)
Mayra Tinoco, 2001
Laura Waltemath, 1993
Michelle Wilhelm, 1994
Joy Yoon, 2003 (OBEE)

Postdoctoral Scholars

Peter Raimondi (1991-92)
Kevin Lafferty (1993-04)
Monique Myers (2004)
Raphael Sagarin (2004-06)

University Guest Lecturer

Ecology and Evolutionary Biology
University of California, Los Angeles, 1982

Ecology
Simon Fraser University, 1983

Advanced Topics in Marine Ecology
University of California, Riverside, 1984

Conservation Biology

Ecology of Marine Communities
University of California, Los Angeles, 1993

Introduction to Marine Science
University of California, Los Angeles, 1994-95, 1997

Biodiversity and Extinction
University of California, Los Angeles, 1994

People and the Earth’s Ecosystems
University of California, Los Angeles, 1996

Introduction to Environmental Health Sciences
University of California, Los Angeles, 1998-99, 2002
Global Environment
   University of California, Los Angeles, 1998-2007

Restoration Ecology
   University of California, Los Angeles, 1999

Wetlands Ecology and Conservation
   Scripps Institution of Oceanography, 1999, 2003

Understanding the Seas: Recent Advances in Marine Science
   University of California, Los Angeles (Extension), 2002-3

Environmental Engineering Education
   University of California, Los Angeles, 2005

University Seminar Speaker

"Population biology and behavioral ecology of Octopus bimaculatus"
   Catalina Marine Science Center, Catalina, CA, 1977

"Interactions between predator and prey"
   University of California, Los Angeles, 1983

"Predation by Octopuses"
   Simon Fraser University, 1984

"Population Biology of Octopus bimaculatus at Santa Catalina Island"
   University of Southern California, 1989

"Science and the Art of Mitigation: Mitigating the Marine Impacts of the San Onofre Nuclear Generating Station"
   University of California, Los Angeles, 1991

"Evaluating the Alternatives for Mitigating the Impacts of the San Onofre Nuclear Generating Station"
   University of California, Santa Barbara, 1992

“The San Onofre Nuclear Generating Station: Marine Impacts and Mitigation”
   University of California, Los Angeles, 1994

“Predicting Environmental Impacts: Lessons from a Power Plant Environmental Impact Analysis”
   University of California, Los Angeles, 1995

   University of California, Los Angeles, 1995

“Spatial Variability in Southern California Salt Marshes: Implications for Assessing the Success of Mitigation”
   San Diego State University, 1997.

“Wetland Mitigation in the United States: The Good, the Bad, and the Ugly”
   RMIT University, 1998.
“Restoring southern California’s salt marshes: What do we use for a model?”
Smithsonian Environmental Research Center, 2000.

“Restoring contaminated habitats: field experiments using sewage sludge in a southern California salt marsh”
University of California, Davis, 2002.

“If you build it, will they come? Testing the Field of Dreams Hypothesis in restored wetlands.”

“Protecting wetland resources under the Clean Water Act: How is California doing?”
University of California, Los Angeles, Institute of the Environment Environmental Colloquium, 2006.

SERVICE

Professional and Scholarly Service

1982-83 Consultant to Channel Islands National Park, VTN, Oregon, Inc. Design and pilot study to determine human impacts on rocky intertidal communities in the Channel Islands National Park.

1983-84 Scientific advisor to Cori International for nature films.

1988 Consultant to Channel Islands National Marine Sanctuary. Environmental Assessment of damage caused by shipwreck of Tortuga on San Miguel Island.


1990 Consultant to California Coastal Commission, City of Chula Vista and City of Carlsbad. Evaluation of alternatives for mitigating impacts of proposed coastal power-plant expansion.


1992 Florida Sea Grant Project Review Panel.


1993 Consultant to California State Coastal Conservancy. Review and evaluation of potential techniques for mitigating environmental impacts of Port development in California.

1995-96 Santa Monica Bay Restoration Project Wetlands and Birds Monitoring Program Committee.


1997  Santa Monica Bay Restoration Project Intertidal Monitoring Program Committee - Chair

1997  Consultant to California State Coastal Conservancy. Review of Southern California Wetlands Inventory for Los Angeles County.

1997-present  Multi-Agency Rocky Intertidal Network (MARINE) Scientific Advisory Panel.


1998-present  Southern California Wetlands Recovery Project (a partnership of state and federal agencies with wetlands responsibilities) Scientific Advisory Panel.

1998-2006  Scientific Advisory Board for the Ballona Wetlands Foundation.

1999  Consultant to U.S. Army Corps of Engineers. Evaluation of watershed and riparian habitat assessment methodologies.


2002  Panel of Experts for Final Selection of Toxicity Reference Values (TRVs) for Ecological Risk Assessments at Vandenberg AFB, California.

2003-2005  Malibu Lagoon Technical Advisory Committee (LTAC), established by Heal the Bay/California State Coastal Conservancy to oversee planning for the restoration of Malibu Lagoon.

2004-2007  Santa Monica Bay Restoration Commission Technical Advisory Committee (TAC), Habitats Subcommittee, chair.

2004-present  Consultant to Aspen Environmental Group/California State Coastal Conservancy. Restoration planning for Ormond Beach wetlands.

2004-2005  Consultant to the City of Malibu. Wetland restoration planning for Malibu Civic Center region, including wetlands for stormwater treatment.
2005-present  Ballona Wetland Restoration Planning, Scientific Advisory Committee (established by the California State Coastal Conservancy), co-chair.

2006-present  Santa Monica Bay Restoration Commission Marine Protected Areas Technical Advisory Committee (MTAC).

2007-present  Consultant to Geosyntec Consultants/RMC Water for the design of the Malibu Legacy Park.

2007-2008  Consultant to Psomas for design of South Los Angeles Wetland Park.

2007-2008  Consultant to the City of Malibu. Marine resources in the Malibu Area of Special Biological Significance.

2007-present  United States Army Corps of Engineers Environmental Advisory Board (EAB).

2007-present  Santa Monica Bay Restoration Commission Technical Advisory Committee (TAC), chair.

2008-present  California Ocean Protection Council (OPC) Science Advisory Team (SAT).

2008-09: co-chair.

2008-present  California Marine Life Protection Act (MLPA) Science Advisory Team (SAT).

University Committee Service - UC Santa Barbara

1988  Search Committee for Assistant to the Director of the Marine Science Institute.


University Committee Service - UCLA

1982  Biology Graduate Student's Association Committee on Microcomputers, UCLA.

1992-93  School of Public Health Subcommittee on the MPH Comprehensive Exam.

1992-93  School of Public Health Strategic Planning Committee on Infrastructure.

1992-93  Department of Environmental Health Sciences Academic Policy and Procedures Committee.

1992-98  Graduate Advisor, Environmental Science and Engineering Program.

1992-present  Interdepartmental Committee for Environmental Science and Engineering Program. (Chair, 1998-present)

1993-94, 2001-02  School of Public Health Committee on Student Affairs.

2003-present  Chair

1993-94  Department of Environmental Health Sciences Subcommittee on Course Approval - Chair
<table>
<thead>
<tr>
<th>Year(s)</th>
<th>Position/Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>Marine Science Center Committee for the Marina del Rey Aquarium and Facility.</td>
</tr>
<tr>
<td>1993-present</td>
<td>Diving Control Board.</td>
</tr>
<tr>
<td>1994-2002</td>
<td>Advisory Board of UCLA Ocean Discovery Center.</td>
</tr>
<tr>
<td>1994-95</td>
<td>Biology Department Search Committee for Marine Biologist Positions.</td>
</tr>
<tr>
<td>1995</td>
<td>School of Public Health Public Health Practice Group Advisory Committee.</td>
</tr>
<tr>
<td>1994-1999</td>
<td>School of Public Health Academic Computing Committee.</td>
</tr>
<tr>
<td>1995-97</td>
<td>Department of Environmental Health Sciences Academic Policy and Procedures Committee - Chair</td>
</tr>
<tr>
<td>1995-97</td>
<td>Department of Environmental Health Sciences Recruitment and Alumni Relations Committee.</td>
</tr>
<tr>
<td>1995-2000</td>
<td>Marine Science Center Advisory Committee.</td>
</tr>
<tr>
<td>1996</td>
<td>Committee to Review the Marine Science Center.</td>
</tr>
<tr>
<td>1999-2002</td>
<td>School of Public Health Evaluation Committee.</td>
</tr>
<tr>
<td>2000-present</td>
<td>UCLA Committee for the UC Natural Reserve System.</td>
</tr>
<tr>
<td>2002-2005</td>
<td>Department of Environmental Health Sciences Search Committee for Chair of the Department.</td>
</tr>
<tr>
<td>2002-present</td>
<td>Institute of the Environment Executive Committee</td>
</tr>
<tr>
<td>2005-present</td>
<td>UCLA Campus Sustainability Committee (Academic Subcommittee 2006-present)</td>
</tr>
<tr>
<td>2006-2007</td>
<td>Institute of the Environment and Department of Urban Planning Search Committee for Environmental Policy position (joint appointment with Institute of the Environment and Department of Urban Planning).</td>
</tr>
<tr>
<td>2007-present</td>
<td>Institute of the Environment Space Committee (chair)</td>
</tr>
<tr>
<td>2008-present</td>
<td>Institute of the Environment Climate Change Research Initiative</td>
</tr>
<tr>
<td>2007-2008</td>
<td>School of Public Health Search Committee for Computational Biologist (chair)</td>
</tr>
</tbody>
</table>
Committee Service - University of California campuswide and others

1995-2001  Coordinating Board of the University of California Water Resources Center –
Member (Chair of Aquatic Ecosystems section, 2000)

1995-present National Association of State Universities and Land-Grant Colleges Board on
Oceans and Atmosphere – Delegate.

1999  University of California Rancho Marino Evaluation Committee.

1999  University of California. Water Resources Center, Committee on Reports and
Publications

1999-2001  Natural Reserve System Universitywide Advisory Committee – UCLA
representative.

1999-2000  Select Scientific Advisory Committee on Decommissioning Offshore Oil
Production Facilities for the Office of the President, University of California.

2002  Panel of Experts for Final Selection of Toxicity Reference Values (TRVs) for
Ecological Risk Assessments at Vandenberg AFB, California

2004-present  Society of Wetland Scientists Student Grants Committee

Editorial Service to Scholarly Journals

Periodic referee of papers and proposals for:

Australian Environmental Studies
Biological Bulletin
Bulletin of Marine Science
Channel Islands Symposium Proceedings
Cooperative Institute for Coastal and Estuarine Environmental Technology
Coral Reefs
CRC Press
Ecological Applications
Ecological Restoration
Ecology
Environmental Management
Evolution
Florida Sea Grant College
GEOIDE
Journal of Experimental Marine Biology and Ecology
Malacologia
Marine and Freshwater Research
Marine Behaviour and Physiology
Marine Ecology Progress Series
MMS-UC Coastal Marine Institute Program
National Marine Fisheries Service
National Research Council
National Science Foundation
National Undersea Research Program
North American Journal of Fisheries Management
PROFESSIONAL ACTIVITIES

Participation in Professional Meetings


Richard F. Ambrose - page 21

Session Chair, Mitigation and Restoration Session, Fifth International Conference on Artificial Habitats for Fisheries. 1991.


Invited Panelist, “If there were an oil spill today, and we had to make a decision, what method or approach would we choose to sample rocky intertidal biota?” Response to Oil Spills Symposium, Southern California Academy of Sciences. 1995.


Contributed paper, “Creation of tidal wetland at Mare Island Naval Shipyard following remediation of a contaminated ordnance disposal site,” Society of Environmental Toxicology and Chemistry Meeting. 1997. S. Daley (presenter) and R. Ambrose.


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Poster presentation, “Continued declines of black abalone due to withering syndrome along the coast of California,” Thirteenth Annual Research Symposium of the U.C. Toxic Substances
Richard F. Ambrose - page 25


Contributed paper, “Examining the Ecological Effects of Land Use on Stream Benthic and Fish Communities in Calleguas Creek Watershed, Ventura County, CA,” SETAC. 2000. C.J. Lin (presenter) and R.F. Ambrose.


Poster presentation, “Are Southern California Coastal Wetlands Sources or Sinks for Fecal Indicator Bacteria?” 16th Annual Research Symposium of the U.C. Toxic Substances Research and Teaching Program. 2003. M. Evanson (presenter) and R.F. Ambrose. (Best poster award)


Poster presentation, “Current Condition and Long-Term Change in the Abundance and Biodiversity of Mussel Beds Communities of Wave-Exposed Rocky Intertidal Zones of the
Richard F. Ambrose - page 28


Poster presentation, “Will a reduction in HgT result in a reduction in methylmercury? Evaluating the effectiveness of Mercury Total Maximum Daily Loads in four sites.” Rothenberg, S.E.


Contributed paper, “Regional comparisons and decadal changes in mussel populations (Mytilus californianus) and mussel bed community diversity along the California coast.” J.R. Smith (presenter), R.F. Ambrose and P. Fong. Channel Islands Symposium, 2008.


Professional Associations

- Ecological Society of America
- Coastal and Estuarine Research Federation
- International Society for Ecological Restoration
- Society for Conservation Biology
- Society of Wetland Scientists
- Southern California Academy of Scientists
- Western Society of Naturalists

OTHER PROFESSIONAL ACTIVITIES

Seminars, Lectures, Workshops and Briefings


Invited Speaker, Institute for Marine and Coastal Studies, University of Southern California.  1980.

Invited Lecturer, Elderhostel Group, Catalina Marine Science Center.  1986.

Interview on artificial reefs with the Los Angeles Times.  1987.

Interview on decline of black abalone with KSBY-TV, KCOY-TV, KNX News Radio, KTMS Radio, Santa Barbara News-Press, Underwater USA, Sunset Magazine, A'lul'quoys, and Santa Barbara Independent.  1988

Participant, Workshop on Biological Resources of the Santa Barbara Channel, Santa Barbara.  1988.
Participant, Abalone Mortality Meeting (sponsored by Sea Grant Marine Advisors and Department of Fish and Game), UCSB.  1988.

Invited Speaker, Meeting of California Sea Grant Marine Advisors.  1988.


Participant, Ports of Long Beach and Los Angeles working group on evaluating fish production on artificial reefs.  1988.


Session Chair, Octopus Fisheries and Biology Session, Workshop on the fishery and market potential of Octopus in California.  1989.

Testimony to the California Coastal Commission on alternatives for mitigating the coastal impacts of the San Onofre Nuclear Generating Station.  1989.


Testimony to the California Coastal Commission on Marine Review Committee recommendations for mitigating the coastal impacts of the San Onofre Nuclear Generating Station.  1991.

Testimony to the California Senate Committee on Energy and Public Utilities regarding the environmental impacts of the San Onofre Nuclear Generating Station.  1991.


Interview on inventory of coastal resources in Santa Barbara County with KSBY radio.  1991.

Testimony to the California Regional Water Quality Control Board, San Diego Region, on techniques for mitigating the coastal impacts of the San Onofre Nuclear Generating Station.  1992.


Invited participant, Santa Monica Bay Monitoring Workshop: Intertidal Section, Santa Monica Bay Restoration Project.  1993.


Testimony to the California Legislative Oversight Committee on the California Ocean Resources Management Plan.  1993.

Interview on effects of fire on Malibu Lagoon with the Heal the Bay newsletter. 1994.

Invited participant, Workshop on Coastal Toxicology, U.C. Toxic Substances Research and Teaching Program Coastal Toxicology Component. 1994.


Interview on inventory of coastal resources in Ventura and Los Angeles Counties and the northern Channel Islands with Ventura County Newspaper and the LA Times. 1994.


Briefing to the California Coastal Commission, Workshop on the San Onofre Nuclear Generating Station Mitigation Program. 1995.

Testimony to the California Coastal Commission on the San Onofre Nuclear Generating Station Mitigation Program. 1995.

Invited participant, UC Conservation Biology Planning Meeting. 1996.

Invited participant, “Developing the Conceptual Basis for Restoration Biology,” Workshop funded by the National Science Foundation at the National Center for Ecological Synthesis and Analysis. 1996.


Testimony to the California Senate Committee on Natural Resources and Wildlife, Oversight Hearing on the California Coastal Commission: What is the coastal impact of Southern California Edison’s proposed change in mitigation for the San Onofre Nuclear Generating Station? 1996.

Interview on Southern California Edison’s proposed change in mitigation for the San Onofre Nuclear Generating Station with the LA Times. 1996.

Testimony to the California Coastal Commission on the San Onofre Nuclear Generating Station Mitigation Program. 1996.

Testimony to the Malibu City Council on the evaluation of Marine Life Refuge alternatives. 1996.


Testimony to California Senate Natural Resources and Wildlife Committee and California Assembly Water, Parks and Wildlife Committee on SB 1006 and AB 374, to establish Malibu Marine Life Refuges. 1997.
Interview on impacts of San Onofre Nuclear Generating Station to marine mammals with the Sacramento Bee. 1997.


Interview on Malibu Watershed management and restoration alternatives with the Malibu Times. 1998.

Interview on Mugu Lagoon sewage pond restoration project with the Los Angeles Times. 1999.

Interview with LA Times (Westside Weekly) on Malibu Watershed management and restoration alternatives. 1999.


Interview with Barbara Dab, KPFK Radio, on Southern California wetlands.


Interview with KCSN-FM on Malibu Creek Watershed. 2000

Interviews with LA Times and Orange County Register on success of wetland mitigation projects. 2000.

Interview with KPCC/Public Radio on coastal ecological effects of urban runoff. 2001.

Interview with PBS/KCET on science and policy issues related to Klamath River water allocations to farmers and impacts on salmon and downstream fishermen. 2002.

Testimony to the California Energy Commission on the modernization of the Morro Bay Power Plant. 2002.

Invited speaker at Tarzana Hospital. 2003.


Interview with KPCC/Public Radio on the state of rocky intertidal resources in Santa Monica Bay, in association with the Santa Monica Bay Restoration Commission’s State of the Bay conference. 2005.

Interview with KPCC/Public Radio on human impacts on rocky intertidal resources in Santa Monica Bay. 2005.

Quoted in Ventura County Star on the state of marine resources in southern California. 2005.
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Interview with LA Times on the state of wetlands in Louisiana with respect to the damage caused by Hurricane Katrina. 2005.


Interview with Science magazine on Supreme Court decision regarding the Clean Water Act and the U.S. Army Corps of Engineers’ jurisdiction over wetlands. 2006.

Interview with LA Times on the acquisition and restoration of the Los Cerritos wetlands. 2006.

Guest on live radio show (KPCC/Public Radio) with Patt Morrison discussing Bolsa Chica Wetland restoration project. 2006.

Interview with KPCC/Public Radio on Ballona Wetlands restoration project. 2006.

Interview with KPCC/Public Radio on the predicted effects of increased population in southern California on rocky intertidal resources (“Environmental Stresses Grow as the Population Does”). 2006.


Interview with Environmental Science and Technology on U.S. EPA and Army Corps of Engineers Guidance document on U.S. Supreme Court Rapanos decision. 2007.

Interview with KTLA television news on the risks of building in California based on the then-widespread wildfires. 2007.

Interview with San Francisco Chronicle on the long-term ecological effects of the 58,000 gallon spill of bunker oil in San Francisco Bay. 2007

Interview with UCLA’s Daily Bruin on global climate change. 2008.

Interview with San Diego Union-Tribune on the Wheeler North Reef, an artificial reef constructed off San Diego County as mitigation for the marine environmental impacts of the San Onofre Nuclear Generating Station. 2008.

Interview with KFWB radio on the ecological effects of the fuel oil spill in Uruguay. 2008.


Interview with KFWB radio on Governor’s Schwarzenegger’s participation in the Governors’ Global Climate Summit. 2008
PUBLICATIONS

A. PEER-REVIEWED PAPERS

Published


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Peer-reviewed Papers – In Press


B. BOOKS


C. CHAPTERS OR SECTIONS IN BOOKS


D. NON-PEER-REVIEWED JOURNAL ARTICLES AND PROCEEDINGS


E. TECHNICAL REPORTS


F. ABSTRACTS


G. OTHER PUBLICATIONS

Manuals


Doctoral Dissertation


General Publications


Curriculum Vitae

MICHAEL D. COLLINS
Social Security No.: 325-44-0679
Email: mdc@ucla.edu

Education:

Children's Hospital Research Foundation, Cincinnati, OH
Harvard University
Ph.D. in Civil Engineering
Postdoctoral Fellowship in Teratology 1984-1987
1982-1984

University of Missouri-Columbia
Ph.D. in Civil Engineering
M.S.P.H.
1982
1981

University of Illinois-Urbana
M.S. in Environmental Engineering
1977

University of Illinois-Urbana
Law School (No degree)
1971-1972

University of Illinois-Urbana
B.S. in Aeronautical and Astronomical Engineering
1971

Academic Appointments:

Associate Scientist, California Institute of Technology (2008-present)
Professor, Department of Environmental Health Sciences, Interdepartmental Program in Molecular Toxicology, Jonsson Cancer Center and Interdepartmental Program in Environmental Science and Engineering, School of Public Health, University of California at Los Angeles (2002-present).
Faculty, Center for Occupational and Environmental Health, University of California at Los Angeles (1993-present)
Associate Director of Student Affairs, Interdepartmental Program in Molecular Toxicology, University of California at Los Angeles (2000-present).
Associate Professor, Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles (1995-2002).
Assistant Professor, Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles (1993-1995).
Faculty, Environmental Science and Engineering Interdepartmental Program, University of California at Los Angeles (1994-present)
Research Assistant Professor of Pediatrics, Department of Pediatrics, College of Medicine, University of Cincinnati (1988-1993).
Research Instructor of Pediatrics, Department of Pediatrics, College of Medicine, University of Cincinnati (1986-1988).
Research Fellow, Children's Hospital Research Foundation, Cincinnati, Ohio in Teratology (1984-1987).
IPH Fellow, Harvard School of Public Health; laboratory associations with the Embryology-Teratology Unit of Massachusetts General Hospital, the Department of Nutrition and Food Sciences at the Massachusetts Institute of Technology and with the Department of Population Sciences, HSPH (1982-1984).

Research Associate, Department of Civil Engineering, University of Missouri-Columbia (1979-1982).

Research Associate, Cancer Research Center, Ellis Fischel State Cancer Hospital, Columbia, Missouri (1979-1982).

Research Assistant, Environmental Health Surveillance Center, Department of Family and Community Medicine, University of Missouri-Columbia (1979-1982).

**Doctoral Students Mentored:**

Hovland, Jr., David N. (1999); Scientist, Amgen, Thousand Oaks, California

Mao, Gloria E. (1999); Senior Scientist, Nutrilite, Los Angeles, CA

Machado, Antonio (Tony) F. (2002); Assistant Professor, Department of Environmental and Occupational Health, California State University at Northridge, CA.

Lee, Grace Sangeun (2005); Study Director. Schering-Plough, Lafayette, New Jersey.

Martin, Lisa J. (2007); Postdoctoral fellow in the laboratory of Dr. Aldons J. Lusis, Department of Medicine, University of California at Los Angeles, Los Angeles, CA.

Elsaid, Ahmed (2007); Assistant Professor, Zagazig University, Egypt.

Liao, Xiaoyan (2007); Postdoctoral fellow in the laboratory of Dr. Farhad Parmani, Department Of Medicine, University of California at Los Angeles, Los Angeles, CA

**Postdoctoral Fellows Mentored:**

Chen, Haiyan (2002-2005) Ph.D. Nanjing Medical University, Nanjing, China. Instructor, University of Alabama at Birmingham, AL.

Khaled Korieam (2007-2008)

**Academic Awards:**


Best paper in reproductive and developmental toxicology in *Toxicological Sciences*, Society of Toxicology (2008)

Visiting Professor, Nanjing Medical University, Nanjing, China (2004)

Delta Omega Society, Iota chapter (Public Health Honors Society)(2004)


NIEHS Traineeship in Teratology through Children's Hospital Research Foundation, Cincinnati, Ohio (1984-1987)

IPH Fellowship Award through Harvard University (1982-1984)

Ninth Annual Area of Microbiology Student Research Award through the University of Missouri (1981)
EPA Traineeship through the University of Illinois (1974)

Professional Organizations:

Teratology Society
Southern California Chapter of the Society of Toxicology

Service Experience:

Invited lectures/presentations:


University of Texas School of Public Health, San Antonio, TX, "Teratogenicity of carboxylic acids: Possible relationship to embryonic intracellular pH," 1986.


Department of Pediatrics, University of Cincinnati School of Medicine, Cincinnati, OH, "Diabetic embryopathy," March 1994.

Genetic and Environmental Toxicology Association, Fall Meeting, Oakland, CA, "Retinoid teratology," November 1994.
Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles, CA, “Perturbations of the retinoid pathway as a mechanism of teratogenesis,” December 1994.


Department of Community and Environmental Medicine, University of California at Irvine, CA, “Teratogenesis of retinoids,” October 1995.

Department of Pathology (Grand Rounds), University of California at Los Angeles, CA, “Perturbations of developmental processes by retinoids,” January 1996.


Department of Obstetrics and Gynecology, Università "G. d'Annunzio, Chieti, Italy "A whole genome scanning approach to identify chromosomal loci responsible for a murine strain difference in cadmium-induced limb defects," September 2000.

Public forum in Glendale, California sponsored by Congressman Adam Schiff, NIEHS and NIH. “Aspects of chromium toxicity”, January 2002.


Department of Molecular, Cellular and Craniofacial Biology, School of Dentistry, University of Louisville, Kentucky, “Approaches for explaining murine strain differences in teratogenesis”, December 2004.

Department of Environmental and Occupational Health, School of Public Health, University of Washington, Seattle, WA, “”, May 2006


Reviewer:

Reviewer of manuscripts for *Teratogenesis, Carcinogenesis and Mutagenesis, Molecular Toxicology, Teratology, Environmental Health Perspectives, Toxicology and Applied Pharmacology, Life Sciences, Drug Metabolism and Disposition, Neurotoxicology and Teratology, Journal of Cellular Biochemistry, Pharmacological Research, FASEB Journal, Pharmacogenomics, Toxicological Sciences, Diabetologia, Birth Defects Research, Reproductive Toxicology, Chemical Research in Toxicology, Fertility and Sterility, Physiological Genomics, Biochimica et Biophysica Acta Molecular Cell Research.*

Reviewer of grants for the British Columbia Health Research Foundation.


Reviewer of graduate student research proposals for the Center for Environmental Risk Reduction (1997).

Reviewer of proposals for the NIEHS-funded Southern California Environmental Health Science Center directed by Dr. John Peters (2004).

Reviewer of proposals for the Israel Science Foundation (2004)

Reviewer of proposals for the Maryland Sea Grant Proposals (2004)

Reviewer of a textbook for Jones and Bartlett (2005)

Reviewer of the Reproductive and Developmental Toxicology Division/Laboratory of the United States Environmental Protection Agency, Research Triangle Park, NC (2006)


Reviewer (ad hoc) Environmental Health Sciences Review Committee, NIEHS, Research Triangle Park, North Carolina (2007)

Reviewer (ad hoc) of the Developmental and Reproductive Toxicology of Cadmium for the National Toxicology Program, NIEHS, Research Triangle Park, North Carolina (2007)

Reviewer (ad hoc) for Developmental Biology Study Section of NIH, San Francisco, CA (2008)

Reviewer (ad hoc) for R13 Meeting Grants for NIH (2008)

Editorial Activities:

Section editor for the molecular development and genetics section of *Teratology* (2000-2002).

Session Chairperson:


Co-Chaired session entitled “Retinoids” at the 37th Annual Meeting of the Teratology Society in Palm Beach, Florida in 1997.

Co-Chaired and organized a March of Dimes-Sponsored Symposium entitled "Genetic susceptibility to teratogenesis" in Palm Beach, Florida in 2000.

Committee Work:

Department of Environmental Health Sciences MPH Examination Committee (1995-1997, 1999)
Department of Environmental Health Sciences Space Committee (1995-2000)
Department of Environmental Health Sciences Academic Policy and Procedures Committee (1997-2000).
Department of Environmental Health Sciences Recruitment and Alumni Committee (Chair, 1999- 2004; member, 2004-present)
Secretary of the School of Public Health Faculty Executive Committee (1994).
School of Public Health Faculty Executive Committee, Department of Environmental Health Sciences representative (1998-present).
School of Public Health Equipment and Laboratory Committee (1994-1998; Chair 1995-1996)
UCLA Committee to establish an Interdepartmental Program in Molecular Toxicology (1997-2000).
Teratology Society, Education Committee (1997-2000),
Teratology Society, Student Affairs Committee (2000-2001; 2002-present; Chair in 2005).
Teratology Society, Ad hoc Committee on Bioinformatics in Teratology (2004-present)
Teratology Society, Publications Committee (2005-present; Chair 2006-2007)
School of Public Health Outreach Committee (1997-1999).

Teaching Experience:

Teratology, Nanjing Medical University, Nanjing, China: 2004
Techniques in murine whole embryo culture, National Polytechnic Institute, Mexico City, Mexico: 2000
Toxicology module of Fundamentals of Environmental Health Sciences, UCLA: 1998
Teratology, CINVESTAV, Mexico City, Mexico: 1997
Fundamentals of Biology, University of Cincinnati: 1992, 1993
Lectured in Developmental Biology, University of Cincinnati: 1992
Lectured in Fundamentals of Environmental Toxicology, University of Cincinnati: 1991
Health Aspects of the Environmental, Family and Community Medicine 415, Univ. of Missouri: 1982
Environmental Health Engineering, Civil Engineering 301/401, Univ. of Missouri: 1980, 1982

Consulting Experience:

Member of the UCLA Independent Belmont Commission to the Los Angeles Unified School District (Principal investigator: Dr. Philip Harber) for the purpose of evaluating issues of toxicology and risk assessment for the Belmont Learning Complex (1999).
Peer Reviewer for the U.S. Environmental Protection Agency’s Reproductive Toxicology Division, Research Triangle Park, North Carolina (2006)
Internal Evaluator, Teratology Society Strategic Planning Session, San Diego, CA (2007)

Grants:

NIH R23-ES04402, "Neural tube defects induced by anions via increased intracellular pH"
Principal Investigator: M.D. Collins
Percent effort: 95%
Total Direct Costs: $342,275
Project Period: 7/1/87-6/30/93

Institutional Biomedical Research Support Grant (BRSG), "Maternal versus embryonic factors in the teratogenic response of inbred strains to all-trans retinoic acid"
Principal Investigator: M.D. Collins
Percent effort: 5%
Total Direct Costs: $15,000
Project Period: 4/1/88-3/31/89

Mitre Corporation Project, "Antioxidant protection from hydroxyurea-induced embryotoxicity in whole embryo culture"
Principal Investigator: M.D. Collins
Percent effort: 5%
Total Direct Costs: $8,000
Project Period: 7/1/91-6/30/92

Perinatal Research Institute, Program Project Grant IV on Diabetes in Pregnancy Mini-Grant Proposals, "Development of a murine model for diabetic embryopathy"
Principal Investigators: M.D. Collins and E.F. Zimmerman
Percent effort: 5%
Total Direct Costs: $5,000
Project Period: 10/1/92-10/1/93

Institutional Biomedical Research Support Grant (BRSG), "Retinoid nuclear receptors during normal and abnormal murine neural tube closure"
Principal Investigator: M.D. Collins
Percent effort: 5%
Total Direct Costs: $15,000
Project Period: 1/1/93-9/30/93

NIH T32 ES07051, "Training grant in teratology"
Principal Investigator: W.J. Scott, Jr.
Percent effort: 5%
Total Direct Costs: $693,324
Project Period: 7/1/92-6/30/97 (however, Collins departed at the end of 1993)

UCLA Academic Senate, "Development of a murine model for diabetic embryopathy"
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $3591.90
Project Period: 1/1/94-6/30/94

California EPA, "Non-carcinogenic toxicologic endpoints for seven chemicals: A literature review"
Principal Investigator: J. Froines
Percent effort: 10%
Total Direct Costs: $78,137
Project Period: 4/30/94-10/30/94

California EPA, "Literature search for hot spot chemicals from the Office of Environmental Health Hazard Assessment (OEHHA), Air Toxicology and Epidemiology Section"
Principal Investigator: M. Collins
Percent effort: 10% for 9 months and 26% for 3 months
Total Direct Costs: $136,487
Project Period: 11/1/94-9/30/95

Nestle Westreco, "Micronutrients and cancer prevention"
Principle Investigator: M. Swendseid
Percent effort: 5%
Total Direct Costs: $14,000
Project Period: 3/1/94-2/28/95

UCLA Academic Senate, “An animal model for the induction of neural tube defects by folate deficiency”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $3850
Project Period: 7/1/95

UCLA Center for Environmental Risk Reduction, “Reducing arsenic-induced embryopathy: A mechanistic approach”
Principle investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $37,500
Project Period: 9/1/96-8/31/99

Juvenile Diabetes Foundation International, “Neural tube defects from diabetes in Pax-3 mouse mutant”
Principle investigator: M. Collins
Percent effort: 10%
Total Direct Costs: $90,910
Project Period: 9/1/96-2/1/99

Fogarty International Center/NIH, “UCLA-Mexico collaborative training and research program”
Principle investigator: J. Froines
Percent effort: 0%
Total Direct Costs: $566,800
Project Period: 9/30/95-9/29/00

Southern California Environmental Health Sciences Center/NIEHS, “Identification of genetic loci associated with murine strain differences in susceptibility to Cd-induced limb malformations”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $15,052
Project Period: 10/1/96-3/31/97

Univ. of California Toxic Substances Research and Teaching Program (TSR&TP), “An Evaluation of the peer-reviewed research literature on human health, including asthma and environmental effects, of MTBE”
Principle Investigator: J. Froines
Percent effort: 8.3%
Total Direct Costs: $114,000
Project Period: 1/1/98-10/31/98

U.S. Environmental Protection Agency, Science to Achieve Results (STAR) Fellowship, “The role of retinoic acid receptors RAR-beta and RAR-gamma during normal and abnormal neural tube closure”
Principle Investigator: G. Mao
Percent effort: 0%
Total Direct Costs: $53,004
Project Period: 9/1/98-8/30/00

Southern California Environmental Health Science Center/NIEHS, “Fine mapping the murine cdm gene via a C57BL/6 and DBA/2 strain intercross”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $15,703
Project Period: 5/1/99-4/30/00

UCLA Academic Senate, “Fine mapping of a gene determining susceptibility to cadmium toxicity”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $3000
Project Period: 7/1/99-6/30/00

Univ. of California Toxic Substances Research & Teaching Program (TSR&TP), “Identification of chromosomal loci associated with murine strain differences in cadmium-induced congenital malformations”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $50,000
Project Period: 7/1/99-9/30/01

State of California, Office of Environmental Health Hazard Assessment (OEHHA), "Focused literature search for 13 chemicals to include: acrolein, chlorine, acetaldehyde, carbon tetrachloride, methanol, vinyl chloride, methyl chloroform, phosphine, 1,4-dichlorobenzene, methyl ethyl ketone, propylene oxide, n-hexane, and carbon disulfide"
Principle Investigator: M. Collins
Percent effort: 10%
Total Direct Costs: $32,800
Project Period: 4/1/00-12/31/00

University of California Toxic Substances Research and Teaching Program (TSR&TP), “UCLA/UC Riverside/Los Alamos consortium in research and training in mechanisms of toxicity”
Principle Investigator: O. Hankinson  
Percent effort: 0%  
Total Direct Costs: $882,000  
Project Period: 7/1/00-6/30/08.

National Institute of Environmental Health Sciences (NIH), "Murine strain sensitivity to cadmium teratogenesis"
Principle Investigator: M. Collins  
Percent effort: 30% effort for 9 months, 67% effort for 3 months  
Total Direct Costs: $1,000,000  
Project Period: 4/1/01-3/30/07

Center for Inherited Disease Research (CIDR)/NIH, “Identification of genetic loci associated with differential sensitivity of two inbred murine strains to all-trans-retinoic acid-induced congenital malformations”
Principle Investigator: M. Collins  
Percent effort: 0%  
Total Direct Costs: 0 (Genotyping provided by the agency)  
Project Period: 4/1/02-2/1/03

University of California Toxic Substances Research &Teaching Program, “Interactions between cadmium and arsenite in the production of birth defects”
Principle Investigator: J. Fukuto  
Percent effort: 0%  
Total Direct Costs: $150,000  
Project Period: 7/01/02-6/30/04

National Institute of Environmental Health Sciences (NIH), “Cadmium teratogenesis in murine strains: Proteomics”
Principle Investigator: M. Collins  
Percent effort: 10% for 9 months, 33% for 3 months  
Total Direct Costs: $275,000  
Project Period: 9/1/02-8/31/04

Southern California Particle Center and Supersite (funded by the US EPA with John Froines as the PI) “Developmental toxicity of components of air contamination”
Principle Investigator: M. Collins  
Percent effort: 0%  
Total Direct Costs: $29,263  
Project period: 9/01/03-8/31/04

National Institute of Environmental Health Sciences (NIH), “2005 Teratology Society Meeting”
Principal Investigator: M. Collins  
Percent effort: 0%  
Total Direct Costs: $5000
Project period: June 2005

Jonsson Comprehensive Cancer Center Ann Fitzpatrick Alper Program (UCLA), “Epithelial to mesenchymal transition as a mechanistic component of cadmium-induced carcinogenesis”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $20,000
Project period: 04/01/05-3/31/06

National Institute of Environmental Health Sciences (NIH), "2006 Teratology Society Meeting"
Principal Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $15,000
Project period: June 2006

UCLA Academic Senate, “Antagonism of all-trans-retinoic acid-induced teratogenesis by up-regulation of the Ha-ras oncogene in a murine model”
Principle Investigator: M. Collins
Percent effort: 0%
Total Direct Costs: $6000
Project period: 7/01/05-6/30/07

Peer Reviewed Articles:


(18) Tzimas, G., H. Bürgin, M.D. Collins, H. Hummler and H. Nau. The high sensitivity of the rabbit to the teratogenic effects of 13-cis-retinoic acid (isotretinoin) is a consequence of prolonged exposure of the embryo to 13-cis-retinoic acid and 13-cis-4-oxo-retinoic acid,


Abstracts:


Caudill, M., J. Wang, M. Collins, M. Swendseid, J. Santos, I. Pogribny, S. McInyk, and J. James. Alterations in S-adenosylhomocysteine (SAH) and DNA hypomethylation in tissues from mice


Chapters and Invited Papers:


Collins, M. and M. Schenker. The alteration of susceptibility to neoplasia induced by cigarette smoke exposure. In: Variation in Susceptibility to Inhaled Pollutants--Identification,


Curriculum Vitae

Curtis D. Eckhert, Ph.D.
Department of Environmental Health Sciences
University of California Los Angeles, CA 90024-1772
cleckhert@ucla.edu; (310) 825-8429

Education

1962-66 B. S., Westminster College
1969-71 M.S., University of Arizona
1971-74 Ph.D., Cornell University

Professional Appointments

1974-75 Postdoctoral Scholar, neurochemistry, Cornell University, Ithaca, NY
1975-77 NIH Postdoctoral Fellow, inorganic biochemistry and development, University of California, Davis, CA
1977-79 National Eye Institute Fellow, visual sciences, Stanford University, Stanford, CA
1979-83 Assistant Professor, Division of Environmental and Nutritional Sciences, School of Public Health, University of California, Los Angeles, CA
1983-91 Associate Professor, School of Public Health, University of California, Los Angeles, CA
1991-present Professor, Department of Environmental Health Sciences, University of California, Los Angeles, CA

Administrative Positions

1987-92 Division Head, Nutritional Sciences, School of Public Health, University of California, Los Angeles, CA
1989-90 Co-Director of the Nutrition Education Core for the UCLA Clinical Nutrition Research Unit
1990-92 Director of the Nutrition Education Core for the UCLA Clinical Nutrition Research Unit
1994-97 Vice-Chair, Department of Environmental Health Sciences, School of Public Health, University of California, Los Angeles, CA
1998-2007 Chair, Department of Environmental Health Sciences, School of Public Health, University of California, Los Angeles, CA
2002-2006 Member, Executive Committee, University of California Toxic Substances and Training Program
2003-2006 Chair, Executive Committee, University of California Toxic Substances and Training Program
2004-present Associate Director, Molecular Epidemiology and Division of Cancer Prevention and Control UCLA Jonsson Comprehensive Cancer Center
2000-present Member Executive Committee UCLA TSR&TP Lead Campus in Molecular Toxicology
2006-present Associate Director, California NanoSystem’s Institute’s Nanotoxicology Training Program
2006-present Member Executive Committee UCLA’s UCTSR&TP’s Lead Campus in Nanotoxicology
Honors and Special Recognition

Professor of the Year - Public Health Student’s Association 2002
Professor of the Year - Public Health Student’s Association 2001
Distinguished Teaching Award - The Public Health Students Association 1999
Visiting Professor, School of Medicine, Ain Shams University, Cairo, Egypt
Delta Omega
Phi Lambda Upsilon (chemistry honor society)
Phi Sigma Tau (international honor society in philosophy)
Sigma Xi

Professional Societies (active 2009)

American Chemical Society
American Society of Nutrition
American Physiological Society
American Association for the Advancement of Science

Service to Scholarly Journals

Editorial Board, Drug-Nutrient Interactions, 1982-1989

Reviewer of Research Articles for the following journals:
Analytical Biochemistry
Analytical Chemistry
Biochemistry
Biochimica et biophysica acta
Biochemical and biophysical research communications
Biotechnology Progress
Current Eye Research
Drug-Nutrient Interactions
Ethology and Sociobiology
Experimental Eye Research
Experimental Neurology
FASEB
Fertility and Sterility
Investigative Ophthalmology & Visual Sciences
Journal of Clinical Nutrition
Journal of Lipid Research
Journal of Mass Spectrometry
Journal of Nutrition
Life Sciences Journal
Lipids
Trace Elements and Metabolism
Toxicology and Cell Biology

National and International Public Advisory Activities (up to 1999)

Member 1984, Postdoctoral Fellowship Award Committee, American Institute of Nutrition.

Member 1985 Workshop on Diet and Health, United States Department of Agriculture.

Study Section Panel Member 1989, Competitive Research Grants Program, Human Nutrition Program, United States Department of Agriculture.

Panel Member 1989, American Institute of Nutrition Rodent Diet Composition Workshop; Chair, Group on Fat Soluble Vitamins.

External Examiner 1989, Doctoral Dissertation, Department of Chemistry and Biochemistry, Rhodes University, South Africa. (1st black to obtain Ph.D. in field of biochemistry in South Africa).


Member 1999, Advisory Committee on Nutrition of the Fighting Blindness Foundation.

State and Local Public Advisory Activities


Panel Member 1984, 35th Annual Los Angeles County Science Fair. Subcommittee for Biochemistry, Board of Education, Los Angeles County School District.


Panel Member 1989, Committee for Advanced Science Training, Los Angeles County Museum of Science and Industry.

Panel Member 1989, Committee for the State Science Fair. Subcommittee for Biochemistry, California State Board of Education.

Panel Member 1989, Committee for the 40th Annual Los Angeles County Science Fair. Subcommittee for Biochemistry, Board of Education, Los Angeles County School District.

Panel Member 1990, Committee for Advanced Science Training, Los Angeles County Museum of Science and Industry.

Panel Member 1990, Committee for the State Science Fair. Subcommittee for Biochemistry, California State Board of Education.

Panel Member 1991, Committee for the 42th Annual Los Angeles County Science Fair. Subcommittee for Biochemistry, Board of Education, Los Angeles County School District.

Panel Member 1991, Committee for the State Science Fair. Subcommittee for Biochemistry, California State Board of Education.

Panel Member 1992, Committee for Advanced Science Training, Los Angeles County Museum of Science and Industry.

Panel Member 1992, Committee for the State Science Fair. Subcommittee for Biochemistry, California State Board of Education.

Panel Member 1993, Committee for Advanced Science Training, Los Angeles County Museum of Science and Industry.

Panel Member 1993, Committee for the State Science Fair. Subcommittee for Biochemistry, California State Board of Education.


Professional Consultant

Nutritional Consultant 1982-88, Marineland of the Pacific, Rancho Palos Verdes, CA (designed and formulated infant formula for killer whales)

Department of Clinical Diabetes, Endocrinology & Metabolism, City of Hope National Medical Center, Duarte, CA

Doheny Eye Foundation, University of Southern California

Cullen Eye Institute, Baylor College of Medicine, Houston, Texas

Advanced Aquatic Systems (technical consultant)

Member of Scientific Advisory Board, Biovet, Inc.

Current Research Support

PI(s): Andre Nel (PI), Curtis Eckhert (Co-PI)
Source: UC Toxic Substances, Research and Training Program (funding)
California NanoSystems Institute (administrator)
Amount: 1,250,000
Period: 07/01/06 – 06/30/13
Title: UCLA and UCSB Lead Campus in Nanotoxicology
Objectives: Training program in nanotoxicology: To train doctoral students in engineering, chemistry, molecular toxicology and others in the development of methods to evaluate the safety of nanomaterials and test products currently under development or in commerce.

Research Problem
The Safe Drinking Water Act requires the EPA to identify and regulate contaminants. Among the chemicals selected for EPA’s first Chemical Contaminant List (CCL1) in 1998 was the element boron (B). Most environmental health research is focused on negative attributes of the environment. However, B has the interesting characteristic of being a mammalian reproductive toxin at high levels, but required by plants for growth, flowering and seed formation at low levels. Dr. Eckhert developed a sensitive model to determine if low as well as high concentrations had adverse consequences for zebrafish and trout. The outcome showed they did with the dose response describing an inverted U shape typical of a fat soluble vitamin. Low concentrations were essential for post-fertilization cleavage and formation of blastula while high concentrations caused growth stunting. Dr. Eckhert then teamed with Dr. Zuo-Feng Zhang, a cancer epidemiologist to use epidemiological methods as a screening tool to uncover B related health effects in the NHANES database. They discovered the risk of prostate cancer diminished as exposure to B increased. Four population studies by Dr. Eckhert and others have now reported that B lowers the risk of cervical dysplasia, lung and prostate cancer. The biological plausibility of these observations has been supported by work in his other laboratories using animal and human prostate cell models.

Identical twin studies in Scandinavia quantified the environmental component of risk of most major forms of cancer to be greater than 60%. In the words of the National Cancer Institute: “There is a profound difference in the incidence and outcomes of cancer in various populations. Efforts are needed to better understand the genetic and environmental mechanisms behind these differences so that they can be prevented and more effectively treated.” Examination of cancer risk and the geological distribution of B suggest it may explain part of this great cancer disparity puzzle. The Eckhert laboratory is currently working to elucidate molecular mechanisms that underpin the chemopreventative effect of physiological levels of B. Their approach involves: (1) characterization of complexes formed between B and endogenous biomolecules; (2) localization of the site of B in human cells and tissues; and (3) determination of how B inhibits tumor growth and cell proliferation without causing cell death. This work involves the use mass spectrometry to characterize B complexes and collaboration with colleagues at Lawrence Livermore National Laboratory’s NanoSIMS Laboratory to localize the subcellular site of B. The molecular mechanism of B’s anti-proliferative effect is studied by isolation of molecular targets and evaluation of their structure and binding affinities. The functional activity of isolated molecular targets of B is evaluated using antiproliferation assays and confocal imaging measurements in live cells. The goal is to develop strategies based on B to prevent and control the progression of cancer.
Bibliography

Research Papers


29. Buchman, A. L., Dubin, M., Jenden, D., Moukarzel, A., Roch, M. H. Rice, K.,


47. Barranco WT, Hudak PF and Eckhert CD. Evaluation of ecological and in vitro effects of boron on prostate cancer risk; Publisher Erratum Figure 1. *Cancer Causes Control.* 18:71-77, 2007. Publisher Erratum Figure 1. *Cancer Causes Control.* 18:583-584, 2007.


49. Henderson K, Eckhert CD. Receptor activated Ca$^{2+}$ release is inhibited by boric acid in human prostate cancer cells. *Plos One* Accepted pending revision.

**Chapters**


Abstracts


15. Eckhert, C. D. and Martner, P. M. Uptake of oxygen in RPE cells challenged with


61. Barranco W.T. and Eckhert C.D. Boric acid induced dose dependent growth


CURRICULUM VITAE

John R. Froines, Ph.D.

I. PERSONAL PARTICULARS

Academic Title: Professor
Department of Environmental Health Sciences
UCLA School of Public Health

Director
UCLA Center for Occupational and Environmental Health

Business Address: University of California, Los Angeles
School of Public Health
Los Angeles, CA 90024-1772
Telephone: (310) 206-6141
Fax: (310) 206-9903

II. ACADEMIC INTERESTS


III. EDUCATION

Ph.D. Physical-Organic Chemistry Yale University 1967
M.S. Physical-Organic Chemistry Yale University 1964
B.S. Chemistry University of California (Berkeley) 1963
IV. PROFESSIONAL AND ACADEMIC EXPERIENCE


1968 – 1970 Assistant Professor – Physical Chemistry, University of Oregon

1970 – 1972 Self-employed – Lecturer

1972 – 1974 Professor of Chemistry, Goddard College, Plainfield, Vermont

1974 – 1977 Director, Division of Occupational and Radiological Health, Vermont Health Department, Barre, Vermont.

Concurrently served in the following:

- Adjunct Associate Professor of Community Medicine, Dartmouth Medical School
- Assistant Professor of Epidemiological and Environmental Health, University of Vermont Medical School
- Consultant in Occupational Health to the Harvard School of Public Health
- Director, Occupational Lung Disease Program of the Vermont Lung Center

1977 – 1979 Director, Office of Toxic Substances Standards, Occupational Safety and Health Administration, Washington, D.C.

1979 – 1981 Deputy Director of National Institute for Occupational Safety and Health, Rockville, Maryland

1981 – 1986 Acting Associate Professor, Division of Environmental and Occupational Health Sciences, UCLA School of Public Health

1986 – Present Professor, Department of Environmental Health Sciences, UCLA School of Public Health

1989 – Present Director, UCLA Center for Occupational and Environmental Health Sciences, UCLA School of Public Health

1994 – 1998 Chair, Department of Environmental Health Sciences, UCLA School of Public Health

1995 – 2000 Director, UCLA Pollution Prevention Education and Research Center (PPERC)
<table>
<thead>
<tr>
<th>Year Range</th>
<th>Position</th>
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<tbody>
<tr>
<td>1999 – Present</td>
<td>Director, Southern California Particle Center and Supersite</td>
</tr>
<tr>
<td>2003 – 2007</td>
<td>Director, Centers for Environmental Quality and Health, UCLA School of Public Health</td>
</tr>
<tr>
<td>2003 to Present</td>
<td>Director, Asthma and Outdoor Air Quality Consortium Advisory Board, SCAQMD</td>
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<tr>
<td>2008 to Present</td>
<td>Director, Sustainable Technology Policy Program</td>
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**V. PROFESSIONAL APPOINTMENTS AND COMMITTEE SERVICE**

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Committee/Position</th>
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<tbody>
<tr>
<td>1975 – 1976</td>
<td>Chairman, New England Radiological Committee, Vermont Health Department</td>
</tr>
<tr>
<td>1980</td>
<td>American Lung Association Committee, Occupational Lung Disease</td>
</tr>
<tr>
<td>1980 – 1981</td>
<td>Advisory Committee on Occupational Health, International Association of Firefighters</td>
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<td></td>
<td>Director of Branch Development, American Cancer Society</td>
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<td></td>
<td>Board of Directors, American Industrial Hygiene Association, Los Angeles Section</td>
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<tr>
<td></td>
<td>Advisory Committee, UCLA Preventive Medicine Residency Program</td>
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<td></td>
<td>UCLA Legislative Senate</td>
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<td></td>
<td>Committee on International Health, American Public Health Association</td>
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<tr>
<td></td>
<td>Committee on Biological Monitoring in the Workplace, American Industrial Hygiene Association</td>
</tr>
<tr>
<td></td>
<td>Vice President of American Cancer Society, Los Angeles Coastal Cities Unit</td>
</tr>
<tr>
<td>1983 – Present</td>
<td>Chairman, Scientific Review Panel, California Air Resources Board</td>
</tr>
</tbody>
</table>
1985 – 1987  Advisory Committee on Hazardous Waste Reduction, Office of the Mayor, City of Los Angeles

Advisory Committee on Hazardous Waste Materials Data Management, Agency for Environmental Affairs, State of California


1986 – 1988  Faculty Executive Committee (FEC), UCLA School of Public Health

Advisory Board for Toxic & Hazardous Materials Program, UC Extension

UCLA Project on US – Mexico Socioeconomic, Environmental and Technological Relations

1988 – 1989  Advisory Committee on Risk Assessment, South Coast Air Quality Management District

Blue Ribbon Commission on Casmalia Hazardous Waste Site, Santa Barbara County

NIOSH Surveillance Task Force

UCLA Project on US – Mexico Socioeconomic, Environmental and Technological Relations

Board of Directors (Acting), National Science Foundation Engineering Research Center on Hazardous Waste

1989 – 1991  Search Committee, Occupational Toxicology Faculty, Environmental Health Sciences, UCLA School of Public Health

1990  Planning Committee, Public Health in the 1990’s, Statewide Conference – Western Consortium for Public Health and Department of Health Services

1990 – 1992  MPH Comprehensive Exam Committee, Environmental Health Sciences, UCLA School of Public Health

Sub Committee of EPCC on Degree Requirements and Curriculum, UCLA School of Public Health
Seminar Committee, Environmental Health Sciences, UCLA School of Public Health

Search Committee for Occupational Epidemiology Faculty, UCLA School of Public Health

1990 – 1992

Search Committee for Occupational Medicine Faculty, UCLA School of Public Health

Taskforce on Toxic Use Reduction, UCLA School of Public Health and School of Architecture and Urban Planning

Source Reduction Working Group, Toxic Substances Research & Teaching Program, UC Davis

Advisory Committee, USC-UCLA Joint Residency in Occupational Medicine

1991 – 1992

Proposition 65 Review Committee, California EPA

Advisory Committee, California Department of Health Services Lead Project

Committee to Implant AB 1430 – Toxic Use Reduction

Committee to establish collaborative relationship on occupational and environmental health with Indonesia

Coordination of the Collaborative Agreement between the government of Mexico and UCLA COEH to provide training and conduct research on occupational and environmental health problems of border industries

Academic Policies and Procedures Committee, Environmental Health Sciences, UCLA School of Public Health

Ad Hoc Task Force to consider issues facing professional education at UCLA, Office of the Chancellor

Air Toxics Workshop Steering Committee, UCLA Center for Clean Technology

Key Leaders Committee, American Lung Association

Ad Hoc Expert Committee of the World Wildlife Fund, the Conservation Foundation; reviewed the EPA/OECD strategies on lead
1991 – 1994  Environmental Science Task Force of the state of California Department of Health Services

1991 – 1996  National Academy of Sciences Committee on Environmental Epidemiology

1992 – 1993  Computer Committee, School of Public Health, UCLA COEH


Human Health Sub Committee, California Comparative Risk Project, California EPA

County of Los Angeles Department of Health Services Advisory Committee to the Toxic Epidemiology Program’s Occupational Lead Education and Awareness Demonstration Project (OccLEAD Project)

Faculty Advisory Committee for the Program on Mexico, UCLA Latin America Center

1992 – 1995  Advisory Panel, OSHA’s Selection of Control Technologies and Assessment of Their Impacts and Costs, Office of Technology Assessment, Congress of the United States

1992 – 1996  B.K.K. Reproductive Outcome Study Scientific Advisory Committee, California Department of Health Services

Search for Division Director Committee, NIOSH, Hazard Effects Laboratory Division

1993 – 1994  External Review Committee, Department of Environmental and Biomedical Science, UC Berkeley School of Public Health

Computer Committee, School of Public Health, UCLA COEH

1993 – 1995  Environmental Studies Task Force, UCLA; Appointment by Vice Chancellor Andrea Rich

1993 – 1998  Environment, Safety and Health Panel of the UC President’s Council on National Laboratories


1994 – 1998  Faculty Council, UCLA School of Public Health
1994 – 1998  Advisory Committee, USC-UCLA Joint Residency in Occupational Medicine

1994 – 2000  Advisory Committee Member, UCLA Center for Health Policy Research

1994 – Present  Scientific Advisory Board, California EPA; Carcinogen Identification Committee for Proposition 65


1995 – 2001  Scientific Advisory Board Carcinogen Identification Committee, Office of Environmental Health Hazard Assessment, California EPA

1995 – Present  Principal Investigator, NIH Fogarty International Center, Training Program in Environmental Health

1995 - Present  Associate Director, NIEHS funded Southern California Environmental Health Sciences Center

1996 – 1998  Executive Committee, Institute of the Environment, UCLA COEH

1997 – 1998  UC Presidents’ Task Force on Flood Research and Outreach

1997 – 1998  Ad Hoc Committee on Redesign of the Core Department Environmental Health Course, UCLA Environmental Health Sciences

1997 – 1999  Federal Advisory Committee on Beryllium, Department of Energy

1998 – 1999  Space Committee, UCLA School of Public Health

1998 – Present  Committee Member, Childhood Lead Poisoning Prevention Program

1999 – 2000  Academic Policy and Procedures Committee, UCLA Environmental Health Sciences

1999 – 2000  Faculty Advisory Committee, UCLA Labor Center and the LOSH Program

1999 – 2002  Laboratory and Equipment Committee, UCLA School of Public Health
1999 – 2003  Board of Scientific Counselors, National Toxicology Program
1999 – Present  Clean Fuels Advisory Group, South Coast Air Quality Management District

Scientific Advisory Board, Center for Vulnerable Populations Research

2000 – 2001  Expert Panel on Diesel Exhaust Exposure Assessment, Navistar International Transportation Corp/Air Resources Board

2001 – 2002  Search Committee for Environmental Health Sciences faculty, UCLA School of Public Health

2001 – Present  California Work and Health Study Group Committee Member, Collaboration between UCLA and UCI

2002 – Present  Advanced Air Pollution Research Plan Steering Committee, South Coast Air Quality Management District

2002 - 2007  Institute of Medicine, Roundtable on Environmental Health Sciences, Research, and Medicine

2003 – Present  Chair, Asthma and Outdoor Air Quality Consortium Advisory Board, Southern California Air Quality Management District

Search Committee for Occupational and Environmental Medicine faculty, UCLA School of Public Health

2003  Environmental Policy Advisory Task Force, Office of Governor-Elect Arnold Schwarzenegger

2003 – 2006  Search Committee for Environmental Health Sciences Department Chair, UCLA School of Public Health

2004 – Present  SPH International Health Committee

2004 – Present  Chair, Internal Advisory Board for NIEHS Center for Gene Environment Studies in Parkinson Disease

2004 – Present  Member, External Scientific Advisory Committee, NIEHS Center for Environmental Health, Columbia University

2005 – 2006  SPH Seismic Safety Committee

2007 – Present  IOM/NRC Committee to review NIOSH HHE Program
2008 – Present  Member, LAUSD Advisory Committee on Siting of Schools in Proximity to Freeways

VI. CONSULTANCY

1981 – 1982  Consultant, Occupational Health and Safety Project of the Institute of Society, Ethics and Life Sciences, the Hastings Center

1982  Consultant to law firm on toxics litigation (Mobil Oil Company)

1982 – 1983  Consultant, Carcinogenicity of Formaldehyde, Department of Industrial Relations, State of California

1984  Consultant to California Assembly on pesticide use in Los Angeles

   Consultant to California Assembly on lead poisoning at Duraspan, Inc.

   Consultant to City of Santa Fe Springs, California on identification of toxic substances

   Consultant to City of Santa Monica, California on asbestos in the City Library

1985  Consultant to law firm on the BKK landfill

   Consultant to Rand Corporation

1986  Consultant to Moldex Metric, Inc.

   Consultant to Garb Oil Corporation

1987 – 1988  Consultant to Gibralter Savings

   Consultant to law firm on Proposition 65

1990 – 1991  Consultant to the City of Los Angeles, California on malathion spray

   Consultant to Heller, Erham, White and McAuliffe on groundwater contamination by perchloroethylene

   Consultant to the California Attorney General on ethylene oxide

1991 – 1994  Consultant to Heller, Erham, White and McAuliffe on BKK landfill

   Consultant to California OSHA on the implementation of SB 198

1993 – 1994 Consultant to the law firm of Cadwalader, Wickersham, and Taft on the use of bismuth as a replacement of lead in brass for plumbing fixtures

Expert and consultant to the Environmental Defense Fund on methylene chloride risk assessment

1994 - 2000 Chair, Editorial Board, Proposition 65 News

1996 Consultant to the law firm of Kazan, McClain, Edises, Simon & Abrams involving the case of Trotter vs. Trojan, the Solano County Department of Public Health, California OSHA, and the Reliance Insurance Company

1997 Expert to the Natural Resources Defense Council on lead and calcium.; Consultant to the Lockheed-Martin Corporation on chromium

Consultant to the City of Santa Monica on MTBE (methyl tertiary butyl ether)


1994 - 1997 Consultant to Heller, Ehrman, White and McAuliffe on the hazards associated with the BKK hazardous waste landfill

Consultant to the Eljer Corporation on lead and bismuth toxicology

1997 – Present Consultant to the Aluminum Company of America (ALCOA). Member of Alcoa’s Occupational Health Advisory Committee

2000 Expert to the California Attorney General on toxicity/carcinogenicity and risk assessment of the pesticide “captan”

2003 – 2006 Consultant to Weston, Benshoof, Rochefort, Rubalcava, McCuish, LLP regarding landfill risk assessment

VII. HONORS, AWARDS, FELLOWSHIPS

1963 Predoctoral – DuPont Teaching Fellowship

1964 Predoctoral – National Science Foundation Summer Fellowship
1964 – 1966  
*Predoctoral* – National Institutes of Health Predoctoral Fellowship

1966 – 1968  
*Postdoctoral* – National Institutes of Health Postdoctoral Fellowships

*Postdoctoral* – The Royal Institution of Great Britain. Research in biophysical chemistry under the direction of Nobel Laureate Professor George Porter

1968  
University of Oregon Biomedical Research Grant

Research Corporation Grant, Research on Photosynthesis, University of Oregon

American Chemical Society, Petroleum Research Foundation Starter Grant, type G, University of Oregon

1973  
Goddard College Faculty Renewal Grant, Goddard College

National Science Foundation Teaching Equipment Grant, Goddard College

1980  
Cash Award ($1,000) for “Sustained Superior Performance”, “Performance with Distinction and Integrity in Promoting the Principles of Occupational Safety and Health”, Public Health Service, Center for Disease Control

1999  
American Industrial Hygiene Association – Southern California Section, 1999 Technical Achievement Award

1999  
Coalition for Clean Air, 1999 Carl Moyer Award

2000  
The 26th Annual Lester Breslow Distinguished Lecture

2001  
Commendation from Governor Gray Davis on commitment to improving public health and the environment

2001  
Recognition of Service from Winston H. Hickox Agency Secretary, California Environmental Protection Agency

2002  
The Center for Community Action and Environmental Justice, *Dr. Zweig Community Health Advocate Award, 2002*

2009  
Commendation from the Public Health Research Center and Medical Health Research Network of the University of Hong Kong in recognition of valuable contributions to the research findings of airborne particulate matter
VIII. EDITORIAL SERVICE

Current:
Associate Editor, Environmental Health Perspectives
Editorial Board Member, Environmental Health Perspectives
Associate Editor, American Journal of Industrial Medicine
Reviewer, American Journal of Public Health
Reviewer, Cancer Epidemiology, Biomarkers and Prevention
Reviewer, Environmental Science and Technology
Reviewer, Journal of the National Cancer Institute
Reviewer, Public Health Reports
Reviewer, Environmental Research

Past:
Editorial Board Member, Occupational Hygiene
Contributing Editor, International Journal of Occupational Medicine and Environmental Health
Reviewer of Research Grants, March of Dimes, UCLA Jonsson Comprehensive Institute Cancer Center and California Policy Seminar
Reviewer, Child Development
Reviewer, Drug Metabolism Reviews
Reviewer, Environmental Research
Reviewer, Milbank Quarterly
Reviewer, Resources for the Future
Reviewer, Risk Analysis
Reviewer, Science
Ad Hoc Reviewer, NIH Study Section

IX. PRESENTATIONS

1980
Seminars:
Harvard School of Public Health
Harvard University, Kennedy School of Government
University of Pittsburgh, School of Public Health
University of Michigan
George Washington University Medical School
University of California, School of Public Health, Medical School
(Berkeley and San Francisco)

1980
Antioch School of Law

APHA Special Session
Title: Impact of Energy on Health

American Public Health Association (APHA) Annual Meeting
Title: The Regulation Crisis: Government Responsibility in Occupational Health
APHA Annual Meeting
Title: Reproductive Hazards in the Workplace

NIOSH International Respirator Research Workshop
Title: Innovation in Respirator Research

CIIT Conference on Formaldehyde Toxicity
Chair of Epidemiology Panel

ACGIH Symposium
Title: Dosimetry for Chemical and Physical Agents, Opening Address

Occupational Safety and Health Review Commission Judicial Conference
Banquet Speaker

President’s Forum, American Paper Institute
Title: NIOSH Research in the Paper Industry

Internal Molders and Allied Workers Annual Convention

US Commission of the European Communities, Seminar on Ambient and Biological Monitoring
Title: Advances in Occupational Health

American Chemical Society Annual Meeting
Title: Access and Disclosure of Medical Records

1981
UCLA – Swedish Conference on Occupational Safety and Health
Title: Directions in Occupational Health

1982
American Conference on Governmental Industrial Hygienists Meeting
Title: Industrial Hygiene at UCLA

APHA Western Regional Conference on Occupational Safety and Health
Title: Directions in Occupational Health

1982
International Chemical Workers Union, Western Regional Conference
Title: Occupational Cancer

1983
UCLA Institute of Industrial Relations Conference
Title: Stress

Federal Employees Occupational Safety and Health Meeting, Washington D.C
1984 American Occupational Medical Association
Title: Toxicologic Data and Regulation

The Environmental Improvement Division of the New Mexico Health and Environment Department
Title: Toxics in the Workplace, “Right-to-Know” and “Public Policy”

Federated Firefighters of California Occupational Health and Safety Section
Title: Firefighting and Occupational Cancer

1985 British Columbia Professional Firefighters Association Meeting
Title: Firefighter Exposure to Diesel Exhaust

Illness and Disease Symposium, Bureau of Labor Statistics
Title: Toward Improved Measurement and Reporting of Occupational Illness and Disease

Department of Preventive Medicine, University of Southern California
Title: Administrative Aspects of OSHA and NIOSH

John P. Redmond Foundation Symposium on the Occupational Health Hazards of the Fire Service
Title: Redmond Diesel Exhaust Study

Dahlem Conference, Berlin
Title: Mechanisms of Cell Injury: Implications for Human Health

American Public Health Association Annual Meeting
Title: Setting Priorities for Occupational Health

Biomedical Research Association Presentation to the LA County Federation of labor
Title: Experimental Research in Occupational Health

1986 Olympian Medical Corp Right to Know Workshop
Title: Occupational Cancer

1986 NCI Conference
Title: Obtaining and Using Information on Sampling in Occupational Epidemiologic Studies
Location: Washington, D.C.
Labor Occupational Health Program, Institute of Industrial Relations, University of California, Berkeley, Statewide Conference for Workers throughout the Transit System
Title: Diesel Fumes

1989
State of California Senate Health and Welfare Committee
Testimonial on lead exposure in California

NIOSH
Title: Hazard Surveillance
Location: Cincinnati, OH

International Association of Fire
Title: Firefighters Exposure to Diesel Exhaust
Location: Washington, D.C.

Polaroid Corporation
Title: Risk Assessment and Toxic Chemicals
Location: Waltham, MA

1990
Los Angeles Printmaking Society, Cal Print ’90 Symposium
Title: The Toxic Environment of Printmakers

UC San Francisco School of Medicine, Occupational & Environmental Medicine Grand Rounds: Occupational Lead Exposure Monitoring

UCLA Extension
Workshop: Covering the Environment: A Workshop for Journalists, Epidemiology/Toxicology/Risk Assessment: Basic Information for Journalists

UCLA Center for Labor research and Education, Conference for Swedish Parliament Delegation
Title: Current Issues on Occupational Health in the U.S

UCLA Environmental Health Science and Environmental Science & Engineering Title: Policy Implications of Lead Toxicity

1990

California Occupational Health Program, Department of Health Services, WOMA and UCLA COEH’s Western Occupational Health Conference
Title: Preventing Occupational Lead Toxicity
UC Irvine Extension  
Title: Legal, Scientific and Regulatory Implications of California’s Risk Assessment Program for Control of Toxic Air Contaminants

USC Occupational Medicine Residency Program  
Title: The Mechanism of Dinitrotoluene and Toluenediamine Carcinogenicity as Determined by DNA Adduct Studies

1991  
Testifying on the need for a California Environmental Protection Agency

1992  
Jonsson Comprehensive Cancer Center, Division of Cancer Control  
Title: Overview of Cancer Control Research: Environmental and Occupational Prevention of Carcinogen Exposure

Cancer Education Seminar, UCLA School of Public Health  
Implementation of Proposition 65: Process and outcome of public knowledge about industrial carcinogens

Los Angeles County Medical Association  
Title: Studies of Arsenic carcinogenicity

Hispanas Organized for Political Equality (HOPE)  
Symposium: Economic Development – Economic Equality

UCLA Center for Labor Research and Education  
Opening address: How to Prevent Cumulative Trauma Disorders on the Job
Air Toxics Workshop, Center for Clean Technology, UCLA.  
Chaired session and gave opening speech

1993  
UCLA Geography Colloquium Series  
Lecture to faculty: Current Issues in Environmental Risk Assessment, Arsenic and Public Health Issues
Location: UCLA, Los Angeles, CA

American Industrial Hygiene Conference and Exposition.  
Chaired roundtable meeting: Low Levels Effects of Lead, Epidemiologic Evidence and Solutions

1993  
Institute for Occupational Safety and Health, Republic of China (Taiwan’s equivalent organization to U.S. OSHA/NIOSH).  
Lecture to government scientists and professionals

1996  
Preventive Medicine Students  
Title: Toxicology  
Location: UCLA, Los Angeles, CA
Senate Hearing
Presented testimony on air pollution in Southern California

1997
American Industrial Hygiene Association Dinner Meeting.
Opening lecture: The Center for Occupational and Environmental Health, & research on chromium
City of Telluride, CO
Speaker and lecturer “Out-Loud Program”
Location: Telluride, CO

3/3/97
Senate Committee Oversight Hearing on Environmental Quality
Presented testimony on the activities of the Office of Environmental Health Hazard Assessment (OEHHA)

3/7/97
Proposition 65 Conference
Title: Prop 65 Science: Legacy and Challenge for the Second Decade

7/12-15/98
Arsenic Conference
Title: Arsenic Induced Carcinogenesis
Location: San Diego, CA

11/13/98
Southern California American Industrial Hygiene Association
Title: Diesel Exhaust
Location: Downey, CA

12/10/98
MTBE Meeting
Title: Presentation of Governor's Report
Location: Sacramento, CA

03/11/99
Angeles County Public Health Commission
Location: Los Angeles, CA

03/25/99
U.S. EPA and Public Health Institute, MTBE Blue Ribbon Panel Workgroup Meeting
Title: Health Effects of MTBE
Location: Sacramento, CA

04/29/99
Public Health Institute Prop 65 Research Symposium
Title: Occupational and Consumer Exposure to Hexavalent Chromium in Spray Paints/Primers
Location: UC Berkeley, Berkeley CA

05/06/99
AIHA - Northern California Section
Title: Toxicological Effects of Diesel Exhaust
Location: San Francisco, CA

05/27/99 Southern California Society for Risk Analysis
Title: Risk Assessment and Toxicology Issues for California in the New Millennium
Location: UCLA, Los Angeles, CA

06/05-08/99 Third Colloquium on Particulate Matter and Human Health
Association for Aerosol Research, Florida Light and Power, UC Irvine COEH, NYU School of Medicine Institute of Environmental Medicine
Title: UCLA’s Particulate Matter Center
Location: Durham, NC

07/29-30/99 California Air Resources Board Air Pollution Health Impacts Workshop
Title: Research Needs on Diesel Exhaust
Location: Sacramento, CA

09/27-29/99 Corning's Diesel Workshop
Title: Health Effects of Diesel Exhaust
Location: Corning, NY

10/22-24/99 American Lung Association/NIEHS/CDC Urban Air Pollution and Health Inequities Workshop
Title: Monitoring Air Pollution Concentrations and Exposures
Location: Washington, D.C.

11/17/99 Claremont McKenna College Lecture Series
Sponsor: Claremont McKenna College
Title: Current Environmental Issues in Public Health
Location: Claremont, CA

01/13/00 Southern California Section AIHA
Title: Southern California Center for Airborne Particulate Matter
Location: UCLA, Los Angeles, CA

02/02/00 SCAQMD Diesel Emissions as a Toxic Air Contaminant-Special Information Session
Title: Moderator, Health Impact Perspectives
Location: Diamond Bar, CA

04/07/00 COEH Spring Symposium
Title: Particulate Pollution: Research at the Southern COEH
Location: Berkeley, CA

06/12/00 ITREOH Networking Meeting
Title: Recent Achievements and Perspectives of the ITREOH Program: Focus on the Americas
Location: Bethesda, MA

08/03/00 Air Pollution and Health Conference: Christchurch School of Medicine
Title: Air Pollution in Southern California: Seeking Answers to Critical Public Health Questions
Location: Christchurch, New Zealand

10/24/00 10th Annual Conference of the International Society of Exposure Analysis
Title: Particulate Matter: Exposure Research
Location: Monterey Bay Peninsula, CA

05/09/01 The Association of California Water Agencies Spring Conference
Title: Chromium VI: Good Science? Or Just Good Politics?
Location: Lake Tahoe, CA

08/04/01 American Bar Association Annual Meeting
Title: Chicago Conspiracy Trial
Location: Chicago, IL

11/05/01 California Air Tech 2001: International Conference on Urban Air Pollution Technologies and Solutions
Title: The Price of Air Pollution
Location: Anaheim, CA

12/07/01 NIEHS/UCLA LOSH/SCEHSC Town Hall Meeting
Title: Health Effects of Particles in Air Pollution; the Toxicity of Metals (Arsenic and Chromium)
Location: Inglewood, CA

01/14/02 NIEHS/NIH
Title: Carcinogenicity of Chromium VI: An Overview
Location: Glendale, CA

01/16/02 South Coast Air Quality Management District
Title: Implementing the Clean Air Act at the State and Regional Levels
Location: Diamond Bar, CA

07/14/02 International Conference on Arsenic Exposure and Health Effects
Title: Arsenic Induced Carcinogenesis: Perturbations in Global and HA RAS Methylation Patterns in Methyl-Deficient C57BL/6 Mice: Results of a Chronic Animal Bioassay
Location: San Diego, CA

12/09/02 California Industrial Hygiene Council 12th Annual Conference
Title: Defining the Problem of Ultrafine Particles
Location: San Francisco, CA

01/08/03 Oregon Environmental Council’s Healthy Environment Forum
Title: Keynote Speaker: Toxics in the Air: How Concerned Should We Be?
Location: Portland, OR

05/06/03 Haagen-Smit Symposium
Title: Are There Particle Components or Sources That Are More or Less Toxic Where Control Efforts Should Be Emphasized: Particle Size
Location: UCLA Lake Arrowhead Conference Center, CA

05/17/03 Environmental Challenges Facing the Inland Empire
Title: Air Quality
Location: Riverside, CA

06/08/03 ARB Chairman’s Air Pollution Seminar Series
Title: Research Findings on Particulate Matter Related Toxicity from the Southern California Particle Center and Supersite
Location: Sacramento, CA

10/08/03 EPA Region 9 Star Grants Seminar
Title: Recent Progress in Particle Research at the Southern California Particle Center and Supersite: The Role of Ultrafine Particles and Traffic.
Location: San Francisco, CA

10/17/03 American Chemical Society, Western Region Meeting
Title: Science in the Cinema; the Science Behind Erin Brokovich
Location: Long Beach, CA

10/23/03 UCLA-Labor and Occupational Safety and Health Anniversary Forum
Title: Opening Introduction and Welcome
Location: UCLA, Los Angeles

10/29/03 ITREOH Network Meeting
Title: Occupational and Environmental Health Training in Mexico
Location: Washington, D.C.

5/7/04 Presentation, California Office of Environmental Health Hazard Assessment meeting, Research on Ultrafine Particles in the Southern California Particle Center and Supersite, Sacramento, CA

9/24/04 Presentation, UCLA School of Law Environmental Health panel, Risks Associated with LNG Use, Los Angeles, CA
9/27/04 Presentation at the Particulate Matter Research Centers Program: Ambient Particles, Their Toxic Components, Sources and How They Impact Health, Washington, D.C.


5/5/05 Presentation at the Goods Movement Task Force Meeting, Health Effects of Ultrafine Particles, Los Angeles, CA

8/25/05 Presentation at the Fogarty Meeting in Mexico, Ambient Particles, their Toxic Components, Sources and how They Impact Health, Mexico City, Mexico

9/19/05 Presentation at the Ramazzini Conference, The Role of Oxidative Stress in the Mechanism of Particulate Matter Toxicity, Bologna, Italy

9/29/05 Interview with Dateline (Susan Liebowitz), California Declares Secondhand Smoke a Pollutant, Los Angeles, CA

10/12/05 Testimony/Presentation to the Assembly Transportation Committee, The Human Side of Goods Movement: Responding to the Health Effects; Focusing in on Health Studies, Los Angeles, CA.

10/28/05 Presentation at the COEH Statewide Symposium, Occupational and Environmental Health in the Developing World: Making a Difference, Berkeley, CA

11/30/05 Presentation at the EPA Particulate Centers Kick-off Meeting, The Southern California Particle Center, Washington D.C.

4/20/06 Testimony at the Santa Monica Airport Panel meeting, Los Angeles, CA.

4/30/06 Presentation at the AQMD Ultrafine Particles conference, Ultrafine Particle Health Effects, Los Angeles, CA

5/12/06 Interview with Randy Paige, CBS, Ultrafine Particles, Los Angeles, CA

5/17/06 Southern California Particle Center Studies on Ultrafine Particles. Presentation to the Southern California Association of Governments’ Goods Movement Task Force.

5/17/06 Testimony at the Goods Movement Task Force meeting, Health Effects of Ultrafine Particles, Los Angeles, CA.
Interview with NPR: Living on Earth (Ingrid Lobet), *Health Effects of Perchloroethylene*, Los Angeles, CA.

8/3/06

*Ultrafine Particles: Exposure, Toxicity and Health Studies*. Presentation to the Board of Harbor Commissioners (at their invitation), Port of Los Angeles.

6/11/07


7/2/07

Interview with *Fresno Bee*, Health Effects of Ultrafine Particles

10/7/07

Interview with NPR:

11/6/07

*Nanotechnology-how to define risks and control them*. Presentation at the CNS-UCSB Nanotechnology Conference, Santa Barbara, CA.

11/30/07


4/25/08

*Nanotechnology-how to define risks and control them*. Presentation at the CNSI, The Future of Nanotechnology: A Legislative Summit, Los Angeles, CA.

5/8/08

*Occupational and Environmental Health Training Progress*. Presentation at the Fogarty ITREOH Conference, Bethesda, MD.

7/10/08

*The State of Biological Exposure Assessment*. Presentation at the COEH/SCEHSC Workshop on New Directions and Advances in Biological and Chemical Exposure Assessment for Epidemiologic and Risk Characterization, Los Angeles, CA.

1/12/09

*Source Characterization and Health Effects of PM2.5*. Presentation to the Hong Kong Environmental Protection Dept, University of Hong Kong and the Hong Kong University Dept of Science & Technology (3 separate presentations). Hong Kong.

1/14/09

*Nanotechnology-how to define risks and control them*. Presentation to Assemblyman Feuer’s Nano-Legislation Working Group Meeting, Sacramento, CA
4/17/09 Nanotechnology-how to define risks and control them. Presentation at the UCLA Working Conference on Nanotech Regulatory Policy. Los Angeles, CA.

X. PROFESSIONAL AFFILIATIONS

Member, Collegium Ramazzini
Member, Association for the Advancement of Science
Member, American Chemical Society
Member, American Conference of Governmental Industrial Hygienists
Member, International Society of Exposure Analysis
Member, American Industrial Hygiene Association

IX. TESTIMONY AT CONGRESSIONAL AND STATE HEARINGS

<table>
<thead>
<tr>
<th>Date</th>
<th>Committee</th>
<th>Subject</th>
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</thead>
<tbody>
<tr>
<td>1979</td>
<td>Subcommittee on Investigations/House Committee on Post Office and Civil Service</td>
<td>Possible Occupational Health Problems at Hill Air Force Base</td>
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<tr>
<td></td>
<td>Subcommittee on Labor Standards/House Committee on Education and Labor</td>
<td>Exposure of Workers to Neurotoxic Chemicals</td>
</tr>
<tr>
<td>1980</td>
<td>Senate Committee on Veterans’ Affairs</td>
<td>Phenoxy Herbicides (Agent Orange) and Dioxins</td>
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<tr>
<td></td>
<td>Subcommittee on Energy Nuclear Proliferation, Federal Services; Senate Committee on Governmental Affairs</td>
<td>NIOSH Investigations at a Nuclear Enrichment Plant</td>
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<tr>
<td></td>
<td>Subcommittee on Health and Safety</td>
<td>NIOSH Health Hazard Alerts</td>
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<tr>
<td>1981</td>
<td>Subcommittee on Labor Standards; House Committee on Education and Labor</td>
<td>Department of Labor Testimony on Cotton Dust</td>
</tr>
<tr>
<td>1983</td>
<td>State of California, Senate Finance Committee</td>
<td>California OSHA Budget</td>
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<tr>
<td>1985</td>
<td>Platform Committee of the State of California Democratic Party</td>
<td>Toxic Substance Control in California</td>
</tr>
<tr>
<td>1989</td>
<td>State of California Senate Health and Welfare Committee</td>
<td>Lead Exposure in California</td>
</tr>
</tbody>
</table>

1996 State of California Senate Committee on Environmental Quality Activities of OEHHA

State of California State Senate Air Pollution in Southern California

2000 Joint Hearing of the Senate Committee on Health and Human Services, Senate Committee on Natural Resources and Wildlife, and Assembly Committee on Environmental Safety and Toxic Materials Chromium VI

X. BIBLIOGRAPHY

Published Articles


6. Froines JR and Staff. Occupational exposure to cotton dust. Department of Labor, Occupational Safety and Health Administration, Federal Register, 27350-27468, 1978

7. Froines JR and Staff. Occupational exposure to lead. Department of Labor, Occupational Safety and Health Administration, Federal Register, 52952-53014, 1978

8. Froines JR and Staff. Occupational exposure to lead. Department of Labor, Occupational Safety and Health Administration, Federal Register, 54353-54616, 1978


33. La DK, Froines JR. Comparison of DNA Adduct Formation Between 2,4 and 2,6-Dinitrotoluene by $^{32}$P-Postlabeling analysis. Archives of Toxicology, 66:633-640, 1992.

34. La DK, Froines JR. $^{32}$P-Postlabelling analysis of DNA adducts from Fischer-344 rats administered 2,4-diaminotoluene. Chemical-Biological Interactions, 83:121-134, 1992

35. La DK, Froines JR. Comparison of DNA Binding Between the Carcinogen 2,6-dinitrotoluene and Its Noncarcinogenic Analog 2,6-diaminotoluene. Mutation Research, 8301:79-85, 1993

37. La DK, Froines JR. Formation and Removal of DNA Adducts in Fischer-344 Rats Exposed to 2,4-diaminotoluene. Archives of Toxicology, 69:8-13, 1994


41. Wilson PM, La DK, Froines JR. Hemoglobin and DNA Adduct Formation in Fischer Rats Exposed to 2,4 and 2,6-Toluene Diamine. Archives of Toxicology, 70:591-598, 1996

42. Liu WV, Froines JR, Hinds WC, Culver D. Particle Size Distribution of Lead Aerosol in a Brass Foundry and Battery Manufacturing Plant. Occupational Hygiene, 3:213-228, 1996


59. Eiguren-Fernandez A, Miguel AH, Froines JR, Thurairatnam S, Avol E. Seasonal and Spatial Variation of Polycyclic Aromatic Hydrocarbons in Vapor-Phase and PM2.5 in Southern


Abstracts, Letters, Book Reviews and Editorials


3. Froines JR. Worker Safety and Health: Will States and Cities Act? Ways and Means, 5(4), 1, 5-6, 1982. Short article


Book Chapters


2. Froines JR. State Experiences in Having an OSHA Agreement. 8th Annual National Conference on Radiation Control, HEW Publication (FDA) 77-8021, 1977


Proceedings

1. Froines JR. Health Hazards in the Arts. Proceedings of the Vermont Workshops, PHS Grant HL197292, National Heart, Lung and Blood Institute, 34-41, 1977


5. Froines JR. Prioritization of Chemical Hazards, Report to the City of Santa Fe Springs, California, 1983.


60. Froines JR. The Application of OSHA Compliance Data to the Design and Implementation of a California Hazard Surveillance Program, Report to the California Department of Health Services, 1988


**XV. RESEARCH AND TRAINING GRANTS/CONTRACTS RECEIVED**

<table>
<thead>
<tr>
<th>Agency &amp; Number</th>
<th>Title PI or co-PI</th>
<th>Duration of Grant</th>
<th>Direct costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Office of the President, Health Affairs</td>
<td>Center for Occupational and Environmental Health (Director)</td>
<td>Ongoing (Permanent funding)</td>
<td>$1,300,000</td>
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<tr>
<td>NIEHS</td>
<td>Exposure Assessment and Analytical Chemistry Core of Southern California Environmental Health Sciences Center</td>
<td>04/04/01 – 3/31/10</td>
<td>$1,269,693</td>
</tr>
</tbody>
</table>
California Air Resources Board
Physicochemical and toxicological assessment of the semi-volatile and non-volatile fractions of PM from heavy and light-duty vehicles operating with and without emissions control technology.
Investigator (Sioutas – PI)

US EPA
Southern California Particle Center
RD-83241301-0 (PI)

NIH/Fogarty International Center
UCLA-Mexico/Latin American Training & Teaching Program
D43 TW00623 (PI) – refunded

California Air Resources Board
Monitoring and Modeling of Ultrafine Particles and Black Carbon at the Los Angeles International Airport
04-325 (PI)

California Air Resources Board
Determination of the Reactive Oxygen Species Activity in PM and Enhanced Exposure Assessment for the NIH/NIEHS study. Investigator (Delfino-PI)

UC Office of the President
Pacific Rim Research Program
03T-PRRP-4-13 (PI)

NIOSH
UCLA Education and Research Center
T42CCT924019 Investigator (Hinds – PI)(renewed)

Centers for Disease Control
Center of Excellence for Environmental Public Health Tracking
U50/CCU922409-01 (Subcontract PI)

NIH/NIEHS
Molecular Epidemiology and Gene-Environment Interaction
R21-ES011667 (Zhang-PI)

UC Los Alamos National Laboratory
An Automated System for Task-Based Evaluation of Size Distribution of Beryllium Aerosol at the Los Alamos Beryllium Technology Facility
STB-UC: 9950 (PI)
<table>
<thead>
<tr>
<th>Funding Body</th>
<th>Project Title</th>
<th>Start Date – End Date</th>
<th>Amount</th>
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<tbody>
<tr>
<td>State of California Air Resources Board</td>
<td>Development of an Exposure Facility to Conduct Inhalation Studies to Ambient Aerosols 98-316 (PI)</td>
<td>05/30/99 – 12/31/04</td>
<td>$2,087,816</td>
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<tr>
<td>UC Mexus</td>
<td>Evaluation of In Vitro Biological Effects Induced by Particulate Matter from Mexico City and Los Angeles HM CN 03-51 (PI)</td>
<td>07/01/03 – 12/31/04</td>
<td>$25,000</td>
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<tr>
<td>US Environmental Protection Agency</td>
<td>Southern California Particulate Matter and Supersite CR-82805901 (PI)</td>
<td>01/15/00 – 12/31/04</td>
<td>$2,628,386</td>
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<tr>
<td>Pacific Rim Research Program, UC Office of the President</td>
<td>Environmental Pollution, Genetic Susceptibility Genes, and Risk of Lung Cancer Among Chinese Female Non-Smokers in Taiyuan, China 03TPRRP-4-13(PI)</td>
<td>07/01/95 – 06/30/02</td>
<td>$18,000</td>
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<tr>
<td>UC Toxic Substances Research Training</td>
<td>Quantification of Exposure to Organophosphate Pesticides in a Mexican Agricultural Community (PI)</td>
<td>07/01/99 – 06/30/01</td>
<td>$40,000</td>
</tr>
<tr>
<td>State of California Air Resources Board</td>
<td>Development of an Exposure Facility to Conduct Inhalation Studies to Ambient Aerosols 98-316 (PI)</td>
<td>05/30/99 – 12/31/04</td>
<td>$2,087,816</td>
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<tr>
<td>UC Toxic Substance Research &amp; Teaching</td>
<td>Pollution Prevention Education Research Center (PPERC) (PI)</td>
<td>07/01/95 – 06/30/00</td>
<td>$45,000</td>
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<tr>
<td>NIEHS</td>
<td>Training Cooperative Agreement, Worker Health &amp; Safety (Marianne Brown/John Froines-Co-PIs)</td>
<td>09/30/95 – 08/31/00</td>
<td>$4,500,000</td>
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<tr>
<td>NIH/Fogarty International Center</td>
<td>Collaborative Training and Research Project 3 D43 TW00623 (PI)</td>
<td>09/30/95 – 09/29/00</td>
<td>$590,660</td>
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<tr>
<td>NIOSH/Education Resource Center</td>
<td>UCLA Industrial Hygiene Training Program H15885 (William Hinds – PI)</td>
<td>07/01/96 – 06/30/00</td>
<td>$121,985</td>
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<td>NIOSH/Education Resource Center</td>
<td>UCLA Hazardous Substance Academic Training</td>
<td>07/01/96 – 06/30/00</td>
<td>$55,950</td>
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<td>Funding Source</td>
<td>Project Title</td>
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<td>NIOSH</td>
<td>Worker Exposure Assessment and Hazard Medical Surveillance</td>
<td>09/30/95 – 09/29/99</td>
<td>$1,137,335</td>
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<tr>
<td>Public Health Trust</td>
<td>Occupational &amp; Consumer Exposure to Hexavalent Chromium in Spray Paints/Primers</td>
<td>03/01/97 – 11/30/99</td>
<td>$131,895</td>
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<tr>
<td>CERR/UC Toxic Substances Research &amp; Teaching Program</td>
<td>Arsenic Project</td>
<td>07/01/97 – 06/30/99</td>
<td>$36,000</td>
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<tr>
<td>UC Mexus-Conacyt/UC Riverside</td>
<td>Characterization of Pesticide Use &amp; Exposure in a Mexican Agricultural Community Using a Geographic Information System</td>
<td>07/01/98 – 06/30/99</td>
<td>$9,039</td>
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<tr>
<td>UC Toxic Substances Research &amp; Teaching Program</td>
<td>An Evaluation of the Peer-Reviewed Literature on Human health, Including Asthma and Environmental Effects of MTBE</td>
<td>01/01/98 – 10/31/98</td>
<td>$99,000</td>
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<tr>
<td>Southern California Environmental Health Center</td>
<td>Arsenic Induced Carcinogenesis: A Murine model for Induction of Cancer in Methyl-deficient C57B/6 mice</td>
<td>08/01/97 – 03/31/98</td>
<td>$5,000</td>
</tr>
<tr>
<td>NIEHS – Citizens for a Better Environment</td>
<td>To establish community-based strategy for reducing worker and community exposures to environmental pollutants</td>
<td>10/01/94 – 09/30/96</td>
<td>$50,795</td>
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<tr>
<td>STCA/OEHHA California Environmental Protection Agency</td>
<td>Literature search for Hot Spot Chemicals from the Office of Environmental Health Hazard Assessment</td>
<td>11/1/94 – 9/30/96</td>
<td>$50,795</td>
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<td>UC Toxic Substance Research &amp; Training</td>
<td>Design a model for risk evaluation and pollution prevention decision-making in the workplace. Study</td>
<td>07/01/94 – 06/30/96</td>
<td>$30,000</td>
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<td>Group/Agency</td>
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<td>Toxic Cleaning Products for Janitorial Service Work</td>
<td>To develop courses and research on pollution prevention</td>
<td>07/01/92 – 06/30/96</td>
<td>$260,000</td>
</tr>
<tr>
<td>Center for Disease Control/NIOSH</td>
<td>To study aerosol size distribution of chromium in spray painting</td>
<td>10/01/92 – 03/31/96</td>
<td>$90,918</td>
</tr>
<tr>
<td>U.S.-Mexico Foundation</td>
<td>To develop an ergonomic hazard evaluation tool to be used by the maquiladora industry for the identification of operations that carry high risk for workers to develop cumulative trauma disorders (CTDs).</td>
<td>03/01/94 – 02/28/96</td>
<td>$50,000</td>
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<td>Western Consortium for the Health Professionals</td>
<td>To assess the risks for chemicals in reclaimed water from the San Diego advanced treatment plant and the current source of potable water</td>
<td>04/01/86 – 08/15/95</td>
<td>$1,480,000</td>
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<td>STCA/Office of Environmental Health Hazard Assessment</td>
<td>A literature review of non-carcinogenic toxicologic endpoints for 7 chemicals</td>
<td>04/01/94 – 01/31/95</td>
<td>$100,450</td>
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<tr>
<td>California Public Health Foundation</td>
<td>Epidemiologic study to determine possible adverse health effects on Rockwell/Rocketdyne Workers from Exposure to Radioactive and Hazardous Substances</td>
<td>10/01/92 – 09/30/95</td>
<td>$500,000</td>
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<tr>
<td>PHS/NIEHS</td>
<td>To provide health and safety training for hazardous waste workers. The program involves three other UC campuses and Arizona State University</td>
<td>09/01/92 – 08/31/95</td>
<td>$2,612,556</td>
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<td>CAL/EPA</td>
<td>To perform a library review of the non-carcinogenic toxicological endpoints for seven chemicals</td>
<td>02/01/93 – 01/31/94</td>
<td>$100,418</td>
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</table>
Develop collaboration in training and research in industrial hygiene between UCLA School of Public Health and the National Institute of Public Health in Mexico (PI) 07/01/92 – 06/30/93 $7,869

American Oceans Campaign A pilot study of the toxic chemical release into the Santa Monica Bay (PI) 11/01/91 – 03/12/93 $50,000

TSRTP To develop a course and research on pollution prevention (Co-PI) 07/01/92 – 06/30/93 $120,000

State Compensation Insurance Fund To update the OSHA Integrated Management Information System (IMIS) and to develop a list of high risk industries using IMIS and other data. (PI) 12/01/91 – 08/31/92 $26,000

Toxic Substances Research and Training To develop a course on toxics reduction: science, engineering and policy issues (Co-PI) 07/01/91 – 06/30/92 $28,000

General Accounting Office To study worker health and safety conditions in US-owned auto parts maquiladoras (PI) 07/01/92 – 12/31/92 $20,000

National Institute of Environmental Health Sciences Superfund hazardous waste workers training grant (Co-PI) 09/87 – 09/92; 09/90 – 09/92 $5,000,000

Western Consortium for Public Health San Diego Wastewater Reclamation Health Effects Study in San Pasqual (PI) 11/1/91 – 10/31/92 $85,951

Western Consortium for Public Health To develop research collaboration in Indonesia (Co-PI) 01/04/91 – 03/31/91 $5,000

Thermal Insulation Manufacturers Association To evaluate the feasibility of studying health effects of fibrous glass in the aircraft manufacturing and filter paper manufacturing industries (PI) 10/11/89 – 06/30/91 $79,827
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<td>National Science Foundation</td>
<td>Use of biological markers in risk assessment (PI)</td>
<td>05/01/87</td>
<td>04/30/90</td>
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<td>Toxic Substances Research &amp; Teaching Program</td>
<td>To investigate the identity, analytical chemistry, fate and transport, and toxicology of non-conventional pollutants found in raw and treated groundwater (PI)</td>
<td>07/01/98</td>
<td>06/30/89</td>
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<td>National Institute for Occupational Safety and Health, Educational Resource Center</td>
<td>Training program to train professionals and research industrial hygienists at the MS and PhD levels (Co-PI)</td>
<td>07/01/84</td>
<td>06/30/89</td>
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<td>California Department of Health Services</td>
<td>To examine the etiologic factors associated with occupational mortality in California (PI)</td>
<td>11/86</td>
<td>06/30/88</td>
<td>$25,000</td>
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<td>California Department of Health Services</td>
<td>To assess the nature of occupational exposures to toxic substances and to develop priorities for hazard surveillance research (PI)</td>
<td>07/01/86</td>
<td>06/30/88</td>
<td>$50,000</td>
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<td>National Institutes for Health</td>
<td>To identify etiologic agents in the carcinogenicity of methapyrilene and other antihistamines</td>
<td>12/01/84</td>
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<td>Biomedical Research Support Grant</td>
<td>To study the mechanism of the neurotoxicity of dimethylaminoproprinitrile and other aminonitriles (PI)</td>
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<td>02/28/87</td>
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<td>Environmental Protection Agency</td>
<td>To develop acceptable ambient air quality levels for a number of potentially toxic air contaminants</td>
<td>06/01/86</td>
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<td>Environmental Protection Agency</td>
<td>To provide a context for environmental risk finding which the Integrated Environmental Management Project is developing in Santa Clara county (PI)</td>
<td>07/01/85</td>
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<td>Biomedical Research Support Grant</td>
<td>To identify the neurotoxic agent responsible for the neurologic disease in workers occupational exposed to the chemical BHMH (PI)</td>
<td>02/01/85</td>
<td>01/31/86</td>
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National Institute for Occupational Safety & Health  
To study the impact of a variety of size distributions of lead aerosol in predicted distributions of lead levels in workers exposed to airborne lead (PI)  
11/01/84 – 10/31/86 $29,144

National Cancer Institute  
To examine the effectiveness of the International Chemical Worker’s Union Cancer Control Education and Evaluation Program (PI)  
01/01/83 – 09/30/86 $297,077

Academic Senate Research Grant  
To gather data on size distribution of airborne lead particulates in industrial settings (PI)  
07/01/83 – 06/30-84 $2,000

Biomedical Support Research Grant  
To evaluate exposure to carcinogens encountered by firefighters during performance of duties (PI)  
04/01/83 – 03/31/84 $3,000

California Dept. of Health Services  
To develop recommendations for targeting occupational health programs in Southern California and to conduct model training (PI)  
12/01/82 – 06/30/84 $45,000

American Cancer Society California Institute for Cancer Research  
To evaluate exposure of cosmetologists to workplace carcinogens (PI)  
12/01/82 – 11/30/83 $17,675

Academic Senate Research Committee  
To evaluate particle size distribution of lead in industry (PI)  
12/14/81 – 06/30/82 $703

NIEHS  
Collaborative training program in environmental sciences, epidemiology and statistics (Training Grant)  
07/01/78 – 06/30/85 $92,000

XVI. COURSES TAUGHT

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</tbody>
</table>
HILARY ARNOLD GODWIN
born Hilary Joan Arnold, December 1, 1967
Department of Environmental Health Sciences
School of Public Health
University of California, Los Angeles
66-062B CHS; BOX 951772
Los Angeles, CA 90095
phone: (310) 794-9112
fax: (310) 794-2106
email: hgodwin@ucla.edu

EDUCATION
NIH Postdoctoral Fellow, Johns Hopkins University School of Medicine, 1994-1996
B.S. in Chemistry with Honors, University of Chicago, 1989.

PROFESSIONAL EXPERIENCE
2008-present Associate Dean for Academic Programs for the School of Public Health, University of California at Los Angeles
2007-2008 Chair, Environmental Health Sciences Department, University of California at Los Angeles
2006-present Professor, University of California at Los Angeles
2002-present Howard Hughes Medical Institute (HHMI) Professor
2004-2006 Chair, Department of Chemistry, Northwestern University
2003-2004 Associate Chair, Department of Chemistry, Northwestern University
2002-2004 Dow Chemical Company Research Professor in Chemistry, Northwestern University
2001-2006 Associate Professor, Northwestern University
Department of Chemistry and Department of Biochemistry, Molecular Biology, and Cell Biology (Joint Appointment)
1996-2001 Assistant Professor, Northwestern University
Department of Chemistry and Department of Biochemistry, Molecular Biology, and Cell Biology (Joint Appointment since 1998)

HONORS & AWARDS
Howard Hughes Medical Institute (HHMI) Professor (2002-present)
Paul Saltman Award (2001)
Camille Dreyfus Teacher-Scholar Award (2000)
Alfred P. Sloan Research Fellowship (2000)
National Science Foundation CAREER Award (1999)
Burroughs Wellcome Fund Toxicology New Investigator Award (1998)
Camille and Henry Dreyfus New Faculty Award (1996)
National Institutes of Health Postdoctoral Research Fellowship (1994-1996)
Stanford Centennial Teaching Assistant Award (1992)
National Science Foundation Graduate Research Fellowship (1989-1992)
Phi Beta Kappa (1989)

**RESEARCH INTERESTS**
Molecular toxicology of lead; mechanism of uptake of nanoparticles into cells and nanotoxicology; toxicogenomics and proteomics; public health impacts of climate change.

**PUBLICATIONS**


15. “Synaptotagmin I is a Molecular Target for Lead” Bouton, C. M. L. S.; Frelin, L. P.


PROFILES & RESEARCH HIGHLIGHTS

- “Hilary Godwin: Alone in Good Company” Austin, J. Science Next Wave (http://nextwave.sciencemag.org/cgi/content/full/2001/07/11/6?).
- “Leading The Fight Against Lead Poisoning” Fellman, M. CrossCurrents (Northwestern University Weinberg College of Arts and Sciences), Fall 2001, 6-9.
- “2 College Teachers to Receive $1 Million” Becker, R. Chicago Tribune, September 18, 2002.
- “Godwin Receives $1M from Howard Hughes Medical Institute” Northwestern University Observer, Oct. 10, 2002.
- “Women Scientists in 2003” Deneen, N. CrossCurrents (Northwestern University Weinberg College of Arts and Sciences), Fall 2003, 10-15.

PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS


Invited Speaker, Ninth International Conference on Biological Inorganic Chemistry (ICBIC), "Why is lead toxic? Unraveling the molecular mechanism(s) of lead poisoning" Minneapolis, Minnesota, July 12, 1999.


Invited Speaker (Paul Saltman Award Lecture), Metals in Biology Gordon Conference, "Why is lead toxic? Unraveling the molecular mechanism(s) of lead poisoning" Ventura, California, January, 2001.

Invited Speaker, Environmental Bioinorganic Chemistry Gordon Conference, "Molecular
Invited Speaker, 11th International Conference on the Coordination Chemistry and Organometallic Chemistry of Germanium, Tin, and Lead, "Why is lead toxic? Unraveling the molecular mechanism(s) of lead poisoning" Santa Fe, New Mexico, June-July 2004.
Invited Speaker, Western Regional American Chemical Society Meeting, “Molecular Mechanism(s) of Lead Poisoning.” D. Ivanov, E. Suarez, and H. A. Godwin, San Diego, California, October 2007.
Invited Speaker, National American Chemical Society Meeting, “Molecular Mechanism(s) of Lead Poisoning.” H. A. Godwin, New Orleans, Louisiana, April 2008.
Invited Speaker, Centers for Disease Control and Prevention Western States Regional Meeting, “Molecular Mechanism(s) of Lead Poisoning” Las Vegas, Nevada, June 2008.

SEMINARS
1993 Centre d'Etudes Nucleares de Grenoble, Grenoble, France
1994 Department of Chemistry, Northwestern University
1996 Department of Biochemistry, Molecular Biology, and Cell Biology, Northwestern University; Kalamazoo College, Kalamazoo, Michigan; Hope College, Holland, Michigan
1997 Department of Chemistry, Northwestern University, Evanston, Illinois; Department of Chemistry, Loyola University, Chicago, Illinois; Department of Chemistry, Illinois State University, Normal, Illinois; Department of Chemistry, Illinois Institute of Technology, Chicago, Illinois
1998 Department of Civil Engineering, Northwestern University, Evanston, Illinois; Department of Chemistry, Johns Hopkins University, Baltimore, Maryland; Kennedy Krieger Institute/ Johns Hopkins University School of Medicine, Baltimore, Maryland; Department of Chemistry, Grand Valley State University, Grand Rapids, Michigan; Department of Chemistry, University of North Carolina, Chapel Hill, North Carolina; Department of Microbiology and Immunology, University of Illinois, Chicago, Illinois
1999  Department of Geology, Northwestern University, Evanston, Illinois; Symposium: Materials Research & Education at the Dawn of the New Millennium, Northwestern University, Evanston, Illinois

2000  Department of Chemistry, Bowling Green State University, Bowling Green, Ohio; Department of Chemistry, University of Missouri, Saint Louis, Missouri; Faculty of Toxicology, College of Veterinary Medicine, Texas A&M University, College Station, Texas; Department of Chemistry, Dartmouth College, Hanover, New Hampshire; Department of Chemistry, the Ohio State University, Columbus, Ohio; Center for Environmental BioInorganic Chemistry (CEBIC) Summer Conference, Princeton University, Princeton, New Jersey; Department of Chemistry, Georgia State University, Atlanta, Georgia; Center for Metalloenzyme Studies, University of Georgia, Athens, Georgia; Department of Chemistry, Emory University, Atlanta, Georgia; Department of Chemistry, Purdue University, West Lafayette, Indiana; Department of Chemistry, Massachusetts Institute of Technology, Boston, Massachusetts; Department of Chemistry, Calvin College, Grand Rapids, Michigan; Department of Chemistry, Hope College, Holland, Michigan; Meeting of the Chicago Chapter of Iota Sigma Pi, Glenview, Illinois

2001  Mathfest, Fremd High School, Palatine, Illinois; Department of Chemistry, University of California, Los Angeles, California; Department of Chemistry, California Institute of Technology, Pasadena, California; Department of Chemistry, Boston College, Boston, Massachusetts; Department of Chemistry, University of Wisconsin, Madison, Wisconsin; Department of Chemistry, University of California, Berkeley, California; Department of Chemistry, Stanford University, Stanford, California; Department of Chemistry, Indiana University, Bloomington, Indiana; Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, Illinois; Biophysics Program, University of Texas Southwestern Medical Center at Dallas, Dallas, Texas; Department of Chemistry, Texas A&M University, College Station, Texas; Department of Chemistry, University of Texas, Austin, Texas

2002  Department of Chemistry, Michigan State University, East Lansing, Michigan; Department of Chemistry, University of Utah, Salt Lake City, Utah; Department of Chemistry and Biochemistry, Utah State University, Logan, Utah.

2003  Department of Chemistry, University of California Irvine, Irvine, California; Lead America Educational Leadership Conference, Lake Forest, Illinois; Department of Chemistry and Biochemistry, University of Maryland Baltimore County, Baltimore, Maryland; Department of Chemistry and Biochemistry, University of Delaware, Newark, Delaware; Wayne State University, Detroit, Michigan.

2004  Department of Chemistry. University of Missouri, Kansas City, Missouri; Department of Chemistry, Louisiana State University, Baton Rouge, Louisiana; University of Oklahoma, Norman, Oklahoma; Howard Hughes Medical Institute (keynote speaker), Chevy Chase, Maryland; Department of Molecular Pharmacology, Johns Hopkins University School of Medicine, Baltimore, Maryland; Department of Chemistry, University of Illinois Urbana-Champaign, Urbana, Illinois.

2005  Molecular Probes, Eugene, Oregon; Reed College, Portland, Oregon; Department of Chemistry, University of Oregon, Eugene, Oregon; Department of Chemistry, University of Minnesota, Minneapolis, Minnesota; Department of Chemistry, Ball State University;
Department of Chemistry, University of Texas at El Paso, El Paso, Texas; Department of Chemistry, Grinnell College.

2006
Department of Chemistry, University of Southern California, Los Angeles, California; Department of Chemistry & Biochemistry, UCLA, Los Angeles, California; Department of Chemistry, University of Michigan, Ann Arbor, Michigan; Department of Chemistry, University of Pennsylvania, Philadelphia, Pennsylvania; Nanotechnology Workshop, Life Sciences Week, University of Missouri, Columbia, Missouri; Symposium on the Nature of Science, Fermilab, Batavia, Illinois.

2007
Lubrizol Corporation, Wickliffe, Ohio; Department of Chemistry, Case Western Reserve University, Cleveland, Ohio; CEA-CREST Program at California State University Los Angeles, Los Angeles, California; Department of Chemistry, University of California at San Diego, San Diego, California.

2008
Metals in Medicine Gordon Conference, Andover, New Hampshire; Department of Chemistry; Clemson University, Clemson, South Carolina; Department of Chemistry, California Institute of Technology, Pasadena, California.

2009
The World in 2050, Bixby Center for Population, Health and Sustainability, University of California, Berkeley, California; Center for Humane and Ethical Medical Care, Santa Monica, California; Department of Chemistry; Western Michigan University, Kalamazoo, Michigan; Department of Chemistry and Biochemistry, University of Oregon, Eugene, Oregon.

GRANTS AND AWARDS
1. National Science Foundation, Graduate Research Fellowship (1989-1992)
3. Camille and Henry Dreyfus New Faculty Award “The Chemistry of Metal Ions in Bioluminescence and Bioremediation” (9/1/96-8/31/01) $25,000
4. Burroughs Wellcome Fund Toxicology New Investigator Award, “Biophysical Approaches to Lead Toxicology: Biochemistry, Detection and Chelation of Pb(II)” (7/1/98-6/31/2001) $195,000
7. National Institutes of Health R01 GM58183 “Spectroscopic Probes of Lead-Protein Interactions” (8/1/99-7/31/04) $754,827
8. National Science Foundation, CHE-9810378, “Institute for Environmental Catalysis” P.I. Peter Stair (9/15/98-8/31/02) $193,153
9. Sloan Research Fellowship, 2000, $40,000
10. Camille Dreyfus Teacher-Scholar Award, 2000, $60,000
11. National Science Foundation/MRSEC DMR-0076097, “Materials Research Center” P.I. Robert Chang (9/1/00-8/31/02) $114,169
15. Howard Hughes Medical Institute (HHMI) Professor (9/1/02-8/31/06) $1,000,000
18. Clare Boothe Luce Foundation “Clare Boothe Luce Professorship at Northwestern University” (Grant to hire a new faculty member in the Department of Chemistry at Northwestern University) $600,000.
21. National Science Foundation, Center for Environmental Implications of Nanotechnology (CEIN) program “UC Center for the Environmental Impact of Nanotechnology” (my role: Co PI and Director of Education and Outreach Activities) P.I. Andre Nel (10/1/08-9/30/13), $24 million total
22. UCLA Injury Prevention Committee “Development of an Online Training Module for Safe Handling of Nanomaterials” (10/1/08-2/28/09), $17,000.

PROFESSIONAL ORGANIZATIONS & AFFILIATIONS
American Chemical Society: Inorganic Division, Physical Division
Society for Neuroscience
Biophysical Society
American Association for the Advancement of Science
American Association for Women in Science
Iota Sigma Pi

INSITUTE AND CENTER MEMBERSHIP
2008-present Member and coPI, NSF/EPA-UC Center for Environmental Implications of Nanotechnology (UC CEIN), UCLA
2007-present Member, Institute for the Environment, UCLA
2007-present Member, California Nanosystems Institute, UCLA
2000-2006 Member, NSF-Nanoscale Science and Engineering Center (NSEC), Northwestern University
2000-2002 NSF – Materials Research Science and Engineering Center (MRSEC), Northwestern University
1998-2002 NSF-Institute for Environmental Catalysis
1997-2006 Member, Lurie Cancer Center, Northwestern University

SERVICE
Facilitator, Workshop on “Creating an Academic Environmental Conducive to Diversity” Western Michigan University (2009)
Director, Education and Outreach Activities, UC Center for Environmental Implications of Nanotechnology, UCLA (2008-present).
Reviewer, National Institutes of Health Director’s Pioneer Award and NIH Director's New Innovator Awards (2007-2008)
Facilitator, COACh Workshop for Department Chairs on “How to Be An Effective Leader for Change” Council for Chemical Research Meeting (2007)
Advisory Board for Committee on the Advancement of Women Chemists (COACh) (2006-present)
Review Panel, HHMI Professors Program (2006)
Panelist, Interviews for Finalists for 2005 National Institutes of Health Director’s Pioneer Award (2005)
Nominating Committee for Council for Chemical Research Governing Board (2005)
Rotating Member, Special Emphasis Panel – Conflicts in Biological Chemistry and Macromolecular Biophysics, National Institutes of Health (2005)
Faculty Advisor, Chicago Area Undergraduate Research Symposium (2005)
Rotating Member, BMT Study Section, National Institutes of Health (2003)
Freshman Advisor, Northwestern University (2003-2005)
Director, Undergraduate Success in Science Program, Northwestern University (2003-present)
Director, Education and Outreach Activities, Institute for Nanotechnology/ NSF-Nanoscale Science and Engineering Center (NSEC), Northwestern University (2000-2006).
Organizing Committee, Frontiers of Chemistry Meeting sponsored by the American Chemical Society, Durham, New Hampshire, August 24-27, 2002
Co-chair, Symposium on Coordination Chemistry of Metal Metabolism, 224th American Chemical Society National Meeting, Boston, Massachusetts, August 18-22, 2002
Organizing Chair, Symposium on Bioinorganic Chemistry, 34th Great Lakes Regional American Chemical Society Meeting, Minneapolis, Minnesota, June 2-4, 2002
P.I., Frontiers of Inorganic Chemistry Workshop sponsored by the National Science Foundation, Copper Mountain, Colorado, September 8-10, 2001
Faculty Advisor, Northwestern Chapter of Phi Lambda Upsilon (2000-2004)
Faculty Associate, Shepard Residential College (1997-2002)
Nominations and Symposium Planning Committee for the Division of Inorganic Chemistry of the American Chemical Society (1996)

COMMITTEES – UCLA
Ad Hoc Member, UCLA School of Public Health Faculty Executive Committee, Education Policy and Curriculum Committee, and Evaluation Committee
Chair, Building Use Committee for the California Nanosystems Institute (2008-2009)
Co-Chair, Faculty Search Committee for Director for Center to Combat Emerging Infectious
Diseases (2007-present)
Executive Committee of the Institute for the Environment (2007-present)
Faculty Advisory Committee, Molecular Toxicology Interdepartmental Degree Program (2007-present)
Campus Advisory Board for Proposal to Public Utilities Commission on Global Climate Change Institute (2007-present)
Chair, Search Committee for High Throughput BSL3 Laboratory Director, School of Public Health (2006-present)
Planning Committee for High Throughput BSL3 Laboratory, School of Public Health (2006-present)

COMMITTEES – NORTHWESTERN UNIVERSITY
Search Committee for Chief Financial Officer, Weinberg College of Arts and Sciences (2005)
Chair, Chemistry Graduate Advising Committee (2003-2004)
Planning Committee for Proteomics and Nanobiotechnology Building (2003-2006)
Chemistry Faculty Mentoring Committee (2003-2006)
Chemistry Faculty Recruiting Committee (2003-2004)
Chair, Chemistry Graduate Admissions Committee (2001-2002)
Chair, Search Committee for Freshman Chemistry Laboratory Coordinator (2001)
Chemistry Vision Committee (2000-2002)
Chemistry Faculty Recruiting Committee (2000-2001)
Chemistry Transition Committee (ad hoc) (2000)
Chemistry Research Facilities Committee (1999-2001)
Chemistry Space Committee (ad hoc) (1998)
Search Committee for Freshman Chemistry Laboratory Coordinator (1998)
Graduate School Faculty (1998-present)
600 MHz NMR User Committee (1998-2006)
College Scholars Program Board (1998-2001)
Trustees Professor Search Committee Chemistry/NBP/BMBCB (1998-2001)
Goldwater Scholarship Selection Committee (1998-2000)
Member, Chemistry Graduate Admissions Committee (1997-2001)

TEACHING- UCLA
Environmental Health 100, Introduction to Environmental Health Sciences (Spring 2007 and Spring 2008) This course is a required course for all MPH students who are not Environmental Health majors. Texts in 2007: Essentials of Environmental Health by Robert Fris and GIS Tutorial for Health by Kristen Kurland and Wilpen Gorr. Text in 2008: Essentials of Environmental Health by Robert Fris. The goal of this course is to provide students with an overview of the field of Environmental Health Sciences. In 2007 there was the additional goal for students to learn how to use Geographic Information Systems (GIS) to map and analyze Public Health Data. Topics covered in the course include the following: environmental epidemiology, environmental toxicology, environmental policy and regulation, agents of environmental disease and applications of environmental health to water quality, air quality, food
safety, solid and liquid waste, and occupational health. Approximate enrollment: 90.

TEACHING - Northwestern University


Chemistry 103, General Physical Chemistry (Spring 1997, two sections, each co-taught with Tobin Marks; Spring 1998, two sections; Spring 1999, two sections) The third and final course in general chemistry for science majors. Text: Chemistry (4th Edition) by Steve Zumdahl. Topics covered in the course include the following: chemical equilibrium; equilibria in aqueous solution; chemical kinetics; electrochemistry and oxidation-reduction reactions; coordination chemistry and special topics. Emphasis was placed on examples from environmental chemistry and biochemistry. Approximate enrollment: 350 per quarter.

Chemistry 105, Freshman Seminar: Science and Society (Fall 2003 and Fall 2004) Discussion course for freshmen in the Weinberg College of Arts and Sciences. Text: A Writer’s Reference, 5th edition, by Diana Hacker; assorted essays and book chapters on issues related to the topic of Science and Society. Topics covered in the course include the following: what it means to be a scientist, the future of science in our society, nature versus nurture, genetically modified crops, cloning, public policy on infectious diseases. The assignments in this class focus on academic and professional writing. Approximate enrollment: 16.

Chemistry 435, Advanced Inorganic Chemistry (Winter 1997, Winter 2000, and Winter 2001) Special topics graduate level course in bioinorganic chemistry. Text: Bioinorganic Chemistry by Stephen Lippard and Jeremy Berg; original articles from the literature on the role of metal ions in biological systems were assigned as readings and discussed in class. The course had two primary focuses: the structure and function of metalloproteins and the use of spectroscopic techniques in bioinorganic chemistry. The assignments for this class were focused on scientific writing. Approximate enrollment: 20.

Chemistry 436, Readings in Inorganic Chemistry (Fall 2003) Required graduate level course in inorganic chemistry. Text: The ACS Style Guide, 2nd edition, edited by Janet S. Dodd and original articles from the literature. The course has two primary focuses: seminal contributions to the field of inorganic chemistry and research at the frontiers of inorganic chemistry. The assignments for this class focus on critical evaluation of the scientific literature and scientific writing. Approximate enrollment: 30.

RESEARCH SUPERVISION

2006-present Preceptor, Molecular Toxicology Training Program, University of California at Los Angeles

2006-present Preceptor, Chemistry-Biology Interface Training Program, University of

R-344
1996-2006  Preceptor, Interdepartmental Biological Sciences Program, Northwestern University

**Postdoctoral Fellows:**
- 2006-present  Elizabeth Suarez
- 2004-2006  Benjamin Davis
- 2002-2004  Simona Dragan
- 1997-1999  Cameron Forde
- 1997-1998  Marc ter Horst

**Graduate Students:**
- 2009-present  Sharona Sokolov, Environmental Health Sciences (M.P.H. student)
- 2008-present  Kabir Chopra, Environmental Health Sciences (M.P.H. student)
- 2008-present  Savanna Carson, Environmental Health Sciences (M.S. student)
- 2007-present  Mariam Behbehani, Environmental Health Sciences (M.P.H student)
- 2007  Herguin Cuevas, Environmental Health Sciences
- 2004-present  Ethan Trana, Chemistry
- 2004-present  Dimitar Ivanov, IBiS
- 2001-2002  Kylie Barker, Chemistry
- 2000-present  R. Aeryn Mayer, Chemistry, M.S.
- 2000-2004  Ryan Andersen, IBiS, Ph.D.
- 1999-2004  Brian Rous, Chemistry, Ph.D.
- 1998-2006  Elizabeth Suarez (formerly Claudio), Chemistry
- 1998-2002  John Magyar, Chemistry, Ph.D.
- 1998-2001  Ricardo Garcia, IBiS, Ph.D.
- 1998-2003  Amy Ghering, Chemistry, Ph.D.
- 1997-1998  Matthew Zart, Chemistry M.S.
- 1997-2002  Sandhya Deo, Chemistry, Ph.D.
- 1996-2002  John Payne, Chemistry, Ph.D.
- 1996-2002  Bernd Sehgal, Chemistry, Ph.D.
- 1996-1997  Russell Scarola, Chemistry M.S.

**Undergraduate Researchers:**
- 2008-present  Timia Crisp (UCLA PREP program)
- 2008-present  Bryan Moy
- 2008-present  Jordan Baldonado
- Summer 2008  Ngoc Hoang
- Summer 2005  USS workshop: 17 incoming freshmen and 6 student mentors
- 2005-2006  Marco Russo
- 2004-2005  Kimberley Zamor
- 2004-2005  Mahesh Polavarapu
- Summer 2004  USS workshop: 14 incoming freshmen and 6 student mentors
- 2003-2006  Joseph Hoover
- 2003-2004  Sharon Calderwood
- 2003-2004  Audrey Thompson
2003-2004  Desma Mitchell  
Summer 2003  USS workshop: 12 incoming freshmen and 2 student mentors  
2001-2002  Laura Meints  
2001-2003  Jennifer VanOverbeke  
2001  Khadijah Breathett  
2000-2001  Maggie Overbey  
2000-2002  Jovana Grbic, B. S. with honors  
2000-2003  Adam Tenderholt  
2000  Kari Riggs, B.A.  
1999-2001  Doug Fowler, B.S. with honors  
1999  David Gamboa, B.S.  
1999-2000  Jaime Royal  
1999-2001  Nathan Shepherd, B.S. with honors  
1999  Ben Staehlin, B.S.  
1998-1999  Anne Reynolds, B.S. with honors  
1998-1999  Eric Roeland, B.A.  
1998-1999  Jeffrey Wang , B.S. with honors  
1997  Ghenet Simpson, B.S.  
1996-1998  Arlene Molino, B.S. with honors  
1996-1998  Sidharth Padia, B.S. with honors  

PH.D. THESES SUPERVISED  

GRADUATE COMMITTEES (NOT RESEARCH ADVISOR) AT UCLA:
2009-present  Mary Jane Knight, ACCESS
2008-present  Marisa Monreal, Chemistry
2008-present  David Fung, Environmental Health Sciences
2007-present  Nancy Jennerjohn, Environmental Health Sciences
2007-present  Demian Willette, Environmental Health Sciences
2007-present  Steven Karpowicz, Chemistry
2007-present  Kevin Sea, Chemistry
2007-present  Lindsay Kane, Chemistry
2007        David Kimbrough, Environmental Health Sciences

GRADUATE COMMITTEES (NOT RESEARCH ADVISOR) AT NORTHWESTERN UNIVERSITY:
2006        Rebecca Copeland, Chemistry
2005-2006   Yoriel Marcano, Chemistry
2005-2006   Monica Canalizo, Chemistry
2005-2006   Meera Raja, Chemistry
2004        Chris Singer, Ph.D. Chemistry
2004-2006   Ian Saratovsky, Chemistry
2004        Laura Lemmers, Chemistry
2004-2006   Hamsell Alvarez, Chemistry
2003-2006   Jody Major, Chemistry
2003-2006   Korin Wheeler, Chemistry
2003-2006   Chandra Ranjit Yonzon, Chemistry
2002-2006   Yi Xue, Chemistry
2002-2006   Carnie Abajan, Chemistry
2002-2005   Jodi O'Donnell, Ph.D. Chemistry
2002-2005   Rebecca Landry, Ph.D. Chemistry
2002-2006   Eric Kawamoto, Chemistry
2002-2005   Hogbo Li, Ph.D. Chemistry
2002-2006   Jiang Yao, Chemistry
2001-2002   Eileen Bayer, IBiS
2001-2005   Kristi Calvert, Chemistry
2001-2005   Martin Masar, Chemistry
2000-2005   Lydia Finney, Ph.D. Chemistry
2000-2004   Amy Wernimont, IBiS
1999-2002   Joanna Miller, IBiS
1999-2002   Adam Eisenberg, Chemistry
1999-2001   Matthew Metz, Chemistry
1998-2001   Michael Douglass, Ph.D., Chemistry
1998-2000   Craig McLaughlan, Ph.D., Chemistry
1998-2000   Michael Schwartz, Ph.D., IBiS
1997-2001   Paul Gene, Ph.D., Chemistry
1997-2001   Caryn Outten, Ph.D., Chemistry
1997        Bo Yang, M.S. Chemistry
1997-2000  James Storhoff, Ph.D., Chemistry  
1996-2000  Wade K. Jarrell, Ph.D., Chemistry
BIOGRAPHICAL SKETCH
Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person: **NAME**

**POSITION TITLE**

**eRA COMMONS USER NAME**

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edinburgh University, Scotland, UK</td>
<td>B.Sc.</td>
<td>1967</td>
<td>Genetics</td>
</tr>
<tr>
<td>Cambridge University, England, UK</td>
<td>Ph.D.</td>
<td>1972</td>
<td>Genetics</td>
</tr>
<tr>
<td>Harvard University, Cambridge, MA</td>
<td>Postdoc</td>
<td>1972-74</td>
<td>Som. Cell Genetics</td>
</tr>
<tr>
<td>University of Colorado, Denver</td>
<td>Postdoc</td>
<td>1974-75</td>
<td>Som. Cell Genetics</td>
</tr>
<tr>
<td>University of California, Berkeley</td>
<td>Postdoc</td>
<td>1975-78</td>
<td>Som. Cell Genetics</td>
</tr>
</tbody>
</table>

**Positions and Honors**

**Positions and Employment**

1978-1979 Assistant Research Biologist, University of California, Berkeley
1979-present Assistant Professor, Associate Professor and Professor, Department of Pathology and Laboratory Medicine, School of Medicine, UCLA
1993-present Member of the Molecular Biology Institute, UCLA
1994-2003 Director of the Viral and Chemical Carcinogenesis Program Area of the UCLA Jonsson Comprehensive Cancer Center
1996-2003 Vice Chair for Research, Department of Pathology and Lab. Medicine, UCLA
2000-present Director, UCLA Molecular Toxicology Interdepartmental Doctoral Program

**Honors**

1967 Graduated summa cum laude with an Honors B.Sc. Degree in Genetics, University of Edinburgh, Scotland
1972-1974 Fellowship, Leukemia Society of America, Inc.
1990-1991 Associated Western Universities/DOE Distinguished Lecturer

**National Advisory Committee Membership during the last three years:**

Reviewer, NIH Site Visit to Wayne State University, May, 2003
Ad hoc member, NIH Alcohol and Toxicology 1 Study Section, June and October, 2003

**A. Peer-reviewed publications since 2001 (in chronological order)**


Heo, Y., Saxon, A., **Hankinson, O.** Effect of Diesel Exhaust Particles and their Components on Allergen-Specific IgE and IgG1 response in mice. Toxcol. 159: 143-158 (2001).


Saarikoski, S.T, Rivera, SP, and **Hankinson, O.** Mitogen-inducible gene 6 (MIG-6), adipophilin and tuftelin are inducible by hypoxia. FEBS Lett. 530: 186-190 (2002).


Wang F., Shi S, Zhang R., and **Hankinson, O.** Comparative microarray analysis of gene expression in mouse Hepa-1c1c7 and B mutant cell lines - the effect of the aromatic hydrocarbon receptor on the phenotype of the cells in the absence of exogenous ligands. Gene Regulation and Systems Biology 1: 49-56 (2007)


Quesada, A., Bui, P.H., **Hankinson, O.** and Handforth, A.. NNC55-0396, a mibefradil derivative, exerts less behavioral and pharmacokinetic interaction with harmaline than mibefradil in mice. Submitted to Drug Metab. Disp. (2009)

**Research Support**

**ACTIVE**

1RO1ES015384-01 (Hankinson) 9/28/06 - 7/31/11

NIH/NIEHS
Function and Regulation of Human Cytochrome P4502S1
We will identify substrates of the newly identified human CYP2S1 and delineate the mechanisms of induction of the gene by xenobiotics and hypoxia.

5R01CA28868-25 (Hankinson) 12/01/05 – 11/30/10

NIH/NCI
Carcinogen Activation and Screening in Variant Cells
The roles of coactivators, corepressors and chromatin modification will be evaluated during dioxin induction of the human CYP1A1 and CYP1B1 genes.

T32ES015457-01A1 (Hankinson) 7/1/08 – 6/30/13

NIH/NIEHS
Training in Molecular Toxicology
This is a training grant for pre-doctoral students and postdoctoral scholars at UCLA.

U19 AI-67769 (W. McBride) 8/3/2005 – 7/30/10

NIH/NIAID seed grant to O. Hankinson (7/1/08-6/30/09)
Contract/Grant Title: UCLA Center for Biological Radioprotectors.
O. Hankinson’s project: Radioprotection by Dibenzoylmethane as a potential radioprotector
The University of California Institute for Mexico and the United States
Evaluation of the Role of HIF-1 in allergic Airway Inflammation
Using a knockout mouse for ARNT, we will determine if HIF-1 is required for the asthmatic response.

COMPLETED DURING LAST THREE YEARS

CN-08-178 (Hankinson) Years 4 through 8. 7/1/03 - 6/30/08
UC Toxic Substances Research and Teaching Program
UCLA/UC Riverside/Los Alamos Consortium in Research and Training in Mechanisms of Toxicity.
This is a training grant which supports graduate student research in molecular toxicology at UCLA and UCR, and fosters collaborations between the three campuses.

U19AI-66769 (W. McBride) 8/3/2005 - 7/30/10
NIH/NAID
UCLA Center for Biological Radioprotectors
O. Hankinson was PI of a seed grant for the period 4/1/07 – 3/31/08 to ascertain whether small molecules that up-regulate Hypoxia Inducible Factor confer radioprotection.

05A092 (Hankinson) 01/02/06 - 12/31/07
American Institute of Cancer Research
Mechanism of Cancer Chemoprevention by Constituents of Cruciferous Vegetables
We will study the role of down-regulation of CXCR4 and CXCL12 in 3,3'-indolylmethane's protective effect against breast cancer.

5 R01 CA93471-01-05 (Hankinson) 12/01/01 – 11/30/06
NIH/NCI
ARNT: Roles in Tumor Induction and Growth, and Toxicity
This study will utilize mice in which the aryl hydrocarbon receptor nuclear translocator (ARNT) gene has been knocked out in specific adult tissues to investigate the role of the ARNT protein (i) in mediating toxic and carcinogenic effects of dioxin and other ligands for the aryl hydrocarbon receptor, and (ii) in determining the degree of angiogenesis and growth rate of tumors.

5 P01 AI050495-05 (Saxon) 09/01/01 – 06/30/06
NIH/NIAID
Xenobiotics and Allergic Inflammation
Use of different model compounds and mutant mouse strains to investigate the mechanisms whereby diesel exhaust particles act as an adjuvant for allergic airway disease. O.H. was co-PI of project 4.
CURRICULUM VITAE

William Carson Hinds

Date of Birth: May 3, 1939
Place of Birth: Waterville, Maine, USA
Academic Title: Professor of Environmental Health Sciences
Business Address: UCLA School of Public Health
University of California, Los Angeles
650 Charles E. Young Drive South
Los Angeles, California 90095-1772
Phone: (310) 825-7152
Fax: (310) 794-9317
e-mail: whinds@ucla.edu

Home Address: Pacific Palisades, California 90272

EDUCATION

B.M.E. Mechanical Engineering Cornell University 1962
M.S. in Hyg. Air Pollution Harvard University 1969
Sc.D. Environmental Health Harvard University 1972
Certificate of Advanced Engineering Study (for work completed in 1962 equivalent to a Master of Engineering degree) Cornell University 1988

HONORS

U.S. Public Health Service Traineeship, 1968-72
Sigma Xi, 1972-Present
3M Foundation Honorary Research Grant, 1985
UCLA Health Careers Opportunity Program Special Recognition Award, 1985
Delta Omega (Public Health Honorary Society) 1988-Present
Ralph Sachs Visiting Scholar at UC Berkeley, 1989
Outstanding Faculty Member, UCLA School of Public Health, Spring 1990
Fellow, American Industrial Hygiene Association, 1994-Present
American Industrial Hygiene Association, Southern California Section, Technical Achievement Award, 1996
Distinguished Teaching Award, Public Health Student Association, 1997
Exceptional Teaching Award, Public Health Student Association, 1998
American Industrial Hygiene Association, Donald E. Cummings Memorial Award (to be awarded June 1, 2009)
BOARD CERTIFICATION

Full Diplomate of the American Board of Industrial Hygiene (Certified Industrial Hygienist (CIH) in Comprehensive Practice) Certification Number 996 (1975-Present)

Registered Environmental Assessor (REA) State of California, Number 03865 (1992-1996)

PROFESSIONAL EXPERIENCE

2000-Present  Director NIOSH Southern California Education and Research Center
1993-2000  Deputy Director, NIOSH Educational Resource Center (Southern California)
1993-93  Acting Director, UCLA Center for Occupational and Environmental Health
1989-91  Chair, Department of Environmental Health Sciences, UCLA School of Public Health
1989-Present  Professor of Environmental Health Sciences
1988-90  Vice Chair, Department of Public Health, UCLA School of Public Health
1987-89  Division Head, Division of Environmental and Occupational Health Sciences, UCLA School of Public Health
1986-89  Professor of Public Health, Division of Environmental and Occupational Health Sciences, UCLA School of Public Health
1984-88  Affiliated Faculty Member of UCLA School of Engineering and Applied Science
1984-84  Acting Associate Director of the University of California Southern Occupational Health Center, UCLA School of Public Health
1982-Present  Director of the UCLA Industrial Hygiene Program
1982-86  Associate Professor of Public Health, Division of Environmental and Occupational Health Sciences, UCLA School of Public Health
1980-82  Associate Professor of Environmental Health Engineering, Department of Environmental Health Sciences, Harvard University School of Public Health
1973-80  Assistant Professor of Environmental Health Engineering, Department of Environmental Health Sciences, Harvard University School of Public Health
1972-73  Research Associate in Industrial Hygiene Engineering, Department of Environmental Health Sciences, Harvard University School of Public Health
1970-71  Teaching Fellow in Environmental Health Sciences, Harvard University School of Public Health
1963-68 Research Engineer, Department of Industrial Hygiene, Harvard University School of Public Health

RESEARCH

Major Research Interests

Fundamental and applied research related to aerosols (airborne particles) including, physical and chemical properties, characterization of aerosols for human health hazard evaluation, respiratory deposition of aerosols, aerosol formation, aerosol measurement instrumentation; performance and evaluation of respiratory protective devices; modeling and evaluation of near-field contaminant dispersion; and control methods for airborne contaminants.

Research Grants, Principal Investigator

"Aerosols Produced by Bursting Bubbles at Liquid Surfaces", University of California Academic Senate Research Grant, 2/18/83 - 6/30/83, $2388.


"Filter Performance Study," Los Alamos National Laboratory, 1/1/90 to 12/31/90, $15,000.


"Inhalation and Sampling of Large Particles, 10-150 \( \mu \)m," NIOSH 9/30/94-9/29/98, $208,873.

“Effect of Temperature and Humidity on Particle Size of Cigarette Smoke,” UCLA Academic Senate, 7/1/95-6/30/96 $3,365.

“Exposure Assessment Analytical Core, Center for Environmental Exposure, Host Factors and Human Disease,” NIEHS 4/1/96-3/31/01 $485,421, 4/1/01-3/31/06 $600,000 ($120,000/year).


California Air Resources Board “Development of an Exposure Facility to Conduct Inhalation Studies of Ambient Aerosols,” 10/1/00 - 9/30/01, $536,339 (Co-PI).

"Southern California Particulate Matter Supersite," EPA 01/01/00 - 12/31/04, $3,499,908 (total) (Co-PI).

California Air Resources Board "Cardiovascular Health Effects of Fine and Ultrafine Particles during Freeway Travel," 2005-2010, $640,674 (PI).

NIEHS "Exposure Assessment and Analytical Chemistry Facility Core" 04/01/01-3/31/06 $638,000

NIEHS "Exposure Assessment and GIS Facility Core" 04/01/06 – 03/31/11, $279,055.

California Wellness Foundation, "Illness and Injury Prevention for Low Wage Service Workers," 7/1/06-6/30/09, $160,000.

Susan Harwood Training Grant from OSHA , "Injury and illness prevention training for groundkeepers," 10/2/06 - 9/30/07, $188,287

Susan Harwood Training Grant from OSHA, "Pandemic Flu – planning for small businesses," 10/1/07 - 9/30/08, $259,796

Research Grants - Co-investigator

NIOSH/DOE R01/CCR912034 “Worker Exposure Assessment and Hazard and Medical Surveillance Program”, $267,360, 9/30/95-9/29/99.

CARB "Development of an exposure facility to conduct inhalation studies of ambient aerosols," 5/30/99-8/30/04, $2,500,000; $428,069 (first year).

EPA "Southern California Center for Airborne Particulate Matter (SCCAPM)," 06/01/99-05/31/04, $8,715,583 (total).


Health Effect Institute, “Effects of Diesel Exhaust and Other Particles on Exacerbation of Asthma and Other Allergic Diseases,” 7/1/01-12/31/02, $107,700.

South Coast Air Quality Management District – Asthma Consortium, "The Roles of Pollutant Components in the Development of Asthma," 04/01/08 03/30/09, $47,485.

Training Grants, Principal Investigator


"Industrial Hygiene Program", National Institute for Occupational Safety and Health Educational Resource Center, July 1, 1989 to June 30, 1994, $897,008.


"Hazardous Substances Academic Training," NIOSH/USC, 7/1/97-6/30/02 $455,637 (requested). Awarded: 7/02-6/03, $37,000.

"Southern California NIOSH Education and Research Center," NIOSH 7/1/00 - 6/30/04, $2,724,000; 7/1/00-6/30/01 $738,229; 7/1/01-6/30/02 $843,247; 7/1/02-6/30/03 $976,632.

PI for entire Center and for the following programs:

<table>
<thead>
<tr>
<th>Program</th>
<th>Years</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Industrial Hygiene Program</td>
<td>2002-03</td>
<td>$174,135</td>
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<tr>
<td>Hazardous Substance Academic Training Program</td>
<td>2002-03</td>
<td>$37,000</td>
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<td>Pilot Project Research Training Program</td>
<td>2002-03</td>
<td>$73,599</td>
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<td>Center Administration NIOSH ERC</td>
<td>2002-03</td>
<td>$31,863</td>
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"Southern California NIOSH Education and Research Center," NIOSH 7/1/04 - 6/30/09, $1,358,248/year. PI for entire Center and for the following programs:

<table>
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<tr>
<th>Program</th>
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<td>Industrial Hygiene Program</td>
<td>2002-03</td>
<td>$169,289</td>
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<td>Hazardous Substance Academic Training Program</td>
<td>2002-03</td>
<td>$59,000</td>
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<td>Pilot Project Research Training Program</td>
<td>2002-03</td>
<td>$106,974</td>
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<td>Center Administration NIOSH ERC</td>
<td>2002-03</td>
<td>$82,269</td>
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</table>

TEACHING

Courses Taught

Academic
- Aerosol Technology, EHS 253a,b and Engineering 286 (Harvard University)
- Air and Gas Cleaning (ESP section) EHS 265c,d and Engineering 289 (Harvard University)
- Departmental Seminar EHS 202c (Harvard University)
- EHS 200A Physical Agents Module (UCLA)
- EHS 200A Environmental Agents Segment (UCLA)
- EHS 200B Foundations of Environmental Health, Industrial Hygiene Segment (UCLA)
EHS 252D  Properties and Measurement of Airborne Particles [PH 257E] (UCLA)
EHS 252F  Industrial Hygiene Measurement Laboratory [PH 257G] (UCLA)
EHS 252G  Industrial and Environmental Hygiene Assessment (UCLA)
EHS 253  Physical Agents in the Work Environment [PH 257H] (UCLA)
EHS 254  Health Hazards of Manufacturing Processes [PH 157G] (UCLA)
EHS 255  Control of Airborne Contaminants in Industry [PH 257H] (UCLA)
EHS 296G  Advances in Aerosol Science (UCLA)
EHS 298B  Industrial Hygiene Management Seminar (UCLA)
EHS 400  Field Studies in Public Health [PH 400] (UCLA)
EHS 454  Health Hazards of Manufacturing Processes [EHS 254] (UCLA)
EHS 596  Directed Individual Study [PH 596] (UCLA)
EHS 597  Preparation for Doctoral Exam [PH 597] (UCLA)
EHS 598  Masters Thesis Research [PH 598] (UCLA)
EHS 599  Doctoral Dissertation Research [PH 599] (UCLA)

Executive MPH Program
  Lecturer in Community Health Sciences Executive MPH Program
  Lecturer in Health Services Executive MPH Program

Tutorials at Professional Meetings (national and international level)
  American Industrial Hygiene Association (6 times)
  American Association for Aerosol Research (26 times)
  International Aerosol Conference (Los Angeles; Edinborough, Scotland, UK)
  American Conference of Governmental Industrial Hygienists
  European Aerosol Conference (Dublin, Ireland)
  7th International Aerosol Conference, St. Paul, MN (2006)

Continuing Education (Harvard)
  Director, Harvard-Dupont Industrial Hygiene Review Course (3); Co-Director, Harvard
  Industrial Hygiene Workshop (20). Lecturer in over 50 continuing education courses
  including Harvard-G.E., Fundamentals of Industrial Hygiene, Harvard-Dupont Industrial
  Hygiene Review Course, Industrial Hygiene Workshop, Occupational and Environmental
  Radiation Protection, Filter Testing Workshop, Current Topics in Industrial Hygiene, and
  Environmental Impact of Energy Development.

Doctoral Committees

Doctoral Committees, Chair
  Eugene Mallove  1973-75  (HU)
  John Leonovich  1979-80  (HU)
  Peter Bellin     1985-89  (UCLA)
  Ti-Lin Kuo      1989-93  (UCLA)
  Ronald Scripsick 1990-94  (UCLA)
  Nani Kadrichu   1995-98  (UCLA)
  Nola Kennedy    1997-2000 (UCLA)
  Bart Ashley     1998-2001 (UCLA)
  Yifang Zhu      1999-2003 (UCLA)
  Craig Conlon    2001-2008 (UCLA)
  Peng-Cheng Sung 2001-2007 (UCLA)
<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Institution</th>
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<tr>
<td>James Hollingshead</td>
<td>2002-2007</td>
<td>(UCLA)</td>
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<tr>
<td>Dane Westerdahl</td>
<td>2003-Present</td>
<td>(UCLA ESE)</td>
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<tr>
<td>Jeffrey Birkner</td>
<td>2003-2007</td>
<td>(UCLA) (Co-chair)</td>
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<tr>
<td>Nancy Jennerjohn</td>
<td>2004-Present</td>
<td>(UCLA) (Co-chair)</td>
</tr>
<tr>
<td>David Fung</td>
<td>2006-Present</td>
<td>(UCLA)</td>
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**Doctoral Committees, Member**

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<tr>
<td>Douglas Dockery</td>
<td>1976-79</td>
<td>(HU)</td>
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<tr>
<td>Nelson Leidel</td>
<td>1976-79</td>
<td>(HU)</td>
</tr>
<tr>
<td>Thomas Kolonowski</td>
<td>1979-81</td>
<td>(HU)</td>
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<tr>
<td>Robert Clifford</td>
<td>1981-82</td>
<td>(HU)</td>
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<tr>
<td>Edward Maher</td>
<td>1981-82</td>
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<tr>
<td>Victor Liu</td>
<td>1983-87</td>
<td>(UCLA EOHS)</td>
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<tr>
<td>Dennis Robinson</td>
<td>1983-85</td>
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<tr>
<td>Brenda Seidman</td>
<td>1983-85</td>
<td>(UCLA Med)</td>
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<tr>
<td>Kent Volkmer</td>
<td>1984-85</td>
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<tr>
<td>Soteris Pratsinis</td>
<td>1984-85</td>
<td>(UCLA SEAS)</td>
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<tr>
<td>Mark Saperstein</td>
<td>1985-86</td>
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<tr>
<td>Tiivo Kodas</td>
<td>1985-86</td>
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<tr>
<td>Pieter van der Torn</td>
<td>1986-91</td>
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<td>Jong-Song Lee</td>
<td>1987-89</td>
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<tr>
<td>Joon-Wun Kang</td>
<td>1987-89</td>
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<tr>
<td>Jeffery Cheek</td>
<td>1988-88</td>
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<tr>
<td>Tam Smalstig</td>
<td>1989-92</td>
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<td>Marisa Mazari</td>
<td>1989-92</td>
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<tr>
<td>Judy Libra</td>
<td>1989-91</td>
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<tr>
<td>Kyoung-Sin Ro</td>
<td>1989-89</td>
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<td>Kenneth Wilmarth</td>
<td>1990-91</td>
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<tr>
<td>Devon Cancilla</td>
<td>1990-91</td>
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<td>Shiaw-Fen Ferng</td>
<td>1990-91</td>
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<td>Michael St. Denis</td>
<td>1991-93</td>
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<td>Sumeet Chhibber</td>
<td>1991-92</td>
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<td>Eric Fujita</td>
<td>1991-92</td>
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<td>Pablo Cicero-Fernandez</td>
<td>1992-95</td>
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<td>Lianfa Song</td>
<td>1992-93</td>
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<td>Yu-Wen Lin</td>
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<td>Hsiao-Ting Chen</td>
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<td>Day-Lin Liu</td>
<td>1993-93</td>
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<tr>
<td>Seung-Kwan Hong</td>
<td>1994-96</td>
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<tr>
<td>Robert Windeler</td>
<td>1994-96</td>
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<tr>
<td>Xiaohua Zhu</td>
<td>1994-96</td>
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<td>Jerry Ho</td>
<td>1994-96</td>
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<td>Namita Verma</td>
<td>1995-95</td>
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<td>Ning Sun</td>
<td>1996-98</td>
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<td>Shih-Wei Tsai</td>
<td>1996-98</td>
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<td>Paul Beswick</td>
<td>1996-98</td>
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<tr>
<td>Lynn Creelman</td>
<td>1996-97</td>
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<tr>
<td>Rania Sabty</td>
<td>1996-2001</td>
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<td>Raymond Chavira</td>
<td>1997-1998</td>
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<tr>
<td>Michael Benjamin</td>
<td>1997-1998</td>
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<tr>
<td>Jingyang Zhang</td>
<td>1998-2002</td>
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<td>Jae Chung Young</td>
<td>1998-2000</td>
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<tr>
<td>Yang Shen</td>
<td>1998-2000</td>
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</table>
Anne-Christine Aycaguer 1999 (UCLA ESE)
Michael Stowers 1999 (UCLA SEAS)
Mary Ann Black 1999-2001 (UCLA EHS)
Ray Chavira 1999-2002 (UCLA ESE)
Naomichi Yamamoto 2000 (UCLA EHS)
Weiguang Zhang 2001-2003 (UCLA EHS)
Jennifer Jones 2001-2004 (UCLA ESE)
Jun Wu 2001-2004 (UCLA EHS)
Todd Sax 2001-2004 (UCLA ESE)
Chandran Misra 2002-2004 (USC Env. Eng.)
Eduardo Behrentz 2002-2005 (UCLA ESE)
Lisa Sabin 2002-2005 (UCLA ESE)
Crystal Reul 2002-2004 (UCLA ESE)
Derek Shendell 2002-2003 (UCLA ESE)
Jesus Santos 2002-2004 (UCLA EHS)
Manisha Singh 2003-2005 (USC Env. Eng)
Scott Fruin 2003 (UCLA ESE)
Robert Phalen 2003 (UCLA EHS)
Namita Verma 2003-2007 (UCLA ESE)
Wenhai Xu 2003-2007 (UCLA EHS)
Anshuman Lall 2004-2006 (UCLA Chem Eng)
Teresa Barone 2004-2006 (UCLA Chem Eng)
Jason Wang 2004-2005 (UCLA EPI)
Jeong Lee Seong 2005 (UCLA ESE)
Kathleen Kozawa 2005-2007 (UCLA ESE)
Margret Krudysz 2005-Present (UCLA EHS)
Cody Livingston 2006-2007 (UCLA ESE)
Patrick Sislian 2007-Present (UCLA Chem Eng)
Catherine Kaddis 2008-2008 (UCLA Chem & Biochem)

Masters Committees, Chair
Linda Weil 1980-81 (HU)
Susan Baron 1980-81 (HU)
Nola Engle 1985-93 (UCLA EHS)
Ti-Lin Kuo 1987-89 (UCLA EHS)
David Risi 1990-91 (UCLA EHS)
Justine Smitherman 1990-91 (UCLA EHS)
Anathalie Priestley 1990-91 (UCLA EHS)
Rocky Dendo 1991-92 (UCLA EHS)
Cora Gherga 1992-93 (UCLA EHS)
Eunice Kwon 1992-93 (UCLA EHS)
John Salzer 1992-94 (UCLA EHS)
Christopher Marquez 1993-96 (UCLA EHS)
Michael Cappas 1993-94 (UCLA EHS)
Aaron Davenport 1994-95 (UCLA EHS)
Timothy Eng 1994-95 (UCLA EHS)
Melissa Thomas 1994-95 (UCLA EHS)
Daniel Chan 1994-96 (UCLA EHS)
Anthony Lee 1995-97 (UCLA EHS)
Lori Maeda 1995-97 (UCLA EHS)
Karina Tatyan 1995-97 (UCLA EHS)
Kristine Bell 1996-98 (UCLA EHS)
Sara Richards 1996-98 (UCLA EHS)
Ted Benchoff 1998-99 (UCLA EHS)
Marlene Chuek 1998-99 (UCLA EHS)
Gerald Pineda 1998-99 (UCLA EHS)
William Peck 1998-99 (UCLA EHS)
Rose Siengsubcharti 2000-01 (UCLA EHS)
Karen Ko 2000-01 (UCLA EHS)
Jimmy Shaw 2000-01 (UCLA EHS)
Ross Veal 2000-01 (UCLA EHS)
Patricia Menjivar 2002-03 (UCLA EHS)
Alec Revchuck 2005-06 (UCLA EHS)
David Fung 2005-06 (UCLA EHS)

Masters Committee, Member
Hillary Main 1988-88 (UCLA SEAS)
Douglas Chapin 1988-90 (UCLA EHS)
Anne Adamson 1989-89 (UCLA EHS)
Andrew Sheldon 1990-90 (UCLA EHS)
Eugene Paik 1991-91 (UCLA EHS)
Yu-Wen Lin 1992-92 (UCLA EHS)
Ana Samimi 1993-93 (UCLA EHS)
David Kimbrough 1993-94 (UCLA EHS)
Arslan Khan 1993-94 (UCLA EHS)
Ray Chavira 1994-95 (UCLA EHS)
Songdu Chang 1995-96 (UCLA EHS)
Xuesong Lu 1994-95 (UCLA EHS)
Jinghui Wang 1995-96 (UCLA EHS)
Soo Young Kim 1997 (UCLA EHS)
Philip Simpson 1997 (UCLA SEAS)
Kyle Lim 1998-99 (UCLA EHS)
Keummi Park 1998-99 (UCLA EHS)
Gerald Pineda 1998-99 (UCLA EHS)
Patricia Harris 1998-00 (UCLA EHS)
Linda Arias 1999-00 (UCLA EHS)
Kim Preston 2000 (UCLA EHS)
Pin-Chieh Wang 2000-01 (UCLA EHS)
Mayra Tinoco 2000-01 (UCLA EHS)
Kenneth Wong 2001-02 (UCLA EHS)

Masters Student Mentor
Hyun Tai Kim 2001 (UCLA visiting student, KJIST, Seoul Korea)

Project Consultant
Students: Suzanne Bonner, Sandra Lee, David Young, and Stacy Schlegal 2002 (UCLA AGSM)

Consultant on aerosol instrumentation for Anderson Graduate School of Management, Global Access Program (GAP) project

SERVICE

Professional and Scholarly Service
1973-80  Member of Committee D-22, Methods of Sampling and Analysis of Atmospheres, of American Society for Testing and Materials (national level)

1974-88  Professional Development Course Instructor for American Industrial Hygiene Conference (national meeting)

1974-88  Member of TT-1 (Particulate) Technical Committee of the Air Pollution Control Association (national level) [continues as AB-1 Particulates Committee]

1974-75  Member of Program Committee of Harvard/Radcliff Chapter of Sigma Xi

1975-80  Proctor for American Board of Industrial Hygiene Certification Examinations

1976-90  Member of Aerosol Technology Committee of American Industrial Hygiene Association (national level)

1976-79  Secretary for Aerosol Technology Committee of American Industrial Hygiene Association (national level)

1976-80  Member of Aerosol Transport Committee of the Reactor Safety Data Coordinating Group for the Department of Energy

1982-2001 Member of Air Sampling Procedures Committee of American Conference of Governmental Industrial Hygienists (national level)

1984-93  Reviewer of grant proposals for National Science Foundation

1984-91  Editorial Board Member, Journal of Aerosol Science

1984-1997 Member of the Executive Committee of the Southern California NIOSH Educational Resource Center

1985  Reviewer of grant proposals for University-wide Energy Research Group

1986-92  Member of Education Committee of American Association of Aerosol Research (national level)

1987  Proposal reviewer for Occupational Health Advisory Board of General Motors and United Auto Workers

1987-91  Guest lecturer on industrial hygiene ventilation control at University of Southern California

1988  Ad Hoc member of NIOSH Board of Scientific Counselors for site visit of Division of Safety Research, National Institute for Occupational Safety and Health, Morgantown, WV

1988-91  Member of Working Group on Respiratory Protection of American Association of Aerosol Research (national level)

1989  Proposal reviewer for Occupational Health Advisory Board of Chrysler/United Auto Workers
1989-2000  Member of AB-1 Particulates Committee of the Air and Waste Management Association (national level)

1990-91  Consultant to National Institute for Occupational Safety and Health for NIOSH Assessment of Performance Levels for Industrial Respirators: Prerulemaking Technical Conference

1990-93  Member of Editorial Board of the Journal of the International Society for Respiratory Protection (national Level)

1990-93  Board of Directors, American Association for Aerosol Research (elected, national level)

1991-Present  Member of American National Standards Institute Committee Z88.12, Respiratory Protection for Infectious Agents (national level)

1993-93  Consultant to General Accounting Office of the U.S. Congress for Occupational Health Assessment of Maquiladora Industries

1994-95  Member Nominating Committee American Association for Aerosol Research
1995-95  Outside Promotion Evaluator for University of Illinois at Chicago

1996-Present  Member of the Executive Committee of the NIEHS Southern California Environmental Health Sciences Center

1997  Outside Promotion and Tenure Evaluator for University of West Virginia

1997-Present  Member of the Executive Committee of the Southern California NIOSH Education and Research Center

1997  NIOSH Site-Visitor for University of Oklahoma Industrial Hygiene Program

1998  Member of the Planning Committee for the Southern California NIOSH ERC Continuing Education Program

1998-1999  Consultant to National Academy of Sciences for Strategies to Protect the Health of Deployed Forces: Physical Protection and Decontamination, Respirator Protection

1999  Reviewer for Center for Occupational and Environmental Health Student Research Awards

1999-2005  Member of the Executive Committee of the Southern California Center for Airborne Particulate Matter

2001  Member of NIOSH Special Emphasis Panel for Agricultural Disease and Injury Research, Education, and Prevention Centers

2001  Reviewer for the NIOSH Alice B. Hamilton Award

2002-2005  Member Awards Committee, American Association for Aerosol Research
2002 External tenure and promotion reviewer for University of Iowa College of Public Health

2002-2005 Member Internal Advisory Committee for Southern California Particle Center and Supersite

2002-2005 Member Advisory Committee for California Population Health Forecasting Project

2002-2004 Core Faculty Member, SPH Scholarship, Teaching, and Evaluation Program for Tobacco Use Prevention (STEP UP) American Society for Public Health/American Legacy Foundation

2003 Proposal Reviewer for National Science and Engineering Research Council of Canada

2004 External tenure and promotion reviewer for University of Minnesota School of Public Health

2004 American Conference of Governmental Industrial Hygienists Awards Committee

2005 Joint Awards Committee for Thomas T. Mercer Award, Society for Aerosols in Medicine and American Association for Aerosol Research

2005 Proposal reviewer for Pilot Project for Southern California Environmental Health Center

2005 Proposal reviewer for NIOSH Health Effects Laboratory Division

2005 Tenure reviewer University of Illinois at Chicago

2008 Center proposal reviewer for Center of Excellence for Aerosol Science and Technology Promoting Sustainability, Swedish Research Council

2008 Proposal reviewer for Pilot Project for Southern California Environmental Health Center

2009 Proposal reviewer for NIOSH Division of Respiratory Disease Studies

2009 Promotion reviewer for National Taiwan University College of Public Health

University Committee Service

1977-82 MPH Committee (HSPH)
1982-83 Computer Usage Advisory Committee (UCLA SPH)
1982-83 Doctoral Admissions Committee (UCLA SPH)
1983-84 Long-Range Planning Committee (UCLA SPH)
1983-85 Admissions Policy Committee (UCLA SPH)
1983-85 Computer Committee (UCLA SPH)
1984-85 Chair of Industrial Hygiene Search Committee (UCLA SPH)
1984-85 Chair of Admission Policy Committee (UCLA SPH)
1984-86 Minority Advisory Committee (UCLA SPH)
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<th>Year(s)</th>
<th>Committee Name</th>
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<td>1985-86</td>
<td>UCI Industrial Hygiene Search Committee</td>
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<td>1985-87</td>
<td>SPH Dean Search Committee</td>
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<td>1985-87</td>
<td>Credentials Committee</td>
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<td>Staff Reclassification Review Committee</td>
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<td>1987-89</td>
<td>Chair of Industrial Hygiene Search Committee</td>
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<td>1987-91</td>
<td>Interdepartmental Committee for Environmental Science and Engineering</td>
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<td>Space Committee</td>
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<td>Faculty Council</td>
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<td>Environmental Science and Engineering Search Committee</td>
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<td>1991-92</td>
<td>SPH Research Committee (Chair)</td>
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<td>1991-93</td>
<td>Academic Policy and Procedures Committee, Course Approval Subcommittee (Chair)</td>
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<td>1991-93</td>
<td>Admissions and Financial Aid Committee (Chair)</td>
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<td>MPH Comprehensive Examination Committee</td>
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<td>SPH Equipment and Laboratory Committee</td>
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<td>1993-93</td>
<td>Strategic Planning Curriculum Committee, DrPH Subcommittee (Chair)</td>
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<td>Academic Policy and Procedures Committee</td>
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<td>Tony Norton Memorial Fellowship Committee</td>
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<td>Interdepartmental Committee for Environmental Science and Engineering</td>
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<td>Equipment and Laboratory Committee</td>
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<td>Faculty Appointment Ad-Hoc Committee (Chair)</td>
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<td>Oversight Committee for Community Health Promotion Program</td>
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<td>Student Affairs Committee (Chair)</td>
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<td>Faculty Promotion Ad-Hoc Committee</td>
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<td>1999-2001</td>
<td>EHS Academic Policy Committee (Chair)</td>
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<td>2000-01</td>
<td>Community and Alumni Relations Committee</td>
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<td>2000-04</td>
<td>Ad Hoc Committee on Health Sciences Compensation Plan</td>
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<td>2001</td>
<td>Five-year Review Committee</td>
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<td>2001-02</td>
<td>Research Committee</td>
<td>UCLA COEH</td>
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<td>2002-2005</td>
<td>Ad Hoc Committee on Health Sciences Compensation Plan (Chair 2003)</td>
<td>UCLA SPH</td>
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<td>“UCLA Public Health” magazine Editorial Board</td>
<td>UCLA SPH</td>
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<td>2002-2008</td>
<td>Occupational Health/Environmental Health faculty position in Family Medicine Search Committee</td>
<td>UCLA COEH and SOM</td>
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</table>
2003 Faculty promotion Ad-Hoc Committee (UCLA SOM)
2004 Faculty promotion Ad-Hoc Committee (UCLA)
2004 Faculty promotion Ad-Hoc Committee (UCLA)
2004 External Advisory Committee for Alper Program in Environmental Genomics (UCLA MolTox)
2005 Search Committee for Director of UCLA LOSH Program (UCLA COEH)
2007-08 Search Committee for Director of SCERC (UCLA)

Participation in Professional Meetings


Invited paper on Dry-Dispersion Aerosol Generators, Symposium on Biological Studies of Environmental Pollutants, American Chemical Society, Honolulu, Hawaii (1979).


Conference Chairman for the 13th Aerosol Technology Meeting, Harvard University (1980).


Session Chairman for Aerosol Technology Session at 1982 American Industrial Hygiene Conference, Cincinnati, Ohio (1982).


Session Chairman for Optical Measurement Session at the First International Aerosol Conference, Minneapolis, MN (1984).


Session Chair at the 3rd International Aerosol Conference, Kyoto, Japan September 24-27, 1990.

Invited Plenary Speaker at the 1993 International Conference on Aerosol Science and Technology, Taichung, Taiwan, R.O.C. (1993)
Session Chair, Environmental Tobacco Smoke Session, First Annual Scientific Conference, Tobacco-Related Disease Research Program (1993)


Session Co-Chair, Filtration and Gas Cleaning Session, Fourth International Aerosol Conference, Los Angeles, CA (1994)


Session Co-Chair, PM Supersite Program, 2002 American Association for Aerosol Research, Charlotte, NC (2002)

Program Organizer and Session Chair, “Industrial Hygiene, Disaster Response, and Terrorism,” at NIOSH Industrial Program Directors Annual Meeting, San Diego, CA (2002)

Editorial Service to Scholarly Journals


Program Committee "Frontiers in Aerosol Dosimetry Research Conference, Irvine, CA (2005)

Invited tutorial speaker, 7th International Aerosol Conference, St. Paul, MN (2006)

Editorial Boards

Occasional Referee of papers for:
   Aerosol Science and Technology
   American Industrial Hygiene Association Journal
   American Journal of Public Health
   Applied Industrial Hygiene
   Applied Optics
   Applied Occupational and Environmental Hygiene
   Atmospheric Environment
   Chest
   Environmental Health Perspectives
   Filtration and Separation
   Journal of Aerosol Science
Journal of the Air Pollution Control Association
Journal of Air and Waste Management Association
Journal of Colloid and Interface Science
Journal of Environmental Engineering
Journal of Environmental Science and Health, Part A
Journal of Occupational and Environmental Health
Occupational Hygiene
Preventive Medicine
Powder Technology
Science
Talanta

PROFESSIONAL ASSOCIATIONS

Professional Associations (national and international)

Air Pollution Control Association (1975-90)
Air and Waste Management Association (1990-1992)
American Academy of Industrial Hygiene (1975-Present)
American Association for Aerosol Research (1981-Present)
American Association for Advancement of Science (1972-76)
American Conference of Governmental Industrial Hygienists (1983-Present)
American Industrial Hygiene Association (1973-Present)
American Industrial Hygiene Association Special Interest Group for Academic Education (1999-Present)
American Society for Testing and Materials (1973-80)
Delta Omega (Public Health Honorary Society) (1988-Present)
Gesellschaft Fuer Aerosolforschung (European Association for Aerosol Research) (1984-Present)
Sigma Xi (1972-Present)

Professional Associations (local)

New England Section of American Industrial Hygiene Association (1974-82)
Northeast Section of Air Pollution Control Association (1979-82)
Southern California Section of American Industrial Hygiene Association (1982- Present)
West Coast Section of Air Pollution Control Association (1982-1992)

Updated April 2009
William C. Hinds, Sc.D.

PUBLICATIONS

April 2009

BOOKS


CHAPTERS


DOCTORAL THESIS


PEER-REVIEWED PAPERS


OTHER PUBLICATIONS


Updated 04/09
CURRICULUM VITAE
Philip I. Harber
Professor of Family Medicine
Chief, Division of Occupational and Environmental Medicine
10880 Wilshire Blvd, Ste. 1800
Los Angeles, CA 90024
(310) 794-8144
pharber@mednet.ucla.edu

EDUCATION
1965 Central High School (Philadelphia, PA); B.A.
1968 Muhlenberg College (Allentown, PA); B.S., Natural Sciences
1972 University of Pennsylvania (Philadelphia, PA); M.D.
1980 Johns Hopkins University (Baltimore, MD); M.P.H.

LICENSURE
1976-81 Medical License, State of Maryland
1980-81 Medical License, State of Ohio
1981 Medical License, State of California

POST-GRADUATE TRAINING
1972-73 Internship, Rhode Island Hospital/Brown University (R-1 Medical)
1973-74 Anesthesia/Critical Care Residency, Hospital of the University of Pennsylvania
1974-75 Radiation Oncology Residency, Thomas Jefferson University Hospital
1977-78 Internal Medicine Residency, Washington Veterans Hospital/Georgetown University
1978-80 Fellowships in Pulmonary Diseases and Occupational Medicine, Johns Hopkins University
1980-81 Supervised Practice Year (Occupational Medicine), University of Cincinnati

CERTIFICATIONS
1973 Diplomat of the National Board of Medical Examiners
1979 Board Certified, Internal Medicine
1980 Board Certified, Pulmonary Diseases
1980 Board Certified, Occupational Medicine: Core Preventive Medicine
1981 Board Certified, Occupational Medicine
1982-90 Independent Medical Examiner, California WCAB
1982-86 Certified "B Reader", National Institute of Occupational Safety and Health
1987-91 Re-certified "B Reader", National Institute of Occupational Safety and Health
1992-96 Re-certified "B Reader", National Institute of Occupational Safety and Health
1997-01 Re-certified "B Reader", National Institute of Occupational Safety and Health
1991 Qualified Medical Examiner, California IMC

PROFESSIONAL POSITIONS
1972-73 Intern, R-1 Internal Medicine, Rhode Island Hospital/Brown University
1973-74 Resident, Anesthesia/Critical Care, Hospital of the University of Pennsylvania
1974-75 Resident, Radiation Oncology, Thomas Jefferson University Hospital
1975-77 Director, Health Services, Ft. Detrick, MD and Assistant Chief, Medical Division, U.S.Army Medical Research Institute of Infectious Diseases
1977-78 Resident, Internal Medicine, Washington, D.C. Veterans Administration Hospital/Georgetown University Program
1978-80 Fellowships in Pulmonary Diseases and Occupational Medicine, Johns Hopkins Hospital and School of Hygiene and Public Health
1980-81 Assistant Professor of Medicine and Assistant Professor of Environmental Health, College of Medicine, University of Cincinnati
1981-91 Chief, Occupational Medicine Branch, University of California, Los Angeles
1981-88 Assistant Professor of Medicine
1987-91 Director, UCLA Occupational Health Clinical Center
1988-94 Associate Professor of Medicine, UCLA
1990-99 Director, Occupational and Environmental Medicine Program, UCLA
1994-99 Professor of Medicine, UCLA
1998-99 Designate Director, USC/UCLA Occupational Medicine Residency Program
1999-present Professor of Family Medicine, UCLA
1999-present Chief, Division of Occupational and Environmental Medicine
1999-present Director, UCLA Occupational Medicine Residency Program
2003-2005 Vice Chair- Academic Affairs
2004-present Olive View-UCLA Medical Center – ambulatory care/community medicine.
2005-present West Los Angeles Veterans Administration Medical Center- Research Division and Pulmonary Services

HONORS

1968 Phi Beta Kappa, Muhlenberg College
1968 Bernheim Award, Muhlenberg College
1971 Alpha Omega Alpha, University of Pennsylvania
1972 Mosby Book Award, University of Pennsylvania
1982 Fellow, American College of Chest Physicians
1988 Fellow, American College of Occupational Medicine
1994 Felton Award for Scientific Writing, Western Occupational and Environmental Medical Association
1995 Merit in Authorship Award, American College of Occupational and Environmental Medicine
1995 Hamilton Award, New England Occupational Medical Association
2003 Rutherford Johnstone Award- Western Occupational & Environmental Medical Association
2007 Richards Distinguished Visiting Lectureship, University of Utah
2009 Kehoe Award, American College of Occupational & Environmental Medicine

MEMBERSHIPS

American Thoracic Society (ATS)
American College of Occupational and Environmental Medicine (Fellow) (ACOEM)
Western Occupational and Environmental Medicine Association (WOEMA)

PROFESSIONAL ACTIVITIES

Government Service
1984-85 Division of Industrial Accidents (California), Physicians Program Committee-Toxicology
1985-86 California Department of Occupational Safety and Health (DOSH, Cal-OSHA) Respirator Advisory Committee
1987-90 Technical Chair, Pulmonary Disability Committee, Division of Industrial Accidents
1987-90 California Division of Industrial Accidents, Heart-Lung Disease Committee
1989 Task Force on Occupational/Environmental Asthma, EPA/Agency for Toxic Substances
1990-91 Member, Malathion Public Health Effects Advisory Committee, California Department of Health Services
1991 Grant Reviewer, ad hoc, NIH
1991-92 California Department of Justice, Medical Advisory Panel, Commission on Peace Officer Standards and Training
1991-93 Occupational Medicine Committee, Division of Industrial Relations, Industrial Medical Council: Internal Medicine Committee, (advises and establishes policies regarding worker’s compensation)
1991-95 Cal-OSHA Advisory Committee (Advises Division of Occupational Safety and Health and Standards Boards on programmatic responsibilities)
1991-92 Healthy Los Angeles 2000 Objective Refining Team, Los Angeles County Department of Health Services
1992 Non-pneumoconiotic lung function effects of coal mining (invited participant). National Institute for Occupational Safety and Health
1993 Occupational Asthma Workshop (invited participant). National Institute for Occupational Safety and Health
1993 Deposition Studies Program (reviewer). NIOSH/ALOSH
1993 Study Section (special panel member). SOH, National Institutes of Health.
1995 Surveillance Advisory Committee, Department of Energy
1996 Industrial Medical Council (CA)- Evidence Panel- Low Back Pain Treatment
1999 Chair, Belmont Commission Public Health Subcommittee, Los Angeles Unified School District Board Of Education
1999-00 Environmental Health Advisory Committee, Los Angeles Unified School District
2000 Special Grants Review Panel- NIOSH
2001 Special Grants Review Panel- Agricultural Research- NIOSH
2001-2 Respiratory Questionnaire Committee (NIOSH)
2002 Site Visit Team, Education & Research Center CDC/NIOSH)
2002-03 Grant Reviewer, Hong Kong Research Commission
2002-2006 CDC Study Section (IRG)-Safety & Occupational Health (SOH) (Chair- 2004-2006)
2004 Grant Review Panel (SEP) Centers For Disease Control and Prevention (CDC), member
2005-10 Beryllium Worker Repository Program, Steering Committee, Dept. of Energy
2005-8 Work Exacerbated Asthma Committee, NIOSH/CDC
2005-6 Reviewer, Agency for Toxic Substances and Disease Registry
2006, 2007 NIOSH Director’s Award Committee, Chair
2006 NIOSH SEP Review (Mesothelioma Virtual Registry), Chair.
2006 NIOSH SEP Review (World Trade Center Clinical Treatment Program), Chair.
2006-8 Institute of Medicine: Committee on Gulf war and Health: Depleted Uranium Update. (Project sponsored by Department of Veterans Affairs and Department of Defense)
2007 CDC: Public Health Practice through Translation Research, secondary review panel, member

American College of Occupational-Environmental Medicine (ACOEM/AOMA)
1986-88 Occupational Lung Diseases Committee, Chair
1987-88 Council on Scientific Affairs, Vice-Chair
1989-91 Council on Scientific Affairs, Chair
1986-88 Council on Scientific Affairs, Member
1990-91 Vice Chair, Ergonomics Committee
1990-91 Member, Environmental Health Steering Committee
1992-93 Delegate, House of Delegates
1995 Scientific Program Chair, American Occupational Health Conference
1993-98 Council on Scientific Affairs, Member
1993-98 Medical Surveillance Committee, Chair
1996-98 Workers Compensation Committee, Member
1995-00 Practice Guidelines Committee, Member
1998-00 Medical Surveillance Committee, Member
1999-00 Council on Special Occupational Health Interests, Vice Chair
2000-02 Research committee, Chair
2000-01 Council on Special Occupational Health Interests, Chair
1983-present Occupational Lung Diseases Committee, Member
2001-02 Council on Education, Associate Chair
2002-03 Associate Chair, Council on scientific affairs
1999-02 Board of Directors
2002-05 Board of Directors
2002- present Residency Program Directors Committee
2002-04 Pfizer/ACOEM Grants for innovation research, committee member
2003-05 Committee on Practice Guidelines, Advisor 2003-2005
2003-04 Chair, Council on Scientific Affairs
2004-5 Council on Academics, Vice-Chair
2005-present Committee on Practice Guidelines, chair respiratory subcommittee
2005-6 AOHC Program Committee
2005- present MOC Part 4 Task Force Member
2005-6 Evidence Based Practice Committee
2005- present OEM Training Task Force Member
2004-6 Committee on Quality Occupational Health Management Systems
2006- present Committee on Occupational Medicine Competencies (member)

Other

2000 Committee On Regulating Occupational Exposure to Tuberculosis, Institute of Medicine, (Consultant)
2001-04; 04-07 Residency Review Committee (Preventive Medicine), Accreditation Council on Graduate Medical Education (ACGME) Vice Chair, 2004-7

Western Occupational and Environmental Medical Association (WOEMA)

1984-86 Alternate Delegate representing WOMA to AOMA
1985-87 Secretary
1985-93 Board of Directors
1986-87 Program Chair, Western Occupational Health Conference
1988-89 Second Vice-President
1989-90 First Vice-President
1990-91 President-Elect
1990-91 Chair, Long Range Planning Committee
1990-91 Program Co-Chair
1991-92 President
1992-93 Chairman of the Board

American College of Chest Physicians (ACCP)

1987-92 Steering Committee, Occupational/Environmental Section
1987  Abstract Grading Committee
1990  Abstract Grading Committee
1989-91  Chair, Section on Occupational and Environmental Lung Disease
1990-91  Planning Committee, Fourth International Conference on Occupational and Environmental Lung Disease
1991  Abstract Grading Committee
1992-95  Co-Chair, 5th International Conference on Occupational & Environmental Lung Disease
2005-07  Member, Comm on Occupational Asthma Guidelines

American Thoracic Society (ATS)

1982-83  Nominating Committee, Assembly on Environmental and Occupational Health
1991-92  Asthma Impairment Committee, Vice Chair
1992-96  Respiratory Protection Committee, Chair
1998-01  Asthma at Work and Play Committee, Member
2002-05  Nonmalignant Disease Due To Asbestos, Member
2005-present  Work Exacerbated Asthma Committee
2006-present  Webmaster, Environmental and Occupational Health
2007-present  Environmental and occupational health assembly planning committee
2008-present  Respiratory Impairment and Disability Comm, Chair
2008-present  Respiratory Protection Comm

American Lung Association of Los Angeles

1982-83  Program Committee Member
1981-85  Occupational Health Committee, (Chair of Professional Educational Subcommittee), Member
1985-87  Environmental/Occupational Health Committee, Vice Chair

UCLA

1981-87  Southern Occupational Health Center, member
1984-92  Committee on Interdisciplinary Practice, UCLA
1988-present  UCLA Center for Occupational and Environmental Health
1988-92  Faculty Member, USC/UCLA Occupational Medicine Residency
1989-92  Residency Advisory Committee, USC
1989-92  Campus Community Committee (Academic Senate, UCLA)
1991  Respiratory Therapy Committee
1997-98  Fogarty International Training Program participant
1998-99  Director, International Occupational Medicine
1999-present  Residency Advisory Committee- Occupational Medicine UCLA
2000-2003  Committee on Committees, UCLA Academic Senate
2000-03  University Extension Committee, UCLA Academic Senate, Chair, 2002-3; Member, 2000-03, 2004-5
2002-2004  Residency Advisory Committee- General Preventive Medicine UCLA
2002-2006  Committee On Academic Personnel (CAP)-Dept Of Family Medicine; Chair 2003-5
2004  Preventive Medicine Faculty Search Committee
2006-8  Committee on Faculty Welfare, Academic Senate
2006-present  Fogarty International Training Program- Ergonomics leader
2007-present  Interdisciplinary Molecular Toxicology Program, member
2007  Industrial Hygiene Faculty Search Committee

Other Professional Service

1986-88  Regional Editor, American Occupational Medicine Association Newsletter
1987-89  Consultant, Department of Public Health, American Medical Association 1987 Hazardous Waste Worker Training Center Medical Committee
1988-93  American National Standards Institute Respiratory Protection Committee ANSI Z88 (voting member)
1988-91 Occupational Lung Disease Committee, California Thoracic Society
1988-92 Respiratory Protection Committee, Z88.8 American National Standards Institute (ANSI), Full Suit
1988-present Grant Reviewer, Arizona Disease Control Research Commission
1989-91 ANSI Interdisciplinary Respiratory Surveillance Committee
1990-92 Scientific Advisory Panel on Occupational Medicine, California Medical Association, member
1991-97 American Trucking Association (ATA), Medical Advisory Board
1991-92 Southern California Organizing Committee for Occupational Medicine (Co-chair)
1992 Task Force - Occupational Health Objectives for Year 2000, Los Angeles County Department of Health Services
1992-93 Task Force, Workers Compensation Reform, Los Angeles County Medical Association
1996 Rand Corporation/CA Industrial Medical Council- Permanent Disability Study Advisory Committee
2001-05 Scientific Advisory Panel on Occupational Medicine, California Medical Association, member

RESEARCH PAPERS (Peer-reviewed)


64. Harber P, Peña L, Hsu P, Billet E, Greer D, Kim K. Personal history, training and worksite as predictors of


79. Martie J.A. van Tongeren, Kerry Gardiner, Charles E. Rossiter, Jerry Beach, Phil Harber and Malcolm J. Harrington. Longitudinal Analyses of Chest Radiographs from the European Carbon Black Respiratory Morbidity Study


Philip Harber


RESEARCH PAPERS (Accepted/ In Press)

RESEARCH PAPERS / REPORTS (Non-Peer-reviewed)

RESEARCH PAPERS (Submitted)

RESEARCH PAPERS (In preparation, research completed)

EDITORIALS & REVIEWS (Published)


39. Harber P. Respiratory disability: what is it, how can we measure it, what causes it and is it important? Thorax 2009; 64:280-282.
REVIEWS AND EDITORIALS (Accepted, In Press)

BOOK CHAPTERS (Published)


CHAPTER (Accepted, In Press)

BOOKS


ABSTRACTS


41. 1994, Harber P. Quantitative Decision Support Systems For Surveillance, the Development and Clinical Applications. DOE EH-03771 (available from NTIS), 57-59


46. P Harber, B Merz, M Yuan, M Mullin, J Parker, Intelligent Database Generated Occupational Respiratory Questionnaire System. Eur Resp J; 14: 490s.1999


ABSTRACT (Accepted, In Press)

OTHER PUBLICATIONS (Published)

27. Prevention in OEM: Possible Structures in Enhancing prevention in Occupational Health: Implications for Academic Programs: http://www.cdc.gov/niosh/steps/pdfs/Steps%20Session%20C-1.pdf (2/2/05)


**CONTRACTS AND GRANTS**

**Past Grants- Principal Investigator:**


3. Determination of Exertion Requirements of Coal Mining, non-governmental funding sources. 1981

4. Physiologic Effects of Respirators, American Lung Association of California. 1982-83

5. Secondary Prevention of Occupational Back Pain, California Medical Education and Research Foundation. 1982-83


7. Respirator Tolerance (R01), NIH/National Institute for Occupational Safety and Health/CDC. 1984-87

8. Decision Analysis in Occupational Medicine, UCLA Academic Senate. 1984-85


11. Investigation of Asthmatics to Investigate Occupational Causes, California Department of Health Services. 1986-87

12. Artificial Intelligence Occupational History System (R01), NIH/National Institute for Occupational Safety and Health/CDC. 1987-89


14. Occupational Rheumatology, Multipurpose Arthritis Center, NIH/NIAID. 1987-90

15. Respirator Tolerance (R01), NIH/CDC/National Institute for Occupational Safety and Health. 1987-91

16. Comprehensive Occupational Medical Provider System, University of California. 1990-91

17. Prospective Study of Nurses’ Back Pain, NIH. 1990-92

22. Railroad Job Demands, Med Tox/Association of American Railroads. 1993-95
23. Medical Causation, California Division of Industrial Relations/Industrial Medical Council. 1993-94
25. Del-Amo/Montrose Health Activities Recommendation Panel Site Specific Health Activities/University of California, Los Angeles Component, Agency for Toxic Substances and Disease Registry. 1994-97
26. Occupational Respiratory Disease Evaluation and Rehabilitation System, NIOSH/CDC. 1995-00
27. Spinal Manipulation versus Mobilization for Neck Pain. Health Resources and Services Administration, PHS. 1997-00
30. Distributed Occupational Knowledge System, National Cancer Institute (RO1). 1999-02
31. Causation Model. The Workers Compensation Board of Alberta, Canada. 1998-00
32. Investigation of Occupational Asthma, Fiberglass Facility, Owens Corning Corp. 1998-01
33. Spinal Manipulation Vs. Mobilization for Neck Pain. Health Resources and Services Administration. (PI for UCLA Component; Primary grant to Southern California University of Health Sciences) 1997-01
34. Collaborative Training Program in Occupational Medicine- King Faisal University. 2000-07; extended with additional funding 2007-10.
35. Occupational Medicine Residency, NIOSH/CDC. 1999-03
36. COPD: Occupation, Airway Responsiveness, and Smoking Effect. Centers For Disease Control and Prevention/Association of American Medical Colleges. 2001-04
37. Occupational Medicine Residency, NIOSH/CDC. 2002-2004

Past Grants- Co-Investigator:
1. Environmental Epidemiology and Statistics Training Program, School of Public Health, UCLA. 1984-89 (PI: Detels)
2. Clinical Center for Early Intervention for Chronic Obstructive Pulmonary Disease (COPD), HLBI1984-92 (PI: Tashkin)
3. Injury Prevention Research Center, CDC. 1988-90
4. Respirator Performance Model for Particulates, NIOSH. 1988-91 (PI: Hinds)
7. Chiropractic Versus Medical Care for Low Back Pain, Agency for Healthcare Quality and Research1994-99 (PI: Morgenstern)

Current Grants - Principal Investigator:

Philip Harber
3. Working Conditions of Dental Hygienists, NIOSH/CDC/ERC/Pilot Project. 2003-4
4. RAND, Workers Compensation Guidelines. 2004 (UCLA subcontract; main project funded by CA Department of Industrial Relations)
5. Health Effects Panel- Hanford Environmental Site/ CH2Mhill. 2004-6

Current Grants Co-Investigator:
2. UCLA-Mexico/Colombia Collaborative Training and Research Program. NIH/ Fogarty International Center. 2007-2012 (PI: Froines)

Pending Grant Application(s):
1. Comprehensive Decision Analysis (R01)

CONSULTATION PROJECTS (Examples)

1989, Consultant to union and management for respiratory surveillance survey of dust exposed population
1990, Consultant on pulmonary policies for case management company
1990, Consultant regarding respiratory health effects
1990, Medical Consultant for lead foundry
1990, Regional Consultant for major transportation company in areas of case management and clinical policy
1990, Several legal consultations regarding possible exposure related health effects
1990, Worksite and toxicologic evaluations for several insurers
1991, Assisted community hospital establish industrial medical program
1991, Served as consultant for Medical Quality Assurance project to establish national treatment guidelines
1991, Periodic worker surveillance in isocyanate facility
1991, Designed computer based preventive medicine examination program for petroleum company
1991, Designed respirator program for large corporation
1991, Estimated occupational mortality for next 30 years for a utility company
1991, Estimated proportional and attributable mortality for natural fiber corporation
1991, Consultant - disability management
1992, Designed respirator program for large public utility
1992, Evaluated exposure and biologic monitoring for electronics manufacturing facility
1992, Statistically evaluated chemical exposure data for hazardous waste management company
1992, Evaluated data concerning effects of man-made mineral fibers
1992, Biologic monitoring of metal exposure for electroplating industry
1993, ADA compliance for large manufacturing facility
1993, Development of risk predictors for railroad workers
1994, Risk assessment for man made vitreous fibers
1995, Statistical adjustment criteria for longitudinal spirometry in industry
1996, Disability Management Programs

PROGRAMMING

1. Access
2. Basic
3. BMDP
4. C
5. C++
6. dBase
7. Fortran
8. Level V
9. NeuralWare (Neural Net Computing)
10. VBA
11. SAS
12. Treeage

CLINICAL ACTIVITIES

Clinical program in Occupational, Environmental, and Pulmonary Medicine:

- Independent medical examiners program (state and federal); agreed medical examiner
- Asbestos workers evaluation program
- Individual referrals in Occupational Medicine, Occupational Toxicology
- Consultative service - preventive/occupational medicine
- Clinical ergonomics laboratory
- Bronchoprovocation testing
- Occupational low back pain panel
- Worksite environmental surveys
- Director, UCLA Occupational Health Clinical Center, 1987-91.
- Disability Management
- Beryllium clinical center
- Agreed Evaluator ILWU and PMA
Ad Hoc review for:
American Journal of industrial Medicine
American Journal of Public Health
Archives of Environmental Health
American Review of Respiratory Disease/American Journal of Respiratory and Critical Care Medicine
Journal of Occupational & Environmental Hygiene
Environmental Health Perspectives
Pediatric Pulmonology
International Journal of Tuberculosis and Lung Disease
Chest
Science
Annals of Internal Medicine
National Institute for Occupational Safety and Health
American Journal of Epidemiology
Am J Industrial Med
Occupational and Environmental Medicine (BJIM)
Canadian Mineralogist
Western Journal of Medicine
International Journal of Occup- Environ Med

Editorial Board:
Occupational and Environmental Medicine Report, 1992-8
Toxicological Reviews, 2001-6

COURSES/SYMPOSIUMS ORGANIZED  (Off-Campus, CE Outreach)

2. Asthma and the Environment, American Lung Association of Los Angeles County, (March). 1984
4. Decision Analysis in Occupational Medicine, American Academy of Occupational Medicine, Salt Lake City, (September). 1984
7. Western Occupational Health Conference, Program Chair. 1986
8. Artificial Intelligence in Occupational Medicine, American Occupational Health Conference. 1990
9. Co-Chair, Western Occupational Health Conference. 1990

Philip Harber
15. Occupational Lung Disease (full day postgraduate course), American College of Chest Physicians. 1992
17. Providing Pulmonary Services to Workers (full day postgraduate course), American College of Chest Physicians, (October). 1994
19. Scientific Program Chair, American Occupational Health Conference. 1995
22. Curso de diplomado: Organized UCLA components of one year course in Baja California training Mexican physicians in occupational medicine. 1996
24. International Occupational Medicine Conference: Co-Sponsored by UCLA Fogarty Center and Sociedad Mexicana de Salud del Trabajo: (3 day meeting), (organizer). 1997
25. Ergonomia y Asma, Universidad Nacional Autonomia de Mexico (UNAM), 2 day course. 1998
26. Workers Compensation Causation Assessment, Edmonton Canada, (April), (Co-organizer) 1999
27. Workers Compensation Causation Model, Canada (June), (Co-organizer) 1999
28. Occupational asthma, American College of Occupational and Environmental Medicine, San Antonio, (October), (invited presenter). 1999
30. Occupational disease update, American College of Occupational and Environmental Medicine, San Francisco, April. 2001
31. Occupational disease update, American College of Occupational and Environmental Medicine, Seattle, October. 2001
32. Current Research, American College Of Occupational & Environmental Medicine, Chicago, April. 2002
34. Health Culture and Productivity. 2004
36. Health effects of surface goods movement, February 2007

**COURSES/SYMPOSIA ORGANIZED (On-Campus)**

1. 1982-93, Medicine 265, Occupational Medicine Advanced Clinical Clerkship (yearly course for medical students).
2. 1982-89, Public Health 256, Scientific Basis for Occupational Health (co-instructor/instructor), (4 credits).
4. 1990-93, Environmental Health Sciences 251, Occupational Diseases (primary responsibility), (4 credits).
5. 1994-95, Environmental Health Sciences 251, Introduction to Occupational Medicine (3 units, School of Public Health).
6. 1995-96, Environmental Health Sciences 251, Introduction to Occupational Medicine (3 units, School of Public Health)
7. 1996, Winter-Spring UCLA Environmental and Occupational Medicine (CME course credit)
8. 1996-97, Environmental Health Sciences 251, Introduction to Occupational Medicine (3 units, School of Public Health)
9. 1997, Winter-Spring UCLA Environmental and Occupational Medicine (CME course credit)
10. 1998, Winter-Spring UCLA Environmental and Occupational Medicine. Includes a mini-symposia on Health Services Organization
11. 1997-98, Environmental Health Sciences 251, Introduction to Occupational Medicine (3 units School of Public Health)
12. 2000-01, Occupational-Environmental Medicine core curriculum (weekly lecture/seminar)
13. 2001-02, Occupational-Environmental Medicine core curriculum (biweekly lecture series)
14. 2001-02, Occupational-Environmental Medicine management (monthly lecture/seminar)
15. 2003 Occupational diseases prevention and recognition (EHS 251a- spring quarter)
16. 2003 Occupational Diseases Prevention And Recognition (EHS 251a- winter quarter)
17. 2004 Occupational Diseases Prevention And Recognition (EHS 251a- winter quarter)
18. 2002-3: Occupational Medicine Core Lecture Series
19. 2003-04 Occupational-Environmental Medicine Core Lecture Series
20. 2004-05 Occupational-Environmental Medicine Core Lecture Series (weekly during academic year)
22. 2005-6 Occupational-Environmental Medicine Core Lecture Series (weekly during academic year)
23. 2003 EHS 596 Directed Individual study and Research
24. 2005 EHS 400 Field Studies
25. 2003 EHS 400 Field Studies
27. 2006-7 Occupational-Environmental Medicine Core Lecture Series (weekly during academic year)
28. 2007 EHS 251 Prevention of Disease in Workers and Workplaces

**LECTURES AND PRESENTATIONS (Off-campus and continuing education)**

1. SO2 standard; Testimony at Minnesota State Hearing. 1980
2. Respiratory medical programs; Industrial Hygiene Conference of National Distiller. 1980
3. Health effects of air pollutants (invited lecture); Indiana State Association of Public Health Officers. 1980
4. Work rehabilitation of pulmonary impaired workers (invited lecture); Ohio State Rehabilitation Program. 1980
5. Physiologic effects of respiratory disability determination; ACCP International Occupational Lung Disease Conference, Chicago. 1982
7. Estimation of exertion requirements of coal mining work; ACCP International Occupational Lung Disease Conference, Chicago. 1982
8. Statistical considerations in clinical pulmonary function test interpretation (seminar, repeated three times); American Thoracic Society Meeting. 1982
10. Overview of occupational lung disease; Los Angeles Committee on Occupational Safety and Health (LACOSH). 1982
11. How to determine if a cancer is due to occupation, in Surveillance and Prevention of Cancer in the Workplace; sponsored by Johnson Cancer Center and Lung Association. 1982
12. Health effects of hazardous waste in hazardous waste management; Continuing education course of UCLA School of Engineering. 1982
13. 1982, Use and abuse of spirometry (invited lecture); Western Occupational Medical Association Meeting.
14. Prevention of occupational back pain (invited seminar); Northern Occupational Health Center, San Francisco. 1983
15. Asbestos-related diseases (invited grand rounds; occupational medicine); Northern Occupational Health Center, San Francisco. 1983
16. Clinical approach to occupational lung disease (meeting chair); Symposium on Occupational Lung Disease sponsored by the Lung Association of Los Angeles County. 1983
19. Conference on aging and productivity (participant); Andrus Gerontology Center and National Commission of Aging, Los Angeles. 1983
20. Ergonomic consideration in VDT workstation design; Los Angeles Committee on Occupational Safety and Health (LACOSH), Los Angeles. 1983
22. Silicosis; respirators; American Lung Association of Los Angeles. 1984
23. Determining work relatedness of asthma; American Lung Association of Los Angeles County. 1984
24. Asthma and the environment (seminar chair); American Lung Association of Los Angeles County. 1984
25. Toxic hazards of hospital work I (invited lecture); Olive View Medical Center. 1984
26. Medical suitability for respirator use (invited lecture); National Naval Environmental Health Conference, Norfolk, VA. 1984
27. Toxic hazards of hospital work II (invited lecture); Olive View Medical Center. 1984
28. Toxic hazards of hospital work III (invited lecture); Olive View Medical Center. 1984
29. Toxic hazards of hospital work IV (invited lecture); Olive View Medical Center. 1984
30. Occupational asthma (invited lecture); American Occupational Medical Association National Meeting, Los Angeles. 1984
31. Respiratory disability and impairment; American Thoracic Society Annual Meeting, Miami. 1984
32. Effects of industrial respirators on respiratory pattern and load sensitivity; American Thoracic Society Annual Meeting, Miami. 1984
33. Occupational lung disease; Valley Park Hospital, Los Angeles. 1984
34. Decision analysis in Occupational Medicine (invited course). Joint Conference on Occupational Health/American Academy of Occupational Medicine; Salt Lake City. Topics include: Introduction; Decision trees (methacholine challenge); Utilities and values; ROC curves; Screening; The future. 1984
35. Asbestos related disease (invited seminar); Medical-Legal Institute, Las Vegas. 1984
36. Occupational asthma (invited lecture); Cedars-Sinai Medical Center, Pulmonary Grand Rounds. 1985
37. Industrial toxic emergencies (grand rounds); Emergency Medical Center, UCLA. 1985
38. The disabled lung (invited lecture); California Medical Association, San Diego. 1985
39. Health information systems (invited speaker, also session chair); American Occupational Medicine Association, Kansas City. 1985
40. Job specific ability and disability; American Thoracic Society, Anaheim. 1985
41. Asbestos and obstructive lung disease (invited presentation); Los Angeles Occupational Epidemiology Forum. 1985
42. Evaluation for respirator use (invited lecture); Western Occupational Health Conference. 1985
43. Quantitative testing methods in occupational medicine (invited lecture); Occupational Medicine Association of Canada, Calgary. 1985
44. Toxicology (quality care in the California workers' compensation system) (invited lecture); Division of Industrial Accidents/University of Southern California. 1985
45. Pulmonary research (session chair); Joint Conference on Occupational Health, Orlando. 1985
46. Alternative partial respiratory disability systems (research paper); American Academy of Occupational Medicine, Orlando. 1985
47. Preplacement testing (invited seminar); University of Southern California. 1986
48. Occupational asthma (invited lecture); Long Beach Memorial Medical Center, Long Beach. 1986
49. Occupational lung disease (invited lecture); Midway Hospital, Los Angeles. 1986
50. Cadmium inhalation; American Lung Association of Los Angeles. 1986
51. Occupational restrictive lung diseases (invited lecture); University of California, Irvine. 1986
52. Occupational back pain in nurses: recent findings (research paper); American Occupational Medicine Association Meeting, Philadelphia. 1986
53. Early manifestations of occupational lung disease (session chair); American Occupational Medical Association, Philadelphia. 1986
54. Obstructive disease from inhaled fibers; American Occupational Medical Association, Denver. 1986
55. Beyond limits of spirometry (invited lecture); American Occupational Health Conference, Denver. 1986
56. Assessing physical disability in disability evaluation in workers' compensation (invited lecture); Los Angeles. 1986
57. Environmental determinants of occupational back pain in nurses (research paper); Fifth International Epidemiology in Occupational Health Symposium, Los Angeles. 1986
58. Pleural plaques and asbestos associated malignancy (research paper); ACCP International Conference on Occupational and Environmental Disease, Montreal. 1986
59. Occupational asthma (invited seminar); Trudeau Society, Los Angeles. 1986
60. Defining the scope of occupational medicine practice (invited seminar); American Academy of Occupational Medicine, Washington. 1986
61. Respirator medical certification (invited lecture); UC System-wide Industrial Hygiene Conference. 1986
62. Chairman's introduction; Western Occupational Health Conference, San Francisco. 1986
63. New methods in evaluating disability (invited lecture); Disability evaluation seminar, Thousand Oaks. 1987
64. Occupational lung disease; White Memorial Medical Center, Los Angeles (grand rounds). 1987
65. Pulmonary exercise testing; American Occupational Medical Association, Philadelphia (invited seminar). 1987
66. Veracity of smoking information from disability claimants: comparison of carboxyhemoglobin levels in
nonsmoking disability and reference subjects; American Thoracic Society, New Orleans (research paper). 1987


68. Non-patient contact activities and occupational back pain among nurses; International Occupational Epidemiology Conference, Los Angeles (research paper). 1987

69. Subjective tolerance of industrial respirators: effects of resistive and dead space loads; American College of Chest Physicians, Atlanta (research paper). 1987


71. Effect of asthma on work and home life; American Thoracic Society, Las Vegas (research paper). 1988

72. Effect of exercise level on ventilatory adaptation to respirator use; American Thoracic Society, Las Vegas (research paper). 1988

73. Respirator use in the work environment; American Thoracic Society, Las Vegas (invited speaker). 1988

74. Sentinel health event surveillance; California Department of Health Services, Berkeley (invited presentation). 1988

75. Computers in clinical decision-making; Harbor-UCLA Medical Center, Torrance (invited lecture). 1988

76. Occupational lung disease; Tarzana Regional Medical Center, Tarzana (invited lecture). 1988

77. Toxicology of lung disease; Pacific Occupational Safety and Health Conference, Costa Mesa (invited lecture). 1988

78. Clinical and epidemiologic evaluation of the asbestos exposed patient; Asbestosis Symposium, Cedars-Sinai Medical Center, Los Angeles (invited lecture). 1988

79. Effect of corticosteroid use on occupational disability among asthmatics; American College of Chest Physicians, Anaheim (research paper). 1988

80. Office spirometry and challenges; American College of Allergy and Immunology, Los Angeles (invited seminar). 1988

81. Respirators in the work environment; Southern California Association of Occupational Health Nurses, Pasadena (invited speaker). 1989

82. Respirator effect in pulmonary impaired subjects; American Thoracic Society, Kansas City (research paper). 1989

83. Functional impact of small airway dysfunction; American Thoracic Society, Kansas, City (research paper). 1989

84. Occupational asthma; Hoag Hospital, Newport Beach (invited speaker). 1989

85. Upper extremity symptoms in supermarket workers -- an epidemiologic biomechanical approach; Los Angeles Epidemiology Forum, Los Angeles (invited lecture). 1989

86. Evaluation of worker fitness for respirator use; California Thoracic Society (invited lecture). 1989

87. Workshop on environmental and occupational asthma; US Task Force on Environmental Career and Heart and Lung Disease, ATSDR (CDC) (invited participant and speaker). 1989

88. Decision analysis in pulmonary medicine; Pulmonary Grand Rounds, Cedars-Sinai Medical Center, Los Angeles (invited lecture). 1990

89. Carpal tunnel syndrome; (radio interview). 1990

90. Cumulative trauma disorders; Physicians Journal Update (television interview). 1990

91. Changing diagnostic aspects of pneumoconiosis; American College of Occupational Medicine, Houston (invited lecturer). 1990

92. Common occupational disorders in primary care; Santa Monica Hospital, Santa Monica (invited lecture). 1990
93. Assessment of environmental and community toxins; Los Angeles Society of Allergy and Clinical Immunology, Los Angeles (invited lecture). 1990

94. Occupational health and safety software; American College of Occupational Medicine, Houston (invited postgraduate course). 1990


96. Clinic based surveillance for hazards: questionnaire, expert and expert system approaches; American Thoracic Society, Boston (research paper). 1990


98. Assessing work ability and disability; Fundamentals of Occupational Medicine in a Provider Based Setting, Santa Barbara (invited lecture). 1990

99. Occupational asthma; Sepulveda Veterans Hospital, Los Angeles (grand rounds). 1990

100. Repetitive trauma disorders; KNBC (radio interview). 1990


103. Surveillance program design; Pacific Occupational Safety and Health Conference, Long Beach (invited lecture). 1990

104. Occupational and environmental health; American College of Chest Physicians, Toronto (session chair). 1990

105. New perspectives on asbestos; American College of Chest Physicians, Toronto (moderator). 1990


109. Occupational lung diseases; Wadsworth VA Hospital (invited lecture). 1991


111. Asbestos as a health hazard; Hoag/Memorial Hospital, Newport Beach (invited lecture). 1991

112. Respiratory impairment; Harbor-UCLA Medical Center, Torrance (invited pulmonary grand rounds). 1991

113. Clinical significance of plain film abnormalities, pneumoconiosis post-graduate course; Cedars Sinai Medical Center, Los Angeles (invited lecture). 1991


115. Respiratory evaluation; SCE Health Care, Pasadena (invited lecture). 1991


117. Radiologic abnormalities among diatomaceous earth miners; 4th International Environmental Lung Disease Conference, Montreal (research paper). 1991


120. Respiratory disease (3 hour seminar); State Compensation Insurance Fund, Monterey Park (invited
121. Assessing job requirements under the ADA: fitting the worker to the job; Western Occupational Health Conference, Monterey (invited lecture). 1991

122. Western Occupational Health Conference; Monterey (session moderator). 1991

123. Fiberglass and cancer risk. Testimony to Assembly of State of California; Sacramento. 1992


125. Respiratory pattern effect of acute sulfur dioxide exposure in asthmatics; American Thoracic Society, Miami (research paper). 1992

126. Interpreting pulmonary function tests; American College of Occupational and Environmental Medicine, Washington (invited lecture). 1992

127. Respirator medical clearance; American College of Occupational and Environmental Medicine, Washington (session chair). 1992


131. Occupational lung disease; Wadsworth VAMC (invited lecture). 1992

132. Assessing impairment and disability from occupational airways disease; American College of Chest Physicians, Chicago (invited lecture). 1992

133. Ability and disability; American College of Chest Physicians (invited lecture). 1992

134. Expected work life; Union Pacific Medical Meeting, Vail (research presentation). 1992

135. Potroom (aluminum) asthma; Alcoa Corporation International Health Meeting, Atlanta (invited lecture). 1992

136. Trends in occupational medicine. American Industrial Hygiene Association (southwest); San Diego (invited lecturer). 1993

137. Occupational lung disease (3 hour seminar); State Compensation Insurance Fund, Commerce, CA (invited lecturer). 1993


139. Assessing work ability in worker's compensation; SEAK, Inc., San Francisco (invited lecture). 1993

140. Asthma disability; American College of Occupational and Environmental Medicine, Atlanta (invited lecture). 1993

141. Impairment evaluation in occupational asthma, and Worker fitness and respiratory protection; University of South Florida and the American College of Chest Physicians, Tampa (invited lectures). 1993

142. Occupational lung disease (4 hour lecture); State Compensation Insurance Fund, Costa Mesa (invited lecturer). 1993

143. Work placement; Ryan & Associates, Santa Barbara (invited lecturer). 1993

144. The work environment and ergonomics: Implications for practicing physicians; Saint Joseph Medical Center, Burbank (invited lecturer). 1993

145. Redefining asbestosis; American College of Chest Physicians, Orlando (invited lecturer). 1993

146. Biologic monitoring: programmatic aspects; American Industrial Hygiene Association of Orange County, Norwalk (invited lecturer). 1993

147. Guidelines for Permanent Disability in Lung Disorders; American Academy of 1993, Disability Evaluating

Philip Harber
Physicians. San Diego (invited lecturer). 1993


149. Asbestos; Chest Grand Rounds, Harbor-UCLA Medical Center, Torrance (invited lecturer). 1994

150. Outcome determinations, workshop on non-traditional disability management; Union Pacific Corporation, Las Vegas (invited lecturer). 1994


152. Occupational data for interpreting risk assessments; Society for Risk Analysis, Southern California Chapter, Los Angeles (invited lecture). 1994

153. Quantitative decision methods; Conference on Biomarkers, United States Department of Energy, Santa Fe (invited research presentation). 1994


156. Bioaerosols (respiratory protection); American Thoracic Society; Boston (invited lecturer). 1994

157. Asthma and hypersensitivity pneumonitis (occupational lung diseases mini-course); UC Davis, Sacramento (invited lecturer). 1994

158. Respirators; UC Davis, Sacramento (invited lecturer). 1994

159. Occupational pulmonary medicine; UC Davis Mini Course (invited lecturer). 1994

160. Cumulative Trauma Disorders: Determination of Causation; National Workers Compensation and Occupational Medicine Seminar; Cape Cod (invited lecturer). 1994

161. Job Demand Determination; National Workers Compensation and Occupational Medicine Seminar; Cape Cod (invited lecturer). 1994

162. Medical surveillance. Organizational Resource Counselors (ORC); Washington. 1994

163. Job demand assessment (invited presentation); Association of American Railroads, Santa Monica. 1994


165. Atomic approach to disability assessment (invited research lecture); University of Texas, School of Public Health, Houston. 1995

166. Impact of asthma; International Environmental and Occupational Lung Disease Conference, Orlando (invited lecturer). 1995

167. Exposure assessment for carpal tunnel syndrome; American Occupational Health Conference (AHOC), Las Vegas (research presentation). 1995


169. Respiratory disability; American Occupational Health Conference (ACOEM), Las Vegas (invited lecturer). 1995

170. Medical surveillance; American Industrial Hygiene Association, Kansas City (invited lecture). 1995

171. Generic medical surveillance; Organizational Resource Counselors (ORC), Washington (invited lecturer). 1995

172. Respiratory disability; Western Occupational and Environmental Medical Association, Monterey (invited lecturer). 1995


174. Occupational lung disease (3 hour lecture); State Compensation Insurance Fund, Los Angeles (invited lecturer). 1995
175. Exposure assessment (4 lectures); Harbor General - UCLA Family Practice Program (invited lecturer). 1995


177. Medical standards for job placement; New England College of Occupational and Environmental Medicine, Boston (invitational lecture). 1995

178. Harriet Hardy Award acceptance; New England College of Occupational and Environmental Medicine, Boston (invited lecturer). 1995

179. Database Models: Implications for Public Health Surveillance; California Department of Health Services, (OHSEP), Berkeley (research presentation). 1995

180. Model for Asbestos Disease Development and Progression in Individuals and Populations, ATS, (research presentation). 1995

181. Respiratory Disease Course (3 hours); State Compensation Insurance Fund Los Angeles (invited lecturer). 1996

182. Work Ability and Disability (Chest Grand Rounds); Harbor-UCLA Medical Center, Torrance (invited lecturer). 1996

183. Assessing Chemical Exposure in the Workplace and Community; UCLA Family Practice Grand Rounds (invited lecturer). 1996


189. Case Study. Los Angeles County Department Health Services Public Health Programs & Services (ATSDR) Redondo Beach, California (invited lecturer). 1996

190. Occupational Lung Disease; Wadsworth Veterans Administration (invited lecturer). 1997


196. Occupational Respiratory Disease; Whittier Intercommunity Hospital Whittier, CA. (invited lecturer). 1997


203. Environmental Toxicology: Bay Shores Hospital Torrance, (invited CME lecture). 1997
204. Environmental Exposure Assessment: Harbor General Medical Center, Torrance (invited lecturer). 1997
205. Risk Communication: Harbor General Medical Center, Torrance. 1997
209. Occupational Asthma; Cedars Sinai Medical Center, Los Angeles (invited lecturer). 1997
210. Occupational Asthma and Rhinitis; Allergy Association, Santa Barbara (invited lecturer). 1997
211. Respiratory Personal Protection; USC Occupational Medicine residency Program (invited lecturer). 1998
218. Occupational and Environmental Medicine- Boston, (research presentation)
220. Asma y Occupacion, Mexico City, (invited lecture) 1998
221. Occupational Lung Disease, Providence- Holy Cross Hospital, Mission Hills, 1998
222. Sistemas de salud ocupacional, Universidad Nacional Autonomia de Mexico (UNAM), Mexico City, (invited lecture to monthly grand rounds) 1998
223. Ergonomia y Ashma, Universidad Nacional Autonomia de Mexico (UNAM), Mexico City, (lectures) 1998
225. Determining Causation, European Respiratory Society, Madrid, (invited lecture) 1999
226. Causation Assessment, American College of Occupational and Environmental Medicine, San Antonio, (invited presentation) 1999
227. Occupational Asthma Prevention, American College of Occupational and Environmental Medicine, San Antonio, (invited presentation) 1999
228. Occupational Asthma Management, Occupational Asthma Workshop Quebec, PQ (invited discussant) 2000
231. Reinventing the Role of Occupational Medicine, Kaiser Permanente Newport Beach, (invited lecture) 2000


234. Effect of Production Process on Carbon Black Exposure, European Respiratory Society; Florence, Italy; (research paper). 2000


236. Occupational Health Services – Is there a Mandate? , American College of Occupational and Environmental Medicine, Nashville (invited lecture) 2000

237. Linking Public Health and Clinical Medicine by Computer Technology American College of Occupational and Environmental Medicine, Nashville (invited lecture) 2000

238. Occupational Health Surveillance - Hong Kong Academy of Medicine, (invited to give a presentation) 2000

239. Hong Kong College of Occupational Medicine, Hong Kong (invited lecture) 2000

240. Occupational Respiratory disease - Hong Kong College of Family practitioners (invited lecture). 2000


246. Lung Tissue Asbestos Content and SV40 Status in Mesothelioma Patients. Malignant Mesothelioma-Therapy Options and the Role of SV40: an Update; Chicago, (research presentation). 2001


256. Indoor Air Quality and Molds: Cedar Sinai Medical Center Grand Rounds. Los Angeles, (invited lecture) 2001


261. Tasks Analysis. CE/CME Ergonomics Course. LA 2002


267. Occupational asthma. American association of occupational health nurses, Atlanta. (invited lecture) May 2003


277. Occupational Asthma (West Los Angeles Veterans Admin Hosp) 2004

278. Occupational Asthma (West Los Angeles Veterans Admin Hosp January, 2004


282. Academic Occupational Medicine: Challenges and Opportunities. WOEMA Retreat. Pasadena. (invited presentation) 2005 (Jan)

283. Academic Occupational Medicine: Challenges and Opportunities. WOEMA Retreat. Pasadena. (invited presentation) 2005 (Jan)


286. Health Care Environment. Medical Staff. Olive View Medical Center. (invited lecture) 2006 (Jan)


288. Hanford Tank Farm Respiratory Risks. Hanford Worker/ DOE meeting. Richland WA. Research Summary 2006 (Feb)


LECTURES AND PRESENTATIONS (On-campus)

1. Physiologic Effects of Respirators. Kettering Institute Seminar; April. 1980

3. Air Pollution. University of Cincinnati Medical College, 2nd year class; November. 1980

4. Spirometry: Standards and Equipment. Seminar series in Clinical Epidemiology. University of Cincinnati. Lecture include: Rates; Models of exposure; P-value and significance; Clinical traits; Hypothesis generation: PMR and Decision analysis. Presented three times as part of NIOSH/University of Cincinnati Spirometry Course. 1980-81

5. Lung and Environment Course (For physicians and hygienists). Topics include: Asbestos; Respiratory Disability; Respirators; Work Ability; Occupational Lung Cancer; Air Pollutants. University of Cincinnati. 1980-81

6. Occupational Lung Disease. Department of Medicine, Noon Conference, UCLA; February. 1982

7. Occupational air pollutants (2 hours). UCLA School of Public Health; March. 1982

8. Occupational Lung Disease: Epidemiologic Methods. UCLA School of Public Health, Epidemiology Division; May. 1982

9. Respiratory Disability. UCLA Pulmonary Fellows Conference; June. 1982

10. Making Work Safe. UCLA Allied Health Programs; June. 1982

11. Asbestos Related Lung Disease. UCLA Medical Grand Rounds; September. 1982

12. Occupational and Environmental Lung Cancer. UCLA Pulmonary Fellows Conference; September. 1982

13. Role of Occupational Medicine. UCLA School of Public Health; October. 1982

14. Occupational Lung Disease. UCLA School of Public Health; October. 1982

15. Workers' Compensation. UCLA School of Nursing; November. 1982

16. Assessment of Occupational Disability. UCLA Department of Medicine; May. 1983

17. Environment and Health. UCLA Department of Geology; May. 1983

18. Occupational Asthma and Allergic Disorders. Center for interdisciplinary research in Immunology and Diseases; June. 1983


21. Role of occupational medicine. UCLA School of Public Health; October. 1983

22. Occupational lung disease. UCLA School of Public Health; October. 1983

23. What is "Normal" Pulmonary Function? UCLA; January and February. 1984

24. Occupational/Environmental Lung Disease. Pathophysiology of Disease Core Course. UCLA School of Medicine; February. 1984

25. Respiratory disease. UCLA Nurse/Practitioner Program; February. 1984

26. Occupational Health. (Public Health 256). Lectures include: Occupational Lung Disease; Occupational Lung Disease Due to Organics; Hematologic, Immunologic and Cardiac Effects; Ergonomics, Management of the Worker With Disease. 1984

27. Advanced industrial pulmonary function testing. UCLA (course chair). Lectures given: Introduction: What is normal function? When to contract, Handling spirometry data; Should you use published normals or develop your own standards? 1984

28. Occupational medicine. UCLA Pulmonary Fellows Lecture Series; August. 1984

29. Normality (pulmonary function). UCLA Respiratory Physiology Conference; August. 1984

30. Respiratory Disease. UCLA Nurse/Practitioner Program (3 hours); October. 1984

31. Decision and Analysis. UCLA Pulmonary Research Seminar; October. 1984

32. Asbestos -- Diseases. UCLA Pulmonary Fellows Conference; October. 1984

33. Ergonomics. UCLA School of Public Health; November. 1984
34. Chemical Exposure, Clinical Approach. General Internal Medicine Conference; November. 1984
35. Respiratory Ability and Disability. UCLA Pulmonary Fellows Conference; January. 1985
36. Industrial Toxic Emergencies. UCLA Emergency Medicine Center Grand Rounds; February. 1985
37. Occupational Health (Public Health 256). Lectures include: Lung diseases – Inorganics; Asthma and Hypersensitivity Disease, Immunologic Diseases, Hematologic and Cardiac Disease; 1985
38. Hospitals -- a dangerous place to work (invited lecture). UCLA Allied Health Programs; May. 1985
39. Occupational lung disease. UCLA Pulmonary Conference; August. 1985
40. Pulmonary disease. UCLA Nurse/Practitioner Course (4 hours); October. 1985
41. Ergonomics. UCLA School of Public Health; November. 1985
42. What is normal lung function? UCLA Pulmonary Physiology Conference; December. 1985
43. Toxic hazards in the hospital. UCLA Allied Health Programs; January. 1986
44. Respiratory surveillance: opportunities and risks. UCLA Occupational Medicine Seminar; January. 1986
45. Hazards of jewelry industry. UCLA/SOHC Conference; February. 1986
46. Immunologic environmental lung disease. UCLA Pulmonary Conference; March. 1986
47. Occupational asthma. UCLA Pulmonary Division; April. 1986
48. Occupational medicine. UCLA Pulmonary Fellows Lecture; July. 1986
49. Defining Normal Lung Function. UCLA Pulmonary Physiology Series; September. 1986
50. Respirator research. UCLA Pulmonary Research Series; September. 1986
51. Occupational health research. UCLA School of Nursing; October. 1986
52. Pulmonary Diseases. UCLA Nurse/Practitioner Program, School of Nursing; October. 1986
53. Ergonomics and Cumulative Trauma. UCLA School of Public Health; November. 1986
54. Identifying occupational disease. UCLA School of Public Health, November. 1986
55. Occupational Health (Public Health 256), Lectures include: Occupational Asthma, Immunologic Disease, Asbestos, Non-Asbestos Silicates, Silica, Coal and other Pneumoconioses. 1986
56. Occupational lung diseases (6 lectures). UCLA School of Public Health; Winter. 1987
57. Preplacement testing -- practical and ethical concerns. UCLA Occupational Medicine Seminar; February. 1987
58. Occupational lung disease. UCLA Sophomore Medical School Lecture; February 1987,
59. Occupational lung disease. UCLA Medical School Pathophysiology of Pulmonary Disease course; February. 1988
60. Occupational lung disease. UCLA House staff Series; May. 1988
61. What is normal lung function? UCLA Pulmonary Physiology Series; May. 1988
62. Pathophysiology of Occupational Lung Disease. Wadsworth VA Hospital/UCLA; August. 1988
63. Occupational Health (Public Health 256), Lectures include: Introduction; Ergonomics; asbestos; Asthma; Pulmonary disease; Immunologic disease. 1988
64. Pathophysiology of Disease (Medicine 202): Occupational Lung Disease; February. 1989
65. Clinical aspects of occupational lung disease. UCLA School of Public Health 126; Fall. 1989
66. Occupational Rheumatology. UCLA Rheumatology Division; September. 1989
67. Occupational Health (Public Health 256). Lectures include: Introduction; Asthma and immunologic Disease; Ergonomics, Noise and Hearing Conservation; Winter. 1989
68. Defining normality of lung function. UCLA Pulmonary Physiology Series; January. 1990
69. Pathophysiology of Disease (Medicine 202). Occupational Lung Disease; February. 1990
70. Occupational Health (Public Health 256), Lectures include: Introduction; Ergonomics; Lung Function; Physical Environment: Heat; Physical Environment: Noise; Asbestos Disease; Occupational Asthma and Immune Responses; Winter. 1990

71. Epidemiology of occupational respiratory disease. Occupational epidemiology course, School of Public Health; May. 1990

72. Public Health 156: Lectures include: Clinical Approach to Ergonomics; Fall. 1990

73. Pathophysiology of Disease: Environmental Lung Disease; February. 1991

74. Occupational Disease (Environmental Health 256), Numerous lectures; Winter. 1991

75. Clinical Approaches. Public Health 156; November. 1991

76. Pathophysiology of Disease: Environmental Lung Disease; February. 1992

77. Environmental Health Sciences 250, Lectures: Clinical approaches to Occupational Health and Ergonomics; fall. 1992

78. marketing of ergonomic services and products: truth in advertising? UCLA Occupational Medicine Seminar; January. 1993

79. Pathophysiology of environmental lung disease. Second year medical school; February. 1993

80. Environmental Asthma. UCLA Allergy and Immunology seminar; September. 1993

81. Environmental Health Sciences 250: Occupational health systems. Occupational medicine; October. 1993

82. Asbestosis. Pulmonary Seminar; October. 1993

83. Pathophysiology of Environmental Lung Disease. UCLA School of Medicine (2nd year curriculum); February. 1994

84. Pathophysiology of Environmental Lung Disease. UCLA School of Medicine (2nd year curriculum); February. 1995


86. Occupational Medicine. EHS 250, School of Public Health; November. 1994

87. Occupational Medicine. EHS 250, School of Public Health; October. 1995

88. Pathophysiology of Environmental Lung Disease. UCLA School of Medicine (2nd year curriculum); February. 1996

89. Introduction to Occupational Medicine. Lectures on topics including ergonomics, respiratory disease, ADA, noise/hearing, screening theory, organization of services, toxic effects, heat stress, risk communication. EHS 251, School of Public Health; Winter Quarter. 1994

90. Introduction to Occupational Medicine. Lectures on topics including ergonomics, respiratory disease, ADA, noise/hearing, screening theory, organization of services, toxic effects heat stress, risk communication. EHS 251, School of Public Health; Winter Quarter. 1995

91. Atomic approach to dis/ability assessment. UCLA Occupational and Environmental Seminar; March. 1995


93. Practice Opportunities in Occupational Medicine. UCLA Family Practice; February. 1996


95. Introduction to Occupational Medicine. Lectures on topics including: ergonomics, Respiratory disease, ADA, noise/hearing, screening theory, organization of services, toxic effects, heat stress. EHS 251, School of Public Health; Winter Quarter. 1996

96. Occupational Asthma. UCLA Pulmonary Series; April. 1996

97. Asbestos Related Disease. UCLA Pulmonary Series; June. 1996
99. Environmental Exposures. UCLA Family Practice (Grand Rounds); August. 1996.
100. Occupational Medicine. EHS 250, School of Public Health; October. 1996
101. Introduction to Occupational Medicine. EHS 251, School of Public Health; Winter Quarter. Lectures on topics including ergonomics, respiratory disease, ADA, noise/hearing, Screening theory, organization of services, toxic effects, heat stress, risk communication. 1996
102. Carpal Tunnel Syndrome. UCLA Family Medicine (Grand Rounds); November. 1996.
107. Occupational Health Care Systems. Environmental Health Science course (EHS 251); October. 1997
108. Introduction to Occupational Medicine. EHS 251, School of Public Health (Quarter course: Includes 30 hrs of lecture, including 24 by Harber, P); Winter Quarter. 1998
110. Occupational Lung Disease. Pathophysiology of Disease Course (2nd yr medical students); February 1998
111. Occupational Medicine Approaches. UCLA Internal Medicine (house staff); September. 1998
116. Workers Compensation. UCLA Family Medicine Grand Rounds; October. 2000
119. Pathophysiology of occupational lung disease ( second-year medical student course2001-02 Occupational – Environmental Medicine Core Series: (Asbestos; Causation) 2001 ( February )
120. Pathophysiology of occupational lung disease ( second-year medical student course2002 ( February )
121. asbestos; occupational history
122. occupational medicine core series2002 (September- December)
123. Pathophysiology of occupational lung disease ( second-year medical student course) 2003 ( February )
124. Occupational Medicine Overview (Family Medicine Residents) 2003 (December)
125. (Environmental Health Sciences 251a, each two hours):
   a. ergonomics 2003 (April-June)
   b. occupational asthma
   c. occupational health surveillance methods
   d. organization of occupational health services
126. (Environmental Health Sciences 251a, each two hours) Overview of occupational- environmental medicine ; organization of occupational health services ; occupational health surveillance methods ; occupational asthma 2003 ( January- March)
127. Overview of occupational- environmental medicine (Environmental Health Sciences 251a, each two hours): 2004 (January- March)
   a. The indoor environment
   b. cultural competency overview
   c. heat & cold
   d. solvents
   e. respiratory protection

128. Occupational Asthma (EHS 251 course) 2004 (January)

129. Pathophysiology of occupational lung disease (second-year medical student course) 2004 (February):

130. Occupational Lung Disease. UCLA Pulmonary Division 2004 (Sept).

131. Structure of Occupational Medicine Services in U.S. UCLA, November, 2004

132. Pulmonary Function Testing I. UCLA, November, 2004

133. Pulmonary Function Testing II. UCLA, November, 2004


135. Causation and Apportionment. UCLA 2005 Jan, 2005

136. Heat Stress. EHS Course. 2006 (Feb)

137. Occupational Asthma. EHS Course. campus. Course 2006 (Feb)

138. Occupational Lung Disease. EHS Course. 2006 (Jan)

139. Scope of Occupational Medicine. EHS Course. 2006 (Jan)

140. Solvents. EHS Course. 2006 (March)

141. Risk Communication. EHS Course. campus. Course 2006 (March)

142. Radiologic Surveillance. Seminar. 2006 (September)

143. Occupational Health Surveillance. EHS Course. 2007 (Feb)

144. Asbestos and Other Fibers. EHS Course. 2007 (Feb)

145. Scope and Organization of occupational preventive medicine. EHS Course. 2007 (Jan)

146. Solvents and Beryllium. EHS Course. 2007 (Feb)

147. Ability and Disability. EHS Course. 2007 (March)

148. Noise and Heat. EHS Course. 2007 (March)

149. Workers Compensation Guidelines Development. Seminar. 2007 (April)

150. Occupational Lung Disease. Pulmonary Division. UCLA. invited lecture 2007 (September)

151. Bronchiolitis Obliterans Flavoring Products. Pulmonary Division. UCLA. Invited Lecture 2007 (October)
# PROFESSIONAL EXPERIENCE

**PROFESSOR LEVEL VI WITH TENURE CHAIR**  
October 2008 – Present  
University of California Los Angeles  
School of Public Health  
Department of Environmental Health Sciences  
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Office: 310-206-8522  
Fax: 310-794-2106  
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**DIRECTOR, GRAHAM ENVIRONMENTAL SUSTAINABILITY INSTITUTE**  
February 2008 - August 2008  
University of Michigan  
440 Church Street, 4520 Dana Building  
Ann Arbor, Michigan 48109  
Graham Family Full Professor, with Tenure  
Department of Environmental Health Sciences  
School of Public Health

**ACADEMIC HEAD, DOCTORAL PROGRAM (DrPH)**  
On Interagency Personnel Agreement (IPA) from CDC  
University of California Berkeley  
School of Public Health

**ADJUNCT PROFESSOR, STEP V**  
On IPA from CDC  
University of California Berkeley  
Berkeley, California 94720  
School of Public Health  
Environmental Health Sciences Division  
Health Policy and Management Program  
College of Environmental Design  
Department of City and Regional Planning

**STATE PUBLIC HEALTH OFFICER, CHIEF DEPUTY DIRECTOR**  
April 2004 - July 2005  
On IPA from CDC  
California Department of Health Services  
1501 Capitol Avenue, Suite 6001, Mailstop 0003  
PO Box 997413  
Sacramento, CA 95814

**SENIOR ADVISOR TO DIRECTOR, CDC**  
August 2003 - April 2004  
Centers for Disease Control & Prevention  
Office of the Director  
1600 Clifton Road, NE, Mailstop D14  
Atlanta, GA 30333

**DIRECTOR, NATIONAL CENTER FOR ENVIRONMENTAL HEALTH (NCEH), CDC**  
September 1994 - August 2003  
Centers for Disease Control & Prevention  
4770 Buford Highway, NE Mailstop F29  
Atlanta, GA 30341-3724

**CHIEF, DIVISION OF COMMUNICABLE DISEASE CONTROL**  
December 1992 - August 1994  
California State Department of Health Services  
2151 Berkeley Way, Room 701  
Berkeley, CA 94704

**CHIEF, HAZARD IDENTIFICATION AND RISK ASSESSMENT BRANCH**  
California Environmental Protection Agency  
Office of Environmental Health Hazard Assessment
Public Health Medical Administrator I
July 1991 – December 1992
2151 Berkeley Way, Annex 11
Berkeley, CA  94704

CHIEF, HAZARD IDENTIFICATION AND RISK ASSESSMENT BRANCH
Public Health Medical Officer III
March 1990 to March 1991
Public Health Medical Administrator I

ACTING CHIEF, OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT
Public Health Medical Officer III
February 1988 - March 1990

CHIEF, HAZARD EVALUATION SECTION
Public Health Medical Officer III
April 1985 - February 1988

ACTING CHIEF, CALIFORNIA OCCUPATIONAL HEALTH PROGRAM
Public Health Medical Officer III
May 1985 - November 1986

CHIEF, COMMUNITY TOXICOLOGY UNIT
Public Health Medical Officer III
June 1982 to April 1985

CHIEF, PESTICIDE UNIT
Medical Epidemiologist
Public Health Medical Officer II
November 1979 - June 1982

EPIDEMIC INTELLIGENCE SERVICE OFFICER
July 1975 - July 1977

SPECIAL EPIDEMIOLOGIST
January 1976 - April 1976

ADDITIONAL ADJUNCT AND CLINICAL APPOINTMENTS

ADJUNCT PROFESSOR
September 2009 - Present
California State University
Department of Environmental Health
Northridge, CA

ADJUNCT PROFESSOR
2000-2005
The George Washington University
Department of Environmental & Occupational Health
Washington, DC
<table>
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<tr>
<td>ADJUNCT PROFESSOR</td>
<td>Emory University</td>
<td>1998-2005</td>
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<tr>
<td></td>
<td>Department of Environmental &amp; Occupational Health</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Atlanta, Georgia</td>
<td></td>
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<tr>
<td>ASSISTANT CLINICAL PROFESSOR</td>
<td>University of California San Francisco</td>
<td>1986 to 2002</td>
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<tr>
<td></td>
<td>Department of Medicine</td>
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<tr>
<td>ASSISTANT CLINICAL PROFESSOR</td>
<td>University of California Davis</td>
<td>Affiliate Faculty Member</td>
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<td></td>
<td>Department of Community Health</td>
<td>June 1982 to June 1986</td>
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<td></td>
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<td>ATTENDING PEDIATRICIAN</td>
<td>Children's Hospital Medical Center</td>
<td>April 1978 - June 1985</td>
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<td>Oakland, California</td>
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</tr>
<tr>
<td>ADJUNCT ASSISTANT CLINICAL PROFESSOR OF PEDIATRICS</td>
<td>Albany Medical College</td>
<td>October 1975 - July 1978</td>
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<td></td>
<td>Albany, New York</td>
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<td>ADJUNCT LECTURER, EPIDEMIOLOGY AND INTERNATIONAL HEALTH</td>
<td>University of California San Francisco</td>
<td>April 1980 – Present</td>
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<td></td>
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<tr>
<td>MASTER OF PUBLIC HEALTH (MPH)</td>
<td>University of California Berkeley</td>
<td>1979</td>
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<td>Epidemiology</td>
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<tr>
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<td>Berkeley, California</td>
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<tr>
<td>PEDIATRIC RESIDENCY LEVEL III</td>
<td>University of California San Francisco</td>
<td>July 1977 - June 1978</td>
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<tr>
<td></td>
<td>Moffitt Hospital</td>
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<td>San Francisco, California</td>
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<td>PEDIATRIC RESIDENCY LEVEL II</td>
<td>University of California San Francisco and</td>
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<tr>
<td>PEDIATRIC INTERNSHIP LEVEL I</td>
<td>San Francisco General Hospital</td>
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<td>San Francisco, California</td>
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<tr>
<td>DOCTOR OF MEDICINE (MD)</td>
<td>University of California San Francisco</td>
<td>1973</td>
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<td>School of Medicine</td>
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<td></td>
<td>San Francisco, California</td>
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<tr>
<td>MASTER OF MEDICAL SCIENCES (MMS)</td>
<td>Rutgers Medical School</td>
<td>1971</td>
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<td></td>
<td>New Brunswick, New Jersey</td>
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<td>BACHELOR OF ARTS (AB) BIOLOGY</td>
<td>St. Peter's College</td>
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<td>Jersey City, New Jersey</td>
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<td>NOVICE, SOCIETY OF JESUS</td>
<td>Novitiate of Saint Andrew on Hudson</td>
<td>August 1964 - June 1966</td>
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<td>Poughkeepsie, New York</td>
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## ADDITIONAL PROFESSIONAL TRAINING

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<th>Professional Training</th>
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<tr>
<td>LEADERSHIP AT THE PEAK</td>
<td>Center for Creative Leadership</td>
<td>Colorado Springs, Colorado One-week intensive leadership training</td>
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<td>2001</td>
<td>Executive Decision Making</td>
<td>John F. Kennedy School of Government</td>
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<tr>
<td>PUBLIC HEALTH LEADERSHIP INSTITUTE</td>
<td>Public Health Institute</td>
<td>Oakland, CA Part time, year long program</td>
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<td>1995</td>
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## LICENSE TO PRACTICE MEDICINE AND SPECIALTY CERTIFICATIONS

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<th>License Type</th>
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<tr>
<td>California License</td>
<td>G34076 Effective May 1977 - Present</td>
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<tr>
<td>New York License</td>
<td>125526 Effective September 1975; Inactive</td>
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<tr>
<td>National Board of Medical Examiners</td>
<td>129957 Diplomate July 1974</td>
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<tr>
<td>American Board of Pediatrics</td>
<td>Board certified October 1979</td>
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<td>American Board of Preventive Medicine</td>
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## MILITARY

<table>
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<tr>
<th>Rank</th>
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<tr>
<td>COMMISSIONED OFFICER (L-CDR)</td>
<td>U.S. Public Health Service</td>
<td>July 1975 - July 1977</td>
<td>Centers for Disease Control</td>
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<td>Bureau of Epidemiology</td>
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<td>Atlanta, GA PHS #43319</td>
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## GRANTS

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<tr>
<th>Principal Investigator 2007</th>
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<tr>
<td>PRINCIPAL</td>
<td>Kresge Foundation, $500,000, 2008</td>
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<td>2007-2008</td>
<td>California Endowment, $500,000, 2008</td>
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<tr>
<td>Awarded to the Media/Policy Center to</td>
<td>Kaiser Permanente, $75,000, 2008</td>
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<tr>
<td>produce PBS series on Built Environment</td>
<td>Robert Wood Johnson Foundation, $50,000,</td>
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<tr>
<td>and Health with companion text and</td>
<td>2008</td>
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<tr>
<td>appropriate video modules for primary,</td>
<td>Marisla Foundation, $35,000, 2007; $25,000,</td>
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<td>secondary and college students.</td>
<td>2009</td>
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<td></td>
<td>American Institute of Architects, $150,000,</td>
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<td>2007</td>
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<tr>
<td>PRINCIPAL INVESTIGATOR 2007</td>
<td>Kellogg Foundation, $10,000</td>
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<tr>
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<td>To Develop “Agriculture Policy as Health</td>
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<td>Policy” report.</td>
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## AWARDS – PARTIAL LIST
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<th>Award</th>
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<tr>
<td>EXCELLENCE IN TEACHING</td>
<td>May 28, 2009</td>
<td>Public Health Student Association</td>
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<td>UCLA School of Public Health</td>
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<tr>
<td>LIFETIME ACHIEVEMENT AWARD</td>
<td>February, 2008</td>
<td>New Partners for Smart Growth</td>
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<td>Washington, DC</td>
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<tr>
<td>DISTINGUISHED TEACHING AND MENTORSHIP</td>
<td>May 12, 2007</td>
<td>University of California Berkeley</td>
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<td>School of Public Health</td>
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<tr>
<td>HERO’S AWARD</td>
<td>March 23, 2006</td>
<td>Breast Cancer Fund</td>
</tr>
<tr>
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<td>San Francisco, California</td>
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<tr>
<td>PRESIDENTIAL DISTINGUISHED RANK AWARD</td>
<td>May 1, 2005</td>
<td>Conferred by President of the United States</td>
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<tr>
<td></td>
<td></td>
<td>For exceptional Long-term Accomplishment</td>
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<tr>
<td>ALUMNUS OF THE YEAR 2005</td>
<td>May 2005</td>
<td>University of California Berkeley</td>
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<td>School of Public Health</td>
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<tr>
<td>CHAMPION OF ENVIRONMENTAL PUBLIC HEALTH AWARD</td>
<td>December 2003</td>
<td>Centers for Disease Control &amp; Prevention</td>
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<tr>
<td></td>
<td></td>
<td>For outstanding leadership and management in the field of Environmental Public Health, 1994-2003</td>
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<tr>
<td>SECRETARY’S AWARD FOR DISTINGUISHED SERVICE</td>
<td>June 2002</td>
<td>Conferred by U.S. Secretary of Health and Human Services</td>
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<tr>
<td></td>
<td></td>
<td>Honoring World Trade Center and Anthrax Investigation Response Team</td>
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<tr>
<td>CALVER AWARD</td>
<td>October 2001</td>
<td>American Public Health Association</td>
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<td>Top Environmental Health Award, Distinguished Annual Lecture</td>
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<td>Honor Medical Society</td>
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<td></td>
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<td>Ongoing member</td>
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<tr>
<td>ELECTION TO COLLEGIUM RAMAZZINI</td>
<td>October 23, 1998</td>
<td>Worldwide fellowship of Occupational and Environmental Health Leaders</td>
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<td></td>
<td>Bologna, Italy</td>
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<tr>
<td>MERITORIOUS SERVICE AWARD</td>
<td>September 1998</td>
<td>United States Department of Health and Human Services</td>
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<tr>
<td>OUTSTANDING ALUMNUS</td>
<td>June 1997</td>
<td>University of Medicine and Dentistry of New Jersey</td>
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<td>New Brunswick, New Jersey</td>
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<tr>
<td>ALEXANDER D. LANGMUIR PRIZE</td>
<td>April 1977</td>
<td>U.S. Public Health Service</td>
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<td>Centers for Disease Control, Bureau of Epidemiology</td>
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<td></td>
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<td>Co-recipient for outstanding epidemic Investigation</td>
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RECOGNITION - PARTIAL LIST

- AIA NATIONAL BOARD OF DIRECTORS - American Institute of Architects
<table>
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<tr>
<th>Event Description</th>
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<tbody>
<tr>
<td>Public Member</td>
<td>Washington, DC</td>
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<tr>
<td>December 2005 - December 2007</td>
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<tr>
<td>DISTINGUISHED SERVICE AWARD</td>
<td>City of Richmond, CA</td>
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<tr>
<td>November 2007</td>
<td>General Plan Advisory Group Member</td>
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<td>Community Health and Wellness Element</td>
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<td>5TH ANNUAL GREAT ORMOND STREET LECTURE</td>
<td>Great Ormond Street Hospital for Children</td>
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<td>September 27, 2006</td>
<td>London, England</td>
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<tr>
<td>CERTIFICATE OF CONGRESSION RECOGNITION</td>
<td>Conferred by Nancy Pelosi, Member of Congress</td>
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<tr>
<td>March 23, 2006</td>
<td>For Outstanding and Invaluable Service to the Community</td>
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<tr>
<td>CERTIFICATE OF RECOGNITION</td>
<td>State of California Legislature (Assembly)</td>
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<tr>
<td>March 23, 2006</td>
<td>In recognition of recipient of Breast Cancer Fund Award</td>
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<tr>
<td>PRINCE’S FUND KEYNOTE LECTURE</td>
<td>At the request of HRH Charles, Prince of Wales</td>
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<tr>
<td>“Celebrating Achievement”</td>
<td>Saint James’ Palace</td>
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<td>January 26, 2006</td>
<td>London, England</td>
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<tr>
<td>HALL OF FAME INDUCTION</td>
<td>Township of Nutley, New Jersey</td>
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<td>November 20, 2005</td>
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<tr>
<td>COMMENDATION AND PROCLAMATION</td>
<td>Governor and Legislature of State of New Jersey</td>
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<td>November 2005</td>
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<tr>
<td>COMMENCEMENT SPEAKER</td>
<td>University of California Los Angeles</td>
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<tr>
<td>June 17, 2005</td>
<td>School of Public Health</td>
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<td><a href="http://www.ph.ucla.edu/students_keynote.html">http://www.ph.ucla.edu/students_keynote.html</a></td>
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<td>KEYNOTE SPEAKER ANNUAL MEETING</td>
<td>Society for Risk Analysis</td>
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<td>December 7, 2004</td>
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<td>KEYNOTE SPEAKER STATEWIDE MEETING</td>
<td>California Medical Association</td>
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<td>November 18, 2004</td>
<td>“Importance of Public Health in Clinical Practice”</td>
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<td>25 ENVIRONMENTAL CHAMPIONS</td>
<td>Interiors and Sources Magazine</td>
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<td>July 2004</td>
<td>“A Tribute to the Trailblazers”</td>
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<td>ANNUAL HONORARY LECTURESHIP</td>
<td>National Association of Local Boards of Health</td>
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<tr>
<td>April 2004</td>
<td>Ned E. Baker Lecture in Public Health</td>
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<td>SELLERS-MCCROAN LECTURE</td>
<td>Georgia Public Health Association</td>
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<td>April 2004</td>
<td>Annual Honorary Lectureship</td>
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<td>AIA PRESIDENTIAL CITATION</td>
<td>American Institute of Architects</td>
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<td>March 2004</td>
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<tr>
<td>GOVERNOR’S COMMENDATION</td>
<td>Governor, State of Hawaii</td>
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<tr>
<td>February 2004</td>
<td>For significant contributions to children’s health</td>
</tr>
<tr>
<td>CHAMPION 1994-2003</td>
<td>Trust for America’s Health</td>
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<td>December 2003</td>
<td>In appreciation for Leadership as a Public Health</td>
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<tr>
<td>KEYNOTE SPEAKER, NATIONAL MEETING</td>
<td>American Society of Landscape Architects</td>
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### October, 2003

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<tr>
<td>DISTINGUISHED VISITING SCHOLAR LECTURE</td>
<td>The University of Kansas Medical Center Lawrence, Kansas</td>
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<tr>
<td>Service To America Medal Finalist</td>
<td>Partnership for Public Service, Washington, D.C. Environment, Science, and Technology</td>
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<tr>
<td>Keynote Lecture, National Meeting</td>
<td>Congress for New Urbanism Washington, DC</td>
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<tr>
<td>Dean’s Lecturer 2003 Hørder Førelæsning</td>
<td>Odense University Denmark</td>
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<tr>
<td>Lezione Magistrale Lecture</td>
<td>Collegium Ramazzini Carpi, Italy</td>
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<tr>
<td>Team Award National Center for Environmental Health</td>
<td>Centers for Disease Control &amp; Prevention For dedication and service to CDC following the events of 9/11</td>
</tr>
<tr>
<td>Diploma de Honor</td>
<td>Municipalidad de San Juan de Lurigancho, Peru For “Invaluable Support for the Urban Environmental Health Project in our Prestigious District”</td>
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<tr>
<td>Presidential Citation</td>
<td>National Environmental Health Association Recognition of Distinguished Service, Leadership and Accomplishment on Behalf of Environmental Health</td>
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<tr>
<td>Award of Appreciation</td>
<td>United States Department of Defense For Outstanding Contributions as a Member of the Armed Forces Epidemiological Board</td>
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<tr>
<td>Teaching Certificate of Appreciation 2000 - 2004</td>
<td>Emory University Rollins School of Public Health Department of Environmental &amp; Occupational Health Teaching Theory and Practice of Public Health</td>
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<td>Bronze Medal for Commendable Service</td>
<td>U.S. Environmental Protection Agency Removal of Allercare products for health protection</td>
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<tr>
<td>Secretary’s Award for Distinguished Service, HHS Group Honor Award</td>
<td>United States Secretary of Health and Human Services For China-U.S. Collaborative Project for Neural Tube Defect Prevention</td>
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<tr>
<td>Commendation as a Child Health Leader</td>
<td>American Academy of Pediatrics</td>
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<tr>
<td>Award of Appreciation</td>
<td>National Association of County and City Health Officials For leadership in public health</td>
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<tr>
<td>Certificate of Appreciation</td>
<td>Physicians for Social Responsibility For creative and visionary approaches to making environmental health a crucial part of the Nation’s agenda for the future</td>
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<td>Award Description</td>
<td>Recipient/Institution</td>
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<tr>
<td>GROUP HONOR AWARD INTERNATIONAL HEALTH</td>
<td>Centers for Disease Control &amp; Prevention and Agency for Toxic Substances and Disease Registry For elimination of micronutrient malnutrition in Russia</td>
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<td>CURRICULUM VITAE</td>
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<td>GROUP HONOR AWARD INTERNATIONAL HEALTH</td>
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<td>DISTINGUISHED ALUMNI AWARD</td>
<td>Robert Wood Johnson Medical School New Brunswick, New Jersey</td>
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<td>SENIOR EXECUTIVE SERVICE PERFORMANCE AWARD, 1996-2003</td>
<td>Centers for Disease Control &amp; Prevention</td>
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<tr>
<td>CERTIFICATE OF APPRECIATION</td>
<td>U.S. Environmental Protection Agency For service on Science Advisory Panels</td>
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<td>CERTIFICATE OF APPRECIATION</td>
<td>Agency for Toxic Substances and Disease Registry Case Studies in Environmental Medicine For services on Board of Scientific Counselors</td>
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<tr>
<td>CERTIFICATE OF APPRECIATION</td>
<td>United States Surgeon General For work on Global Smallpox Eradication Program</td>
</tr>
<tr>
<td>OUTSTANDING LECTURE TO FIRST YEAR CLASS</td>
<td>University of California San Francisco School of Medicine</td>
</tr>
<tr>
<td>COMMITTEES AND CONSULTATION – NATIONAL ACADEMY OF SCIENCES &amp; INSTITUTE OF MEDICINE</td>
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<tr>
<td>National Research Council of the National Academies</td>
<td>Science and Technology for Sustainability Program Policy and Global Affairs Division Certification of Sustainable Products and Services, 2008 - Present</td>
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<tr>
<td>Institute of Medicine, National Academy of Sciences</td>
<td>Committee on Curriculum Development in Environmental Medicine Member 1993-1994. Report issued 1993</td>
</tr>
<tr>
<td>Institute of Medicine, National Academy of Sciences</td>
<td>Committee on the Practice of Occupational and Environmental Health Consultant May 1991</td>
</tr>
<tr>
<td>National Research Council, National Academy of Sciences</td>
<td>Board on Environmental Studies and Toxicology Frontiers in Assessing Human Exposures to Environmental Toxicants</td>
</tr>
<tr>
<td>Organization</td>
<td>Position and Duties</td>
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<tr>
<td>------------------------------------------------------------------------------</td>
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<tr>
<td>Institute of Medicine, National Academy of Sciences</td>
<td>Workshop on Information Systems Available to Physicians Consultant August 1989 - December 1989</td>
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**COMMITTEES AND CONSULTATION**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Position and Duties</th>
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<tr>
<td>National Conversation on Chemical Exposures</td>
<td>Policies and Practices Work Group Chair, Consultant to CDC/ATSDR September 2009 - Present</td>
</tr>
<tr>
<td>City of Richmond, CA, General Plan Update</td>
<td>Technical Advisory Group on Health Policy Update Member February 2007 – November 2007</td>
</tr>
<tr>
<td>University of California Davis</td>
<td>Committee to Create a School of Public Health Co-chair June 2005 - April 2007</td>
</tr>
<tr>
<td>Environmental Protection Agency – U.S. Department of Agriculture</td>
<td>Committee to Advise on Reassessment and Transition Member 2000 - 2003</td>
</tr>
<tr>
<td>National Toxicology Program</td>
<td>Executive Committee Member 1997 - 2003</td>
</tr>
<tr>
<td>Office of the President of the United States Executive Order 13045</td>
<td>Task Force on Children’s Environmental Health &amp; Safety Co-lead of multi-agency effort April 1997 - December 2001</td>
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<tr>
<td>Russian Federation and United States of America</td>
<td>Joint Coordinating Committee For Radiation Effects Research (JCCRER) Executive Committee Member October 1996 - 2001</td>
</tr>
<tr>
<td>American Public Health Association</td>
<td>Epidemiology Section Elected member October 1996 - October 1999</td>
</tr>
<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Food Safety Advisory Committee Member September 1996 - 1999</td>
</tr>
<tr>
<td>United States Department of Defense</td>
<td>Armed Forces Epidemiology Board</td>
</tr>
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R-427
<table>
<thead>
<tr>
<th>Organization</th>
<th>Position/Responsibility</th>
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<tbody>
<tr>
<td>Centers for Disease Control and Prevention</td>
<td>Health and Safety Advisory Board (Member 1995 – 1999, Chair 1996)</td>
</tr>
<tr>
<td>Centers for Disease Control and Prevention</td>
<td>Public Health Practice Advisory Committee (Vice-Chair 1996, Chair 1997-98)</td>
</tr>
<tr>
<td>Executive Office of the President Office of Science and Technology Policy</td>
<td>Interagency Oxygenated Fuels Assessment Steering Committee (Chair of Health Subcommittee 1995 - 1996)</td>
</tr>
<tr>
<td>Department of Health and Human Services</td>
<td>Environmental Health Policy Committee (Member 1994 to Present, Chair Subcommittee on Emerging Issues 1995 – 1996, Chair Subcommittee on Drinking Water 1995 – Present, Chair Committee on Children and the Environment 1996 – Present)</td>
</tr>
<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Science Advisory Board Environmental Health Committee (Member October 1993 - September 1994)</td>
</tr>
<tr>
<td>Agency for Toxic Substances and Disease Registry</td>
<td>Board of Scientific Counselors (Member January 1993 - September 1994)</td>
</tr>
<tr>
<td>U.S. Department of Health and Human Services Centers for Disease Control</td>
<td>Expert Advisory Committee to Centers for Disease Control on Prevention of Childhood Lead Poisoning (Member, August 1990 - September 1994)</td>
</tr>
<tr>
<td>State of Massachusetts</td>
<td>Woburn Cancer Cluster Science Advisory Panel (Member May 1989 - July 1991)</td>
</tr>
<tr>
<td>Agency for Toxic Substances and Disease Registries</td>
<td>Expert Peer Review Panel (On Training for Primary Care Physicians on Toxicologic Hazards, Member December 1988 - December 1993)</td>
</tr>
<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Federal-State Expert Panel (On Worker Notification Options Related to Chlordimeform, Member August 1988 - December 1988)</td>
</tr>
<tr>
<td>Association of State and Territorial Health Risk Assessors (ASTHRA)</td>
<td>Program Chair February 1988 - October 1990, President October 1990 - December 1992</td>
</tr>
<tr>
<td>U.S. Department of Labor, Occupational Safety and Health Administration</td>
<td>Training Program Lecturer on Pesticide Issues (December 1987 – 1991)</td>
</tr>
<tr>
<td>Centers for Disease Control</td>
<td>Expert Peer Review Group (On West-Central Phoenix Childhood Cancer Cluster, Member October 1987 - 1991)</td>
</tr>
</tbody>
</table>
### American Academy of Pediatrics
- **Northern California Chapter**
- **Member Board of Directors 1981 - December 1991**

### State of California
- **Governor's Review Panel on Health Risk Assessment Related to Malathion Spraying**
- **Member 1981**

### American Academy of Pediatrics
- **Northern California Chapter**
- **Committee on Environmental Health**

### EDITORIAL BOARDS

<table>
<thead>
<tr>
<th>Journal/Magazine</th>
<th>Position/Role</th>
</tr>
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<tbody>
<tr>
<td>The Wellness Letter</td>
<td>Environmental Research Assistant Editor</td>
</tr>
<tr>
<td>University of California Berkeley</td>
<td>February 1988 - Present</td>
</tr>
<tr>
<td>December 2006 - February 2008</td>
<td></td>
</tr>
<tr>
<td>American Journal of Industrial Medicine</td>
<td>Public Health Reports Assistant Editor</td>
</tr>
<tr>
<td>Advisory Editor</td>
<td>June 1995 - Present</td>
</tr>
<tr>
<td>September 1994 - Present</td>
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</table>

### JOURNAL PEER REVIEWER / ON REQUEST
- American Journal of Public Health
- Pediatrics
- Environmental Research
- Journal of the American Medical Association
- Lancet

### BOARDS OF DIRECTORS

<table>
<thead>
<tr>
<th>Organization</th>
<th>Location</th>
<th>Position/Role</th>
<th>Date Range</th>
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<tr>
<td>Children Now</td>
<td>Oakland, CA</td>
<td>Academic Advisory Board</td>
<td>2009 - Present</td>
</tr>
<tr>
<td>University of Southern California</td>
<td>Los Angeles, California</td>
<td>Annenberg School for Communication, Norman Lear Center</td>
<td>2004 – Present</td>
</tr>
<tr>
<td>American Public Health Association</td>
<td>Washington, DC</td>
<td>Science Board</td>
<td>2007 - 2010</td>
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<tr>
<td>Partnership for Prevention</td>
<td>Washington, DC</td>
<td>Founding Board Member</td>
<td>July 1991 - May 1995</td>
</tr>
<tr>
<td>Alliance to End Childhood Lead Poisoning</td>
<td>Washington, DC</td>
<td>Executive Committee and Founding Board Member</td>
<td>January 1990 - September 1994</td>
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<tr>
<td>Organization</td>
<td>Position</td>
<td>Start/End Dates</td>
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<td>------------------------------------------------</td>
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<tr>
<td>Children’s Environmental Health Network</td>
<td>Board of Directors</td>
<td>2005 - Present</td>
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<tr>
<td>Pesticide Education Center</td>
<td>Founding Board Member</td>
<td>January 1989 - September 1994</td>
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<tr>
<td>Environmental Media Services</td>
<td>Advisory Board</td>
<td>2005 - Present</td>
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<tr>
<td>Contra Costa Health Services Department</td>
<td>Public and Environmental Health Advisory Board</td>
<td>1992 - September 1994</td>
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<tr>
<td>Policy Media Center</td>
<td>Producers of “Edens Lost &amp; Found” PBS series</td>
<td>Santa Monica, CA</td>
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<td></td>
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<td>2005 - Present</td>
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</table>

**PROFESSIONAL SOCIETIES MEMBERSHIP**

- Rutgers (Robert Wood Johnson) Medical School Alumni Association
- American Public Health Association
- University of California, San Francisco Medical School - Alumni-Faculty Association
- Epidemic Intelligence Service Alumni Association
- Physicians for Social Responsibility
- Council of Fellows of the Collegium Ramazzini
- American Association for the Advancement of Science
- Alpha Omega Alpha Honor Medical Society

**INTERNATIONAL EXPERIENCE**

**ASIA**

- India 1976; China 1996; Thailand 2000

**LATIN AMERICA**

- Mexico 1973, 1974, 1999; Peru 2001

**EUROPE**

- Poland 1991; Russia 1996; Western Europe—multiple trips

**LANGUAGE ABILITIES**

<table>
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<tr>
<th>Language</th>
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<tbody>
<tr>
<td>French</td>
<td>Speak adequately; read well</td>
</tr>
<tr>
<td>Spanish</td>
<td>Speak poorly; read adequately</td>
</tr>
</tbody>
</table>

**PEER-REVIEWED PUBLICATIONS**


International study finds breast milk free of significant lead contamination. Sinks T, Jackson RJ. Environmental Health Perspectives. February 1999, 107(2), A 58-9, discussion A 60-1.


One Size Does Not Fit All: Some Thoughts on Pesticides in The Diets of Infants and Children, Jackson RJ. *California Agriculture* 48(1) 13-18, Jan-Feb 1994.


Assessment of Acute Health Effects from the Medfly Eradication Project in Santa Clara County, California, Kahn E, Berlin M, Deane M, Jackson RJ, Stratton JW. *Archives of Environmental Health* 47(4) 1992;279-284.


Alar in Fruit: Limited Regulatory Action in the Face of Uncertain Risks, Zeise L, Painter P, Berteau PE, Fan AM, Jackson RJ


Health Assessment from Human Dietary Selenium Intake from Agricultural Crops. Fan AM and Jackson RJ. *Selenium Contents in Animal and Human Food Crops*. Cooperative Extension University of California, Division of Agriculture and Natural Resources Publication 3330 (1988).


BOOKS AND BOOK CHAPTERS


"Environmental Exposures and Controls" in *Current Occupational and Environmental Medicine, third edition.* Solomon G, LaDou J, Jackson RJ. Lange Medical Books/McGraw-Hill, 2004 (Section VI. Environmental Health: Chapter 37).


Environmental Medicine: Integrating a Missing Element into Medical Education (April 1995) Pope A, Rall DP, et al., Institute of Medicine, Washington, D.C.


National Research Council, National Academy of Sciences, Pesticides in the Diets of Infants and Children. (Committee member and major contributor.) 1993 National Academy Press, Washington D.C.


MEDIA, WEBLINKS AND PRESENTATIONS


COMMITTEE STATEMENTS OF THE AMERICAN ACADEMY OF PEDIATRICS

- Committee on Environmental Hazards (as contributing committee member or chairman).

REPORTS, REVIEWS, LETTERS-TO-THE-EDITOR, ABSTRACTS, PROCEEDINGS, OTHER

“Our Ailing Communities: Public Health Advocate Richard Jackson argues that the way we build cities and communities is the source of many chronic diseases” (An interview). Metropolis Magazine October 2006
“Designing for Health: Green and sustainable building and community design must advance past sustainability and become ‘restorative.’” Traditional Building--The Professional’s Resource for Public Architecture. October, 2006, pp 178


Statement of the Local Authorities, Bonn, Germany. Statement written with the WHO European Centre for Environment and Health and local ministers on housing and public health. October 21, 2003.


Workshop Summary Editor. Health and the Environment in the Southeastern United States, Rebuilding the Unity.


Unburdening Ourselves. Jackson RJ. Silent Spring Review. Fall 2000


Healthy Futures for APEC Megacities, Volume 1 Summary Report of a Foresight Project. Asia-Pacific Economic Cooperation, September 2000. Wrote Preface and was a major author.


Preventing Disabling Conditions: A CDC Perspective. Proceedings and Recommendations of the Preventing Disabling Conditions: The Role of the Private Sector Conference, (September 1994/pp. 5-7). Jackson RJ.


Coccidioidomycosis Following the Northridge Earthquake - California 1994 *MMWR*, March 18, 1994, pp190-192, with multiple other contributors.


Editor, Main Contributor, NYS Bureau of Disease Control Communicable Disease Newsletter (monthly - 4 pages).

### MAJOR PEER REVIEWS


<table>
<thead>
<tr>
<th>#</th>
<th>Toxicity</th>
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<tbody>
<tr>
<td>#1</td>
<td>Lead Toxicity</td>
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<td>#2</td>
<td>Vinyl Chloride Toxicity</td>
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<tr>
<td>#3</td>
<td>Methylene Chloride Toxicity</td>
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<td>Arsenic Toxicity</td>
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<td>Trichloroethylene Toxicity</td>
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<td>Chlordane Toxicity</td>
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<td>#26</td>
<td>Taking an Exposure History</td>
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<td>Skin Lesions and Environmental Exposures</td>
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<td>Reproductive and Developmental Hazards</td>
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<td>Jet Fuel Toxicity</td>
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<tr>
<td>#34</td>
<td>Ionizing Radiation</td>
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New York University Medical Center: Staying Healthy In A Risky Environment: The New York University Medical Center Family Guide. Upton MD, Graber MS, Simon and Shuster. 1993


TESTIMONY BEFORE UNITED STATES CONGRESSIONAL COMMITTEES OR PRESIDENTIAL COMMISSIONS

U.S. Senate; Committee on Banking, Housing, and Urban Affairs; Subcommittee on Housing and Transportation. Lead-Based Paint Poisoning: Federal Responses. Washington, D.C.  June 5, 2002.


U.S. Senate; Committee on Appropriations; Subcommittee on Labor, Health, and Human Services and Education. Nation=s Public Health Infrastructure Regarding Epidemics and Bioterrorism. Washington, D.C. June 2, 1998.


CURRICULUM VITAE

Nola Janice Kennedy

Address: UCLA School of Public Health
Environmental Health Sciences Department
650 Charles E. Young Drive, South
Los Angeles, CA  90095-1772
Phone:  (310) 794-7687
FAX:      (310) 794-2106
E-mail:   okennedy@ucla.edu

Home:    10873 Galvin Street
         Culver City, CA  90230
         Phone:  (310) 837-7854

EDUCATION

B.A. Genetics UC Berkeley, 1984

M.S.- E.H.S. Environmental Health Science/Industrial Hygiene UC Los Angeles, 1994

Ph.D. Environmental Health Science/Aerosol Science UC Los Angeles, 2000

HONORS AND AWARDS

Nominated, ASPH/Pfizer Award for Teaching Excellence, July 2009

Delta Omega Society, Iota Chapter, member since 2007

UCLA Public Health Student Association Teaching Assistant of the Year, 2000

Sigma Xi, member since 2000

Southern California American Industrial Hygiene Association Outstanding Graduate Student, 1986

American Association for Aerosol Research Student Travel Grant, 1997

UCLA Health Careers Opportunity Program Special Recognition Award, 1985
PROFESSIONAL EXPERIENCE

2006 - present  Director, Hazardous Substances Academic Training Program, NIOSH Southern California Education and Research Center (SCERC), UCLA School of Public Health

2005 - present  Assistant Professor in Residence, UCLA School of Public Health, Environmental Health Sciences Department, Industrial Hygiene Program

Research interests: exposure assessment - retrospective analysis, experimental design, design and testing of air monitoring devices, environmental exposures to particle matter; aerosol science - particle behavior; respirator efficiency; methods for measurement and control of workplace nanoparticles; heat related illness in re global climate change

teaching: physical agents lecture, physical agents laboratory, industrial hygiene measurements laboratory, health hazards of industrial process, industrial hygiene field assessment, industrial hygiene measurements laboratory, ventilation laboratory, geographic information systems

2002 - present  Lecturer, California State University at Northridge, Department of Environmental and Occupational Health

2000 - 2005  Assistant Researcher and Adjunct Assistant Professor, UCLA School of Public Health, Environmental Health Sciences Department, Industrial Hygiene Program

1991 - 2000  Graduate Student Researcher, UCLA School of Public Health

major interest: aerosol science with a focus on the inhalability of large particles

other work: industrial hygiene assessment of selected maquiladoras, retrospective exposure assessment of a rocket test facility, carpal tunnel syndrome study for selected occupations

1992 - 2000  Teaching Assistant, UCLA Department of Environmental Health Sciences
courses: aerosol technology, ventilation, health hazards of industrial processes, physical agents, industrial hygiene monitoring

1987 - 1991 Manager, Industrial Hygiene Services, Drucker Health & Safety Management, Inc., Manhattan Beach, CA and Atlanta, GA

CERTIFICATION

Full Diplomate of the American Board of Industrial Hygiene - Certified Industrial Hygienist (CIH) in Comprehensive Practice, cert # 5551, 1993 - present

State of California, Division of Occupational Safety and Health - Certified Asbestos Site Surveillance Technician, cert # 96-2059, 1996 - 1999

Certified Hazardous Materials Manager (CHMM), Master level, cert # 13399, September 2005 - present.

PROFESSIONAL SERVICE


Local Conference Committee Chair, American Industrial Hygiene Conference and Exposition, Anaheim, CA 2005


ACADEMIC SERVICE

UCLA School of Public Health Disaster Committee, February 2006 - present

Environmental Health Sciences Department representative to UCLA Academic Senate, March 2006 - present

UCLA School of Public Health Academic Computing Committee, November 2008 to present
Reviewer of proposals for NIOSH Southern California Education and Research Center pilot project grants

Advisory Board member for the UCLA Labor Occupational Safety and Health Program (LOSH) Occupational Health Internship Program (OHIP), February 2008 to present

**DOCTORAL COMMITTEES**

Jeffrey Birkner (chair), graduated June 2007, *Release of Particles from Commonly used Respirator Filters*
George Brogmus (chair)
David Fung
Isabel Garcia
Nancy Jennerjohn (chair), graduated August 2009, *Instrumentation for the Exposure Assessment of Airborne Carbon Nanotubes in the Workplace*
Sayaka Takaku

**PROFESSIONAL AND ACADEMIC ASSOCIATIONS**

American Industrial Hygiene Association, 1989 - present
American Conference of Governmental Industrial Hygienists, 1991 - 93, 2001-present
American Industrial Hygiene Association - Southern California section, 1986 - 89 and 1992 - present
American Association for Aerosol Research, 1997 - present
Institute of Hazardous Materials Management, 2005 - present
Southern California Environmental Health Sciences Center, Affiliate Member - Exposure Assessment and GIS cores

**PUBLICATIONS**


Birkner, J.S., Hinds, W.C.; Fung, D., Kennedy, N.J.: Particle Release from Respirators, Part I: Determination of the Effect of Particle Size, Drop Height and Load, accepted with revision March 2009 *JOEH* (ms no. 08-0164).


**PRESENTATIONS**


Kennedy, N.J.* and Hinds, W.C., Inhalability of Large Liquid Particles. poster session at the American Association for Aerosol Research Conference, Charlotte, NC (October 2002).

Hinds, W.C.*, Ashley, A.B., and Kennedy, N.J., Cloud Settling and Rayleigh-Taylor Instability. poster session at the American Association for Aerosol Research Conference, St. Louis, MO (November 2000).


Kennedy, N.J.* and Hinds, W.C., Inhalability of Large Solid Particles. poster session at the American Association for Aerosol Research Conference, Denver, CO (1997).


* indicates presenting author
CURRICULUM VITAE

Name: Shane S. Que Hee

Birthdate: October 11, 1946

Birthplace: Sydney, Australia

Residences:
- 85 Roscoe St. Flat 16 (1946-50)
  Bondi Beach, Sydney, Australia 2026
- 29 Branyan Street (1950-64)
  Bundaberg, Queensland, Australia 4670
- King's College (1964-71)
  Upland Road
  St. Lucia, Brisbane,
  Queensland, Australia 4000
- Laverendyre House (1971-72)
  University of Saskatchewan
  Saskatoon, Saskatchewan, Canada S7N-0WO
- 403 3rd Ave S (1973-75)
  Saskatoon, Saskatchewan, Canada
- 1105-175 Hunter Street (1975-76)
  Hamilton, Ontario, Canada (416-523-4305)
- 220 E. Piedmont Mews (1978-89)
  Cincinnati, OH 45219 (513-281-7496)
- 715 Gayley Ave #403 (1989-90)
  Los Angeles, CA 90024 (213-208-1624)
- 923 Levering Ave. Unit #102 (1990+)
  Los Angeles, CA 90024 (310-208-1624)

U.S. Status: Resident Alien: Australian Citizen

Soc. Sec. No: 296-72-2345
Expertise in Non-Professional Areas:

Music:
Licentiate Trinity College: 1971 (Trinity College, University of London, U.K.)

Teachers:
1956-1962 Ms. Essie Hefferin, Bundaberg, QLD, Australia
1962-1964 Ms. Isobel Grigor, Bundaberg, QLD, Australia
1965-1970 Mr. John Ellis, Brisbane, QLD, Australia

Public Recitals of Compositions:
Sonata in Bb Minor: 2 songs (self as soloist; Ms. Diana Evans as singer), February 1968, Brisbane, Queensland, Australia.
Music for Tartuffe (Moliere) performed on March 31, 1975, Saskatoon, Saskatchewan, Canada.
Sonata in Bb Minor: Void: (self as soloist): May 14, 1979, Cincinnati, Ohio, USA.
"Void" in C major, Fantasia and Fugue in Bb Minor, June 6, 1987, Cincinnati, Ohio, USA.

List of Musical Works:
OP 1  SONATA IN G MINOR (Pianoforte)
   i  Tempo Rubato
   ii  Fantasia
   iii  Mysterioso 20 min; med. diff.

OP 2  BALLADE (Pianoforte)
   i  Elegy in D Minor
   ii  Arabesque in C Major-"Brunnen" 10 min; med. diff.

OP 3  SONATA IN G MINOR (Pianoforte) 35 min; diff.

OP 4  i  Nocturne in B Major
   ii  Song (contralto/piano)-Sonnet 22 "God's Nature"
   iii  Fantasie in F# Minor-"Youth"
      a.  Largo mysterioso
b. Early Impressions

c. Variations on a Nursery Rhyme

d. Psychedel

iv Prelude 40 min; diff.

OP 5
i Song (S or T/piano-Sonnet; "A Lament for US"

ii Sonata in Bb Minor

iii "Void" in C Major 30 min; diff.

OP 6
i Fantasia and Fugue in Bb Minor

ii Suite -"Destiny of Man"

a. Genesis

b. Passacaglia (De Profundo)

c. Ground -Enigma

d. Romance

e. Finale (Ab uno disce omnes)

iii Etude in the Old Style in C# Minor

iv Song (contralto/piano)-"Joe Allen"

v "Tartuffe" -a suite apres Moliere

Also scored for 2 flutes, 1 Bb clarinet, 1 bassoon, 1 oboe, and pianoforte

vi (S or T/piano) -"A New Life" 40 min; diff.

Nonprofessional Honorary Positions:

1. Founder, University of Saskatchewan Squash Club, 1971.
2. President, University of Saskatchewan Squash Club, 1971-72.
4. Secretary/Treasurer, Saskatchewan Cricket Assoc., 1974.
12. Facilitator, Cincinnati Coalition Against Apartheid, 1984-85.
16. Steering Committee Member, UCLA Lesbian and Gay Faculty/Staff Network, 1992-98
18. Member, UCLA Faculty Committee for a Lesbian/Gay Minor or Major, 1995-8.
20. Vice President, Village Terrace Homeowners Association, 923 Levering Ave, Los Angeles
2002
22. Co-Coordinator, Platform Working Group, Green Party of California, 2004+

**Personal Awards not Connected to Professional Career:**
5. Outstanding Member Award, UCLA Lesbian and Gay Faculty/Staff Network, 1993.

**Recreational Activities:**
Bridge, chess, tennis, squash, racketball, table tennis, softball, cricket, reading, writing, poetry, civil rights causes.

**Sports Achievements and Awards**
2. Champion, Division C tennis men’s doubles with David Dickerson (FL), Pride Classic National Tennis Tournament, Los Angeles, CA, June 12, 1995.
4. Craig Van Eyck Sportsman of the Year Award, Los Angeles Tennis Association, 1996.
17. Finalist, D Division Men’s Singles, San Diego Open 23, July 4-6, 2008.

Los Angeles Tennis Association League Championships

Singles
1. #5 Singles, Fall, Sunday, 1990
2. #3 Singles, Summer, Sat, 1994
4. #2 Singles, Summer, 2002
5. #3 Singles, Winter, 2009

Doubles
1. #3/4 Doubles, Winter/Spring, Sat, 1995
2. #1/2 Doubles, Winter/Spring, Sun, 1996
3. #3/4 Doubles, Summer, Sat, 2005.
5. #3/4, Winter/Spring, Sat, 2009

Team
3. Sat League, Summer, 2005
4. Sat League, Summer, 2006
5. Sat League, Winter, 2009

Works as a Civil Rights Activist
16. UCLA Lesbian/Gay Faculty and Staff Network Newsletter, Articles, 1992-98.

Other
PROFESSIONAL CAREER

**Degrees:**
- **B.Sc.** (Honors in Chem and Biochem), Department of Chemistry, University of Queensland, St. Lucia, Brisbane, Queensland, Australia, 1968.

- **M.Sc.** (Physical Chemistry), Department of Chemistry, University of Queensland, St. Lucia, Brisbane, Queensland, Australia, 1971.  
  *Thesis Title:* Weak Luminescence Emitted by the Yeast *Saccharomyces Cerevisiae*  
  109 pp.

- **Ph.D.**, Department of Chemistry and Chemical Engineering, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 1976.  
  *Thesis Title:* Environmental Fate and Photochemistry of 2,4-D and its Compounds  
  309 pp.

**Other Education**
- Bundaberg State High School, Queensland, Australia (1958-1963)  
  Classes: 2H, 3A-1, 4A-1, 5-1, 6-1

- Weapons Research Establishment, Elisabeth, South Australia, 1967:  
  Adelaide Research on Rocket Fuels. Vacation employment.

- Australian Atomic Energy Commission, Lucas Heights, Sydney, Australia, 1968:  
  Research on Azobenzenes synthesis. Vacation employment.

- Kettering Laboratory and the Department of Environmental Health, University of Cincinnati, Cincinnati, Ohio, week long course, 1978:  
  Principles and Practice of Industrial and Environmental Hygiene.

- Waters Associates, Milford, Massachusetts 01757, week long course, October 1979: Practical Course in Liquid Chromatography.

- Allied Analytical (Jarrell-Ash), Waltham, Massachusetts; week long course, March, 1983: Practical Course on ICP-AES/Apple II Computer Methodology.

**Experience:**

- **1969-1970:** Tutor in Physical Chemistry, King's College, University of Queensland, Brisbane, Queensland, Australia.

- **1970:** Worked Problems in First-Year Physical Chemistry, King's College, University of Queensland, Brisbane, Australia, 130 pp.

- **1974:** Instructor in Organic Chemistry, Department of Chemistry and Chemical Engineering, University of Saskatchewan, Saskatoon, Canada. (A first-year
organic chemistry course given to 81 nurses.)

1974: Laboratory Manual for Third-Year Organic Chemistry, Department of Chemistry and Chemical Engineering, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 150 pp.

1976-1978: Teaching/Research Post-doctoral Fellow, Department of Chemistry, McMaster University, Hamilton, Ontario, Canada.

1978-1984: Assistant Professor, Department of Environmental Health, University of Cincinnati Medical Center.
Lecturer in the following Continuing Education Short-Courses given under the auspices of the Department of Environmental Health:
   Industrial Hygiene Chemistry: NIOSH 590
   GC/Mass Spectroscopy and Spectrophotometry
   Industrial Hygiene Measurements: NIOSH 550:
   Adsorption

1984-1989: Associate Professor with Tenure, Department of Environmental Health, University of Cincinnati Medical Center

1989-1994: Associate Professor with Tenure, Step III, Department of Environmental Health Sciences, School of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

1992-94 Vice-Chairperson, Department of Environmental Health Sciences, School of Public Health, University of California at Los Angeles.

1994-96 Professor, Step I, Department of Environmental Health Sciences, School of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

1996-00 Professor, Step II, Department of Environmental Health Sciences, School of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

2000-03 Professor, Step III, Department of Environmental Health Sciences, School of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

2003-2006 Professor, Step IV, Department of Environmental Health Sciences, School of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

2006+ Professor, Step V, Department of Environmental Health Sciences, School
of Public Health, UCLA Center for Occupational and Environmental Health, University of California at Los Angeles.

2009+ **Distinguished Professor**, National Taiwan University, School of Public Health, Institute of Environmental Health

2009+ **Director, UCLA Industrial Hygiene Program 2009+**, Department of Environmental Health Sciences, School of Public Health

Since the UCLA Industrial Hygiene Program for Master’s students is accredited by the American Board of Engineering Technology (ABET), the UCLA Industrial Hygiene Director also answers to ABET. The UCLA Industrial Hygiene Program itself that deals with doctoral and Master’s students and research in Industrial Hygiene has been funded by NIOSH through its Education and Research Center (ERC) since pre-1989. The ERC was headquartered initially at the University of Southern California and then from 1999 at UCLA.

**Professional Honors:**

a. **Biographies**

b. Scientific Groups
5. Member, Dermal Exposure Committee (later, the EASC Dermal Project Team), 1998+
6. Member, Report on Carcinogens Expert Registry, National Institute of Environmental Health Sciences, 2005+
7. Secretary, Biological Monitoring Committee, American Industrial Hygiene Association, 2006.
8. Vice-Chairperson/Secretary, Biological Monitoring Committee, American Industrial Hygiene Association, 2007.

c. Government Agency Honors
1. Certificate of Award in Recognition of Noteworthy Contribution and Special Achievement for the U.S. Environmental Protection Agency, 1981.
2. Member TOXNET, Data Base Peer Review Committee of The National Library of Medicine, 1985-1989 (Hazardous Substances Data Bank -HSDB).
4. Member, Report on Carcinogens Registry, National Institute of Environmental Health Sciences, 2005+

d. University Honors
1. Member of Graduate Faculty of the University of Cincinnati, 1982.
2. Achieved Tenure/Promotion at the University of Cincinnati, 1984.
3. Outstanding Faculty Award, UCLA School of Public Health Alumni Association, 1991.
e. **Professional Society Honors**
1. Fellow of the American Institute of Chemists (FAIC), 1986.
2. Fellow, American Industrial Hygiene Association (FAIHA), March 30, 1999.
5. American Industrial Hygiene Association Biological Monitoring Committee Award for Outstanding Leadership, Dedication and Contributions to the Practice of Industrial Hygiene and the Biological Monitoring Committee, May 2004.
8. Certificate of Achievement, 25 years of Continuous Membership in the American Industrial Hygiene Association In Recognition of the Commitment to Advance the Profession and Protect the Health and Safety of People in the Workplace and the Community, November 1, 2005.
10. AIHA Outstanding Project Team Award as part of the EASC Dermal Project Team, June 2008.

**Professional Societies:**
1. Air and Waste Management Association
2. American Association for the Advancement of Science 1971+
3. American Chemical Society 1977+
4. American College of Toxicology
5. American Conference of Governmental Industrial Hygienists
6. American Industrial Hygiene Association 1980+
7. American Institute of Chemists
8. American Public Health Association
9. American Water Works Association
10. Association of the Official Analytical Chemists
11. New York Academy of Sciences, Life Member.
12. Ohio Academy of Science, Life Member.

**Certifications:**
Journal Reviewer:
5. Fund Appl Toxicol, 1988+
10. Applied Occupational and Environmental Hygiene, 1993+
12. Occupational and Environmental Medicine, 1994+
15. Toxicology and Industrial Health, 1996+
17. J. Labelled Compounds and Radiopharmaceuticals, 1998+
21. Estuarine Coastal and Shelf Science, 2005+
22. Journal of Occupational and Environmental Hygiene, 2005+
23. Atmospheric Environment, 2005+
National Professional Meeting Symposia Organized:
1. Sampling and Analysis of Complex Mixtures of Gases, and/or Vapors, 190th American Chemical Society Meeting, Chicago, IL, September 8-13, 1985.
2. Biological Monitoring for Health Effects, 192nd American Chemical Society Meeting, Anaheim, California, September 7-12, 1986.

Invited Speaker
1. Dept. of Inorganic and Physical Chemistry, Univ. Western Australia, Aug 19, 1986: "Pattern recognition studies using multielemental analysis, to identify sources of pollution by atmospheric aerosols."
2. Dept. of Chemistry, Univ. Queensland, Brisbane, Australia, Aug 21, 1986: "Pattern recognition studies using multielemental analysis to assign sources of pollution to atmospheric aerosols."
3. Department of Environmental Health Sciences Seminar, May 17, 1990: "What PCB Do You Think You Have?".

6. Professional Symposium: Orange County Section, American Industrial Hygiene Association, Norwalk, CA, Oct 12 1993: "Analytical Laboratory Aspects of Biological Monitoring."

7. UCLA Center for Occupational & Environmental Health, EHS 298C Seminar Series in Occupational Ergonomics, Feb 9, 1994: “Biochemical Indicators of Fatigue”.


12. Department of Environmental Health Sciences Seminar, UCLA School of Public Health, April 10, 1997: “Bioassay-Directed Chemical Analysis”.


18. Plenary Speaker."Bioassay-Directed Analytical Chemistry Analysis”, Fourteenth Annual National Congress of Analytical Chemistry, September 29-October 1 1999, Facultad de Ciencias Quimicas, Universidad Autonoma de Baja California, Tijuana, B.C.


30. Speaker, American Industrial Hygiene Conference and Exposition, May 31-June 5, 2008, Minneapolis MN, in the Roundtable BEELs: Biological Monitoring and Skin Absorption. “n-Octyl Alcohol”.

31. Speaker, American Industrial Hygiene Conference and Exposition, May 31-June 5, 2008, Minneapolis MN, in the Roundtable Skin Exposure and Biological Monitoring. “A Review on Skin Absorption and Biological Monitoring”.

32. Speaker, Department of Environmental Occupational Health, Medical College, National Cheng Kung University, Tainan, Taiwan, October 23, 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.

33. Speaker, Institute of Environmental and Occupational Health Sciences, National Yang-Ming University, Beitou, Taipei, Taiwan, October 29 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.

34. Speaker, Department of Safety, Health and Environmental Engineering, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan, October 30 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.

35. Speaker, Department of Environmental & Occupational Health, Fu-Jen Catholic University, Shin-Chuang, Taiwan, November 4, 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.

36. Speaker, Department of Environmental & Occupational Health, Fu-Jen Catholic University, Shin-Chuang, Taiwan, November 4, 2008: “BEELs”.
38. Speaker, Institute of Occupational Safety & Health, Council of Labor Affairs, Executive Yuan, Sijih City, November 7, 2008: “BEELs”.
39. Speaker, School of Public Health, Taipei Medical College, Taipei, Taiwan, November 13, 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.
40. Speaker, School of Public Health, Kaohsiung Medical University, Kaohsiung, Taiwan, November 14, 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.
41. Speaker, Institutes of Environmental Health and Occupational Health and Occupational Medicine, College of Public Health, National Taiwan University, November 24, 2008: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.
42. Speaker, Department of Environmental Health Sciences, UCLA School of Public Health, February 12, 2009: “Skin Absorption & Biological Environmental Exposure Levels (BEELs): New Frontiers in Occupational/Environmental Health”.
43. Speaker, American Industrial Hygiene Conference and Exposition, May 30-June 4, 2009, Toronto, Ontario, Canada, in the Roundtable BEELs II: Biological Monitoring and Skin Absorption, “BEEL for 1-Octanol”
44. Keynote Speaker, International Conference on Healthy City and Environmental Health, Imperial Palace Hotel, Seoul, Korea, October 29, 2009: “Biological Monitoring- One Scientist’s Perspective”.
45. Keynote Workshop Speaker on Biological Monitoring: International Conference on Healthy City and Environmental Health, Imperial Palace Hotel, Seoul, Korea, October 30, 2009: ”Sampling, Quality Assurance/Quality Control and Biomarker Analysis in Biological Monitoring”.

**Professional Development Courses Organized/Taught at National Scientific Meetings**
1. Instructor in PDC 123, Recognition, Evaluation, and Control of Dermal Exposures in the Workplace, American Industrial Hygiene Conference and Exposition, Dallas, TX, May 10 2003. Topic: “Types of Sampling Approaches”.

16
NEWS MEDIA:

5. “Teaching Macho Researchers Some Respect: Handling “hot” chemicals was one thing, but now comes the AIDS virus.” *The Scientist* 2(10), May 30, p1, 1988.
16. *Synergist* August 2007 p46: Comment on AIHCE podium presentations in my Abstracts 123 through 125 in the last section of this CV.
17. Quoted in *Daily Bruin* January 30 2008 p3 on *Green Chemistry*
18. Quoted in the July 3 2008 *Baltimore Sun* about the safety of amalgam fillings. *Fighting Tooth and Nail*
   [http://www.baltimoresun.com/news/health/bal-to.hs.fillings03jul03,0,1066051.story](http://www.baltimoresun.com/news/health/bal-to.hs.fillings03jul03,0,1066051.story)
19.
FEDERAL AGENCY REVIEWER REVIEWER ACTIVITIES

A. USEPA Review Committee Memberships:

Member, Review Committee, Water Quality Criteria Documents of:
The Aroclors; Chlordane; Dioxins (also Air Quality); Endrin; Heptachlor; Heptachlor Epoxide;
Hexachlorobutadiene; Hexachlorocyclopentadiene; PCBs; TCDD

Reviewer of Water Criteria Document/Summaries Before Public Comment:
Chlordane; DDD; DDE; DDT; Endosulfan; Endrin; Heptachlor; Heptachlor Epoxide;
Hexachlorocyclohexanes; Lindane

Reviewer of Other EPA Documents:
p-Chlorotoluene (Health Effects Research Laboratory); E-FAST Model; Provisional Oral Cancer
Assessment for 2,4-Dichlorophenoxyacetic Acid (2,4-D); TCDD(Health Effects Research
Laboratory)

Reviewer for Risk Assessment:
Acrylonitrile; Benzyl chloride; Carbon Disulfide; Dimethyl Methylphosphonate;
Dimethylphenethylamine; alpha- and beta-Hexachlorocyclohexane (Lindane); Nitroglycerine;
TCDD and related compounds; 1,2,3-Trichlorochloropropane; Vinyl chloride

B. Agency for Toxic Substances and Disease Registry (ATSDR) Review Committee
Memberships:

Reviewer of Toxicological Profiles for:
Acrolein; Aluminum; Benz[a]anthracene; Benzo[b]fluoranthenes; Carbon disulfide;
Chlorodibenzofurans; Chloroethane; p-Chlorotoluene; Chrysene; Dibenzo[a,h]anthracene; 1,2-
Dichloroethane; 2,4-Dichlorotoluene; Dioxin; Endosulfan; Endrin; Hexachlorobutadiene; Lead;
Mercury; Methyl Parathion; Methyl mercaptan; PCBs; Oak Ridge Screening-Level Report;
Sulfur Mustard; Tetrachloroethylene; 1,2,3-Trichloropropane; Vinyl Acetate; Xylenes.

Reviewer of Public Health Assessment for:
Bunker Hill Mining and Metallurgical Complex Operable Unit 3 (a.k.a. Coeur D’Alene River
Basin Site); Lawrence Livermore Laboratory (DOE), Main Site, Alameda County, CA.

ATSDR Symposium Peer Reviewer:
Bioavailability of Mercury Symposium, Atlanta, 1996.

Final Reports:
1. An Assessment of the Chronic Toxicity and Oncogenicity of Aroclor 1016, Aroclor 1242,
   Aroclor 1254, and Aroclor 1260 Administered to Diet Rats. Chronic Toxicity and Oncogenicity,
   Volumes I and Final Neurotoxicity and Neuropathology Report, Volumes I and II.
2. Characterization of PCB Composition, Tissue Accumulation, and Correlations with
   Tumorigenicity in Chronically dosed Male and Female Sprague-Dawley Rats.
3. PCB Congener Profile in the Serum of Humans Consuming Great Lakes Fish
4. Rutland, VA Municipal Waste Combustor Study
5. The Effects Exerted upon Beagle Dogs during a Period of Two Years by the Introduction of 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethanonaphthalene into their Daily Diets
7. Housatonec River Area PCB Exposure Assessment Study.
8. Cancer Incidence in Populations Living near Radiologically Contaminated Superfund Sites in New Jersey
11. IQ, Lead Level, and Inferences from Research Studies.
13. Oak Ridge Screening Level Report
14. Child and Adult Urinary Creatinine Concentrations from Three Washington State Study Data Sets: Comparison with the World Health Organization (WHO) Guidelines for Acceptable Specimen Limits and Effects of Age, Gender, and Ethnicity
16. Evaluating the Associations between Air Quality and Adverse Health Effects: an Ecological Approach to Hypothesis Identification and Prioritization
17. Linking National Ground Water Data on the Occurrence of Chemical Contamination with Adverse Health Outcomes: a County-level, Ecological Study.
19. A Review of Lead Exposure Risk Areas and Community Interest in Further Health Studies in Herculaneum, Missouri
20. Simultaneous Quantification of Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), and Pharmaceuticals and Personal Care Products (PPCPs) in Mississippi River Water, in New Orleans, Louisiana, USA.
23. Love Canal Follow-up Health Study-Mortality.
24. Oral Cleft Defects and Maternal Exposure to Ambient Air Pollutants in New Jersey.

C. National Institute for Occupational Safety & Health Reviewer:
1. Intramural Research Reviewer, Direct Reading Techniques for Metals, 2005
3. Reviewer for Direct Reading Methods Initiative intramural grant applications 2009
4. University of Massachusetts Lowell Site Review Team, Center Grant on the Department of Work Environment, 2009
D. National Toxicology Program Research on Carcinogens
   Captafol/o-Nitrotoluene, Oct 15/17, 2007
   Styrene, July 21/22, 2008

E. National Institutes of Health
   Site Program Project Reviewer, PCBs in Upstate New York, University of New York at
   Albany, 1999

F. U.S. Agency Grant Reviewer Timelines
   USEPA, 1982+
   National Science Foundation, 1988+
   National Institutes of Health
   Ad-hoc Member, Epidemiology and Disease Control Section, 1996-99
   ATSDR, 1997+
   Health Effects Institute, 1998+
   Housing and Urban Development, 1998+
   National Institute for Occupational Safety and Health, 1999+
   US Army Research Office, 2005+

G. World Health Organization Environmental Health Criteria Document Reviewer:
   Aluminosilicates; Xylenes

H. Advisory Board Membership
   State of the Art Series in Laboratory Methodology in Biochemistry, CRC Press, 2000 Corporate
   Blvd. NW, Boca Raton, FL 33431, 1987+
   Gay Histories and Cultures: An Encyclopedia, Ed G Haggerty, Garland Publishing, New York,
   1995+.

I. Editorial Board Memberships:
   Biological Monitoring, CRC Press, 2000 Corporate Blvd. NW, Boca Raton, FL 33431, 1988-90
UNIVERSITY COMMITTEES:

University of Cincinnati 1978-1989

Department of Environmental Health
Member, Instrumentation Committee, 1979-1986
Chair, Instrumentation Committee, 1982-1986
Member, Search Committee for Selection of the Analytical Section Head, 1982-1983
Chair, Ad-Hoc Departmental Poster Committee 1984-1985

Division of Environmental Science, Safety, and Engineering
Member, Curriculum Committee, 1980-1984
Member, Admissions Committee, 1984-1989
Member, Outreach Committee, 1985-1989

University of California 1989+

Member, Affirmative Action Committee, 1993-1995

University of California at Los Angeles

UCLA Academic Senate
Chairperson
Diversity and Equal Opportunity, 1994-95

Member
Graduate Opportunity Fund Program Subcommittee, 1991 (E. Keller, Chair)
Equal Opportunity and Affirmative Action, 1992-93 (A. Tymchuk, Chair)
Council on Diversity, 1993-95 (R. Paredes, Chair)
Diversity and Equal Opportunity (Immediate Past Chair Guest), 1995-96

Note: As Chairperson and Member of the Academic Senate Committees on Affirmative Action and Equal Opportunity (1993-94) and Diversity and Equal Opportunity (1994-95) developed: brochure for the Targets of Opportunity Program; Faculty Affirmative Action Plan(1995); UCLA Faculty Mentorship Plan; requirements for a UCLA Diversity Award; and a UCLA Diversity Plan. Urged adoption of a Gay/Lesbian Studies Program Undergraduate Minor and of a U.C. Domestic Partners Benefits Plan

Coordinating Council of the Chancellor’s Task Force on Lesbian, Gay and Bisexual Studies.
Representative for the Department of Environmental Health Sciences, and the Interdepartmental Environmental Science & Engineering Program, 1994
UCLA Administrative Board
Member Safety Programs Board, 1998-99, (Asst. Vice Chancellor Naples, Chair)
Advised on the scope and performance of UCLA service advisory boards and safety programs

ASUCLA Communications Board
Faculty Advisor, 2001+

School of Public Health
Chairperson
1991-1992: Revamped Travel Awards procedures and documentation;
1994-1995: Developed strategic plan for APHA site visit relative to student issues
1996-1997: Developed classroom scheduling guidelines

Educational Policy and Curriculum Committee, 1992-93:
Abolished the SPH Comprehensive Examination for MPH students

Committee on Laboratory and Equipment, 2001-2006
Made the Subcommittee responsive to all SPH Departments
Wrote a grant application for an ICP-MS that was funded
Made a successful request to the Dean for instrumentation funds of $50,000 for a REAL Time Polymerase Chain Reaction instrument worth $85,000.
Made a successful request to the Dean for instrumental funds of $40,000 for an automatic sampler for a PCR.

Vice-Chairperson
Student Issues Committee, Strategic Planning Committee, 1993

Member
Research Committee (J. Blake, Chair, 1989/90; H. Morgenstern, Chair, 1990/91), 1989-91
Laboratory Committee, 1989-90 (W. Hinds, Chair);
Health Careers Opportunities Program Summer Opportunities Program,
(W. Cumberland, 1990, Chair; H. Morgenstern, Chair, 1991, Chair), 1990-91
Equipment and Laboratory Committee: 1990-91 (C. Eckhart, Chair);1997-98 (Scott Layne, Chair); 2006-8 (Sin Min Liu, Chair)
Ad-hoc Committee on Alumni Relations (S. Sofaer, Chair), 1991.
Educational Policy and Curriculum Committee (H. Morgenstern, Chair),
Ad Hoc Strategy Committee relative to the Professional Schools Restructuring Initiative, 1993
Ad-hoc Committee for Faculty Promotion for Michael Collins,1994.
Ad-hoc Committee, Health Careers Opportunity Program (A. Afifi, Chairperson), 1994-1995
Ad-hoc Committee, UCLA Community Health Promotion Program, S. Wallace (Chair), 1999+.
Ad-hoc Committee on Public Health Practice, 2005-6 (R Bastani, Chair).

**Department of Environmental Health Sciences**

**Chairperson**

Produced above quota student applications and admissions from below quota;
Issued first Alumni Newsletter for the Department;
Issued first Department brochure;
Developed an Exit Questionnaire for graduates of the Department;

Search Committee for Environmental Toxicologist, 1992-93.
Successful recruitment of Dr. Michael Collins as Assistant Professor, 1993

Academic Policy and Procedures 1997-1999
Designed Department guidelines for doctoral and master’s students

Admissions and Financial Aid Committee, 2000-2007
Developed formal written guidelines for Department student admissions and funding
Developed EHS Guidelines for Ph.D. students of the Department
Developed Funding Guidelines for Students
Developed Application Forms for Student Financial Aid
Developed Prospective Student Recruitment Day Optimization
Developed Guidelines for Student Prizes and Awards
Developed revised criteria for the ARCO Fellowship relative to student funding
Developed written standard procedures for the Committee;
Evaluated all Masters applications

Ad-hoc Committee on Faculty Overdrafts, 2003
Resolved an overdraft involving a specific professor
As a result of this case, I developed Department Guidelines on Faculty Financial Responsibilities (Dec 9 2003 final)
Developed Forms acceptable to both Faculty and the Department Financial office

**Member of Other EHS Committees:**
Outreach Committee 1989-91
Academic Policy and Procedures Committee 1990-93
Search Committee for Biologist/Ecologist, 1990
Ad-hoc Committee on Faculty Peer Review, 1991.
Search Committee for Toxicologist, 1991
Ad-hoc Promotion Evaluation Committee for Dr. Diane Perry, 1993/94
Recruitment and Alumni Relations Committee 1995-99
Ad-hoc Committee on EHS Space, 1996.
Admissions and Financial Aid, 1999+

**UCLA Center for Occupational & Environmental Health**
Co-Coordinator UCLA COEH Student Awards, 1996-1998
TEACHING

University of Cincinnati (1978-89)
In Charge
Instrumental Methods of Analysis of Pollutants II  26-904-902
Instrumental Methods of Analysis of Pollutants III  26-904-903  Spectroscopy - Sole lecturer

Direct Reading Instruments - Sole lecturer/sole laboratory instructor

1979 to 1982:  Environmental Hygiene and Safety Seminar 26-904-819, 820, 821

Human Biological Monitoring and Biological Markers 26-904-843- second such course taught in the United States

Hazardous Waste Analysis  26-904-880- first such course in the United States

Suggested, originated, and developed these last three courses

Contributory Lectures:
Environmental Hygiene and Safety Technology I   26-904-707
Air Sampling and Analysis II   26-904-708
X-Ray Diffraction
Gas Chromatography/Mass Spectroscopy
Specific Ion Electrodes/Voltammetry
Environmental Hygiene and Safety Technology   26-904-709
Pesticides
Instrumental Methods of Analysis of Pollutants I   26-904-901
Libraries and Chemical Information
Gas Chromatography/Mass Spectroscopy
Metals in the Biological System   26-904-884
Physical and Chemical Properties of Inorganics
and Inorganic Complexes
Analytical Methods for Metals
Analytical Toxicology   26-904-881
 Atomic Absorption and ICP-AES Analysis
People and the Environment I (Geography Department) 15-041-361
Pesticides (2 lectures)

Laboratory Supervision:
Air Sampling and Analysis
SO₂ Experiment:   26-904-707
NO₂ Experiment:   26-904-707
Radioactivity Experiment:   26-904-708
Toxicology Laboratory and Instrumentation   26-904-842
Atomic Absorption Spectroscopy

Other Teaching Activity:
1. Prepared "How to Find Chemical Information in the Libraries at UC," housed in the Kettering Library
2. Lecturer in Continuing Education Short Courses given in the Department 1978-89:

   Industrial Hygiene Chemistry: NIOSH 590 (GC/MS Spectrometry): Supervised two labs (Spectrophotometry; Century OVA)
   Industrial Hygiene Measurements: NIOSH 550:
       Adsorption
   Biological Monitoring:
       **Conceived and developed this course, the first of its kind in the United States (1986).**

UCLA Teaching:
*In Charge (Since 1989 unless stated otherwise)*
- Biological Monitoring In Occupational/Environmental Health (4)  EHS 256
- Identification and Measurement of Gases & Vapors (4)  EHS 252E  [pre-1989 course]
- Identification and Analysis of Hazardous Waste (4)  EHS 258
- Instrumental Methods in Environmental Sciences (Suffet also) (4)  EHS 410A
- Instrumental Methods in Environmental Sciences Laboratory (4)  EHS 410B
- Industrial Hygiene Measurements Laboratory (Hinds, Kennedy also) EHS 252F  [pre-1989 course]
- Industrial and Environmental Hygiene Assessment (Hinds, Kennedy also) 1995+ (4)

EHS 252G
- Environmental Chemistry Seminar (2)  1994+  EHS 202
- Environmental Health Sciences Doctoral Seminar (2)  1998, 2004  EHS 205

Contributory Lectures:
- Health Hazards Manufacturing Processes (Hinds, Kennedy)  EHS 254  (Hinds-Liu)/454  1989+
- Fundamentals of Environmental Health Sciences (Froines, Davos, Colome) EHS 200A
- Fundamentals of Environmental Health Sciences (Davos, Eckhert) EHS 200B  Hazardous Waste 2003-2005

Guest Lectures:
- Occupational Diseases 1989 (Harber, Froines)  EHS 251
- Ethnic, Cultural, and Gender Issues in America’s Health Care System (Kominski), 1997-9
- HS 110
- Health Assessment, Research, and Health Promotion in Occupational Health (Robbins) Gloves Nursing 213B, 2008
Environmental Chemistry Master of Science Academic Track Director 1992-2009
18 Master of Science students graduated, mostly in the period 1992-1995 when the track students were supported with funds from UCLA COEH.

Water Quality became a separate track in 1996 and Air Quality in 1997 until all academic Master of Science tracks were terminated in 2009. The other functions of the track (research and administration) were supported by UCLA COEH until 2005.

2008 Sabbatical Teaching, Institute of Environmental Health, National Taiwan University, Taipei, Taiwan:

a. Taught a 3-hour/week course for 12 weeks September 22-December 15 2008: “Identification and Analysis of Gases & Vapors” Course 844 U1320 for 10 weeks on every Monday in English in the Institute of Environmental Health. This course also featured 4 assignments, a midterm, an oral final, and a written final.

b. Guest Class Lectures at NTU:
   December 3, 2008: Inductively Coupled Plasma Techniques for Multielemental Analysis in Course 844D1020 Consultation in Industrial Hygiene

c. Guest Class Lecture at Department of Environmental & Occupational Health, Fu-Jen Catholic University, Shin-Chuang.
   November 18, 2008: Biological Monitoring.
STUDENTS

Visiting Scholar:
Mansur Azari, B.S., M.S., Ph.D., College of Public Health, Shahid Behashti Medical University, Tehran, Iran, October 2001-March 2002 (1 publication)

Postdoctoral Research Associates:

2. Dr. Chin-Cheng Chou, 1993/1994 (National Taiwan University) (1 publication)

3. Dr. Yu-Wen Lin, 1997-98 (National Taiwan University) (1 publication)

4. Dr. Shih-Wei Tsai, 1998 (National Taiwan University) (1 publication)

5. Dr. Weiguang Zhong, 2003 (First Military University, Guangzhou, China) (1 publication)

STUDENT THESIS
The period from 1980 through 1989 applies to the University of Cincinnati, and 1990 onwards to UCLA except where noted otherwise

Doctor of Philosophy (15 since 1984)
1. James Gideon. 1984. The sorption of selected structural organic isomers and homologs on charcoal under industrial hygiene sampling conditions. Section Chief, NIOSH, Cincinnati. Presently practising physician, Cincinnati, OH.

2. Orisa John Igwe. 1985. Interaction of 1,2-dichloroethane and disulfiram Assistant/Associate Professor of Pharmacology, Univ. Missouri in Kansas City. Presently, Professor


5. Devon Anthony Cancilla. 1991. The development of analytical methods for aldehyde byproducts in ozone treated waters. Section Chief, Canadian Inland Waters, Burlington ONT;Assistant Professor in Residence, Huxley College of Environmental Studies, Western Washington University, Bellingham WA Presently: Director of Scientific Technical Services, Western Washington University, Bellingham WA.
Assistant/Associate Professor of Veterinary Medicine, National Taiwan University.
Presently, Professor

7. Clinton Cox. 1995. Urinary 2-thiothiazolidine-4-carboxylic acid, thioethers, and compounds responsive to the iodine-azide test as biomarkers for carbon disulfide exposure of rats and humans.(University of Cincinnati)
Section Chief in NIOSH, Cincinnati and US EPA, Montgomery, AL.
Health and Safety Officer, Stanford University CA.
Presently, Environmental Consultant, Montgomery, Ala.

Assistant Professor, Department of Industrial Safety and Hygiene, Fooyin University, Taiwan.
Presently, Associate Professor

9. Chi-Yu Huang. 1997. The anaerobic biodegradation of the high explosive octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) by an extremely thermophilic anaerobe Caldicellulosiruptor owenensis, sp.nov.
Assistant Professor of Environmental Science, Tunghai University, Taichung, Taiwan.
Presently, Associate Professor

Assistant/Associate Professor of Occupational Safety and Health, China Medical College, Taichung, Taiwan
Presently, Associate Professor, Dept Environmental and Public Health Sciences, Taiwan National University.

Post-doctoral Fellow, National Cancer Institute, Bethesda, MD, 2000-2005
Presently, resident in Korea.

Presently Analytical Laboratory Director in Albany, New York.

Postdoctoral fellow, Dept Dentistry, University of California at Los Angeles 2003/4; Dept. of Medicine and Physiology 2004/6.
Presently, passed MDlicensing examination.


Master of Science
University of Cincinnati
2. H Coleman Robinson. 1980. The role of synergism in chemical and physical agents as reported in NIOSH criteria documents
17. Debbie Hurst. 1996. Photochemically-initiated events in selected classes of compounds

UCLA

UCLA Ph.D. Committee Memberships:
Felipe Alatriste-Mondragon; Derrick Benn (Chemistry); Pen-Yuan Chen (Environmental and Civil Engineering); Robert C. Cheng (Civil Engineering); Danny Kim; David Kimbrough; David K La; James Noblet; Peng-Cheng Sung; Patrick Wilson; Karen E. Young

UCLA Environmental Science and Engineering D. Env. Student Committees Memberships:
Marijke Lynne Bekken; Gino Cesar Bianchi; Eric Fugita; Gerald Edwin Greene; Cynthia Ha; Khashaiaar Lashgaribroojerdi; Xavier Swamikannu;

UCLA EHS Master’s of Science Student Committee Memberships:
Myranda Austin; Tammy Cohen; Diana Elaine Cosgrove; Catherine Mary Crespi; Eric Jeffrey Duell; Danny Kim; Karen Ko; Ann M. Lesperance; Elad Marish; Airek Mathews; Robert Phalen; Tammy Marie Riggs; Rose Siegensubcharti; Sayaka Takaku; Samantha Yaussy-Chua; Karen Young.

UCLA Master of Public Health Student Advisorships:
Joyce A. Brown; Austin Chan; Kabir Chopra; Sulagna De; Chin Pong Peter Diu; George Hsu-Hung Hsieh; Laura L. Kiolbassa; Young J Kim; Jean Kuo; Calvin Kwan; Marcel Estrella Mendoza; Chi Chi Deborah Oguine; Bradley Walker; Timothy White
The UCLA Inductively Coupled Plasma Mass Spectrometry Facility

DIRECTOR: Professor Shane S. Que Hee CHS 56-085

Phone: (310)206-7388    Fax: (310)794-2106    E Mail (Preferred): squehee@ucla.edu

ICP-MS FACILITY AT UCLA

The UCLA inductively coupled plasma-mass spectrometer (ICP-MS) facility was created when a Shared Instrumentation Grant submitted by the Facility Director to the National Institutes of Environmental Health Sciences (NIEHS) was funded in 2003 for $284,867 to further the research of NIH and other federal agency research grantees at UCLA, the University of California, and other interested Universities, companies, and research organizations. Generous support from Dean Linda Rosenstock also was essential.

The award resulted in the acquisition of:

• An Agilent 7500c quadrupole ICP-MS with hydrogen/helium octopole collision cell to minimize argon and oxygen isobaric interferences, and equipped with automatic sampler introduction and with concentric and microflow nebulization. Isotope and isotope dilution techniques are also facilitated.

• An Agilent 1100 Liquid Chromatograph equipped with autosampler and LC-MS interface (atmospheric ionization/electrospray)

• An Agilent 6890N gas chromatograph equipped with a parallel flame ionization detector and GC-MS interface

• An Agilent G1602A Capillary Electrophoresis system equipped with autosampler, variable wavelength ultraviolet-visible detector, and MS interface

Thus liquids can be analyzed via the 2 nebulization modes to obtain elemental content in a multielemental manner at parts per trillion concentrations for each sample. Chemical and biological speciation is also possible via the chromatographic introduction systems.
WHAT CAN BE ANALYZED?

- ENVIRONMENTAL SAMPLES • Drinking, ground, sea, lake, and river waters • Soils, dusts, and rocks • Dust wipe samples • Aerosol samples • Turbid liquids • Air samples (midget impinger or solid sorbent) • Hazardous and solid wastes

- BIOLOGICAL SAMPLES • Blood, plasma, saliva, and urine • Tissues like organs • Plant materials (vegetables/crops) • Hair, skin, nails, teeth

- FOODS • Liquids like beverages (sodas, wine, beer, supermarket drinking water) • Solids like tea, coffee, fish, meats, market vegetables, food containers

- RESEARCH & DEVELOPMENT MATERIALS • Semiconductor materials • Nanotechnology solid substrates • Engineering materials • Metal alloys • Organometallics • Metallic parts

Collaboration and Chromatographic Analyses: Contact the Director

ELEMENTS ANALYZABLE

GENERAL QUANTIFIABLE LIMITS

≤0.05 ppb (ng/mL)

Ag, Bi, Ce, Cs, Eu, Gd, Ho, In, La, Lu, Nb, Nd, Pr, Rb, Rh, Sm, Sr, Ta, Tb, Th, Tl, Tm, U, Y, Zr

0.05-0.1 ppb

Au, Ba, Be, Cd, Co, Cr, Dy, Er, Ga, Ge, Hf, Hg, I, Ir, Li, Mg, Mn, Mo, Pb, Pd, Pt, Re, Ru, Sb, Sn, Te, V, W, Yb, Zn

0.1-1 ppb As, B, Cu, Ni, Sc, Ti

1-10 ppb Al, Br, Na, P, Se

10-100 ppb Ca, Fe, K, S, Si

>100 ppb Cl, N, O, Xe

F, He, Ne, Ar, and Kr cannot be analyzed.

Lower limits are achievable if sampling, handling, and processing are done entirely in clean Teflonware/plasticware (NO GLASS!), and in Class 1000 or better clean rooms.
WHAT WE CAN DO FOR YOU?

We can:

- Write the analytical sections of your grant application if you wish to collaborate directly, and do a budget for that section. In that case, support for the ICP-Facility Director will be requested as well as ICP-MS Operator support, as negotiated. In return, lower grant costs will occur because of bulk costs of supplies.
- Allow graduate students/staff to be trained. ICP-MS Operator time for the training must be supported.
- Give you advice on how to handle, process, and transport your samples.

You can:

- Order samples analyzed machine-ready in 5% (v/v) nitric acid or provide them to be digested. Please fill in the order form.
- Write in ICP-MS operator salary into your grant applications (a minimum of 5%) and get reduced analysis prices according to the proportion of operator support.

ORDERING INFORMATION AND PRICES

Elements to be Analyzed (Insert below or circle)___________________

Elemental Sensitivity Desired (Please indicate elements or ppt, ppb, ppm overleaf near circled element) _______ ppt (pg/mL); _______ ppb (ng/mL) _______ ppm (μg/mL); All: ppt __ppb__ ppm Report (please tick) as gram per __mL; __g (wet weight); __g(dry weight)

Payment: Please complete a P39 form with the Full Accounting Unit (FAU) if UC

Payment Address: Please Provide Full details including E mail, Fax, Phone, Zip, Contact Person.

Fee for Service Prices (Nebulized Liquids)

Standard: $30 per element per sample for 1-5 elements (not machine ready); $15/element for 6-10 elements/sample; $10/element for 11-20 elements/sample; $8.50/element for 21-30 elements/sample. If machine-ready, multiply by 0.7.

Bulk Rates Per Element Per Sample For Many Samples Submitted At One Time: half-price for 100-500; one-third price for 500-999; quarter-price for 1000-1,500.

Turnaround Rates Per Element/Sample: Above, 10-day standard; 5-day, twice standard; 1 day, 4 times standard.

Chromatographic Analyses: $160/sample with the above bulk, multielement rates.

Terms are 50% when placing an order, the rest is due after results received.
RESEARCH

A. Awarded Grants and Contracts

As Principal Investigator or Co-Principal Investigator

2. NIOSH Contract No. 211-80-0036 (Co-PI, Finelli), The Effect of Aluminum Inhalation on Animals, 1980, $20,000.
7. Microbics Corporation Grant LS071790, Aldehyde Ozonolysis Byproducts Toxicity, 1989, $10,000.
8. UCLA School of Public Health Biomedical Research Grant 4-528103-29776, Chemiluminescence from Model Biological Systems, 7/1/90-6/30/91, $2,973.
11. UCLA School of Public Health Biomedical Research Grant 4-528103-29776, Direct Passive Monitoring for Hydrocarbons, 7/1/91-6/30/92, $3,800.
12. UCLA School of Public Health Biomedical Research Grant 4-528103-29776, Permeation of Malathion through Protective Materials, 7/1/91-3/31/92, $3,437.
14. UCLA Center for Occupational and Environmental Health Grant No. 4-437160-19900, Development of an Air Sampling Method for Aldehydes, 2/1/92-6/30/92, $9,996.06.
15. UCLA Academic Senate Research Grant No. 4-595954-19900-07, Differential Solubilization of PCB Congeners in Water, 7/1/92-6/30/93, $3,894.
17. UCLA Graduate Division, Funds for Recruitment of Graduate Students, October 2, 1992, $750.
19. UCLA Graduate Division, Funds for the Recruitment of Graduate Students, October 15, 1993, $750.
21. NIOSH/CDC RO1 OH03120, *Carbonyl Compounds Air Sampling Method*, 09/01/95-08/31/99, $515,000.
23. University of California Coastal Toxics Grant No. 4-155952-19909, *Metals in Plants at Mugu Lagoon*, (Co-PI, R. Ambrose), 7/1/96-6/30/97, $15,000.
24. NIOSH/CDC RO1 OH03911, *Permeation of Irritant Mixtures through Protective Materials*, 06/01/00-05/31/04, $706,046.
25. UCLA Academic Senate Research Grant No. 4-565950-19914, *Air Sampling Method Development for Ketones*, 07/01/00-06/30/01, $1,800.
26. NIOSH/CDC ERC Pilot Research Grant, *Detection of Aldehydes and Ketones in Water by PFBHA Solid Phase Extraction Method*, 11/22/00-12/31/01, $13,000. (Ju-Chien Tso, student)
29. Association of Schools of Public Health/NIOSH/CDC, *Field Glove Permeation Instrumental Methods Development*, Award No. S1891-21/21, 10/01/01-09/30/02, $100,000.
32. National Institutes of Environmental Health Sciences, IS10 RR017770, *Inductively Coupled Plasma-Mass Spectrometer*, 07/01/03-06/30/04, $284,866.
33. NIOSH/CDC NORA, *Permeation of Captan through Glove Materials by a New FT-IR Method for Validation of Personal Protection*, Pilot Research Grant 785950-V6-29866, 01/01/04-06/30/04, $15,910.
34. CEM Corporation, *Microwave Digestions and Derivatizations for ICP-MS Applications*, CEM Grant Program Spring/Summer 2004 Discount Towards Purchase of a Reconditioned Microwave Accelerated Reaction System, $3,000.
38. UCLA Graduate Division, Quality of Education Supplement, *Community Environmental Health Stars Research Program*, 2006, $20,000.


41. NIOSH/CDC RO1 OH009250, *Whole Glove Permeation/Penetration of Organic Liquids with a Dextrous Robot Hand*, 09/01/09-08/31/12, $1,060,110.

**As Co-Investigator**


5. NIOSH/CDC 1T15OH07214, *Industrial Hygiene Training Program* (UCLA PI, Hinds), 7/1/89-6/30/94, $1,168,081.92.


7. NIOSH/DOE RO1 CCR912034, *Worker Exposure Assessment and Hazard and Medical Surveillance Program* (PI, Froines), 9/30/95-9/29/99, $1,135,905.


10. NIOSH T42CCT910430, *UCLA Industrial Hygiene Program* (PI, Hinds), 07/01/96-06/30/00, $501,200.

11. NIOSH T42CCT910430, *UCLA Hazardous Substances Academic Training Center* (PI, Hinds), 7/01/96-6/30/00, $227,056.

12. NIOSH T42CCT918726, *UCLA Industrial Hygiene Program* (PI, Hinds), 07/01/99-06/30/04, $501,200

13. NIOSH T42CCT918726, *UCLA Hazardous Substances Academic Training Center* (PI, Hinds), 07/01/99-06/30/04, $227,056

14. NIOSH T42 OH009412, *UCLA Education Research Center* (PI, Hinds), 07/01/05-06/30/09, $6,488,150
**Research Interests:**

Detection and quantitative analysis of organic and inorganic pollutants and carcinogens in industrial and agricultural industries, and in the environment at the ng and pg level;

Development of sensitive personal monitoring methods in industry, and workplace protection factors.

Direct reading instruments, and direct-indicating sensors.

Detection and quantitation of active materials in biological tissues which cause cancer or produce unwanted biological effects.

Liquid chromatography-mass spectroscopy

Gas chromatography-mass spectroscopy

Developmental analytical chemistry dealing with organic, inorganic and organometallic species in-vivo and in-vitro.

Photodecomposition and photosensitization.

Chemiluminescent and bioluminescent analysis.

Multielemental analyses and receptor analyses.

Biological monitoring -screening and specific tests.

Hazardous Waste -field and laboratory methods.

Inductively coupled plasma-mass spectrometry and atomic emission spectroscopy

Organometallic biological compounds


B. Peer-Reviewed Chapters, Proceedings (24 since 1981)


10. Que Hee, S.S. "Teaching Biological Monitoring to Physicians and Industrial Hygienists in the United States," in: Biological Monitoring of Exposure to Industrial Chemicals, Fiserova-


C. Books (4 since 1981):

   Chapter 1: Physical Properties of Halophenoxyalkanoic Acids, pp. 1-106
   Chapter 2: Synthesis, pp. 107-148
   Chapter 3: Chemistry, pp. 149-182
   Chapter 4: Analysis, pp. 183-232
   Chapter 5: Environmental Pollution: Physicochemical Factors, pp. 233-265
   References: pp. 266-276


   Individual Chapters written:
   Chapter
   1. Concepts in Chemistry pp 3-18
   2. Concepts in Biochemistry pp 19-69
   3. Exposure Routes pp 73-93
4. Distribution of Xenobiotics after Absorption pp 94-102
5. Metabolism pp 103-123
6. Excretion and the Media for Biological Monitoring pp 124-186
7. Medical Surveillance pp 189-202
8. Medical Markers and the Factors that Affect Them pp 203-229
9. Significance of Selected Medical Monitoring and Medical/Health Surveillance Markers pp 230-299
10. Adducts: An Overview pp 303-319
11. DNA Adducts pp 320-331
12. Basic Immunology pp 339-357
13. AIDS and HIV pp 358-376
22. Pesticides pp 482-510
23. Biological Monitoring, Hazardous Wastes and Environmental Pollution in the United States pp 511-534


Section I. General Legal and Health Requirements, pp.1-140
Section II. Legal Identification of Hazardous Waste and Basic Chemistry Concepts, pp. 141-216
Section III. Sampling and Field Analysis, pp.217-423
Section IV. Laboratory Chemical Analysis of Hazardous Waste, pp.425-589

Appendices. pp.591-801
Glossary of Legal Terms. pp.803-814


Chapters written by Dr. Que Hee:
Chapter 1: Purpose p1
Chapter 2: Scope p1
Chapter 3: Definitions and Abbreviations pp. 1-4
Chapter 4: Significance and Uses pp.4-5
Chapter 5: Elements of a Biological Monitoring Program in an Occupational and Environmental Hygiene Program (together with G. Spies, R. Suga, K. Cummins) pp. 5-12
Chapter 6: Sampling and Analysis (together with P. Ullucci, R. Suga, P. Michael, A. Zielinski) pp. 12-24
Chapter 7: Using Results pp. 24-32
Chapter 8: Ethical and Legal Aspects of Biological Monitoring pp. 32-35
Chapter 9: Normative References pp. 35-37
Appendix I: Introduction to Biological Monitoring and Question and Answer pp. 39-61.
Appendix II: Case Studies. pp. 63-80
Appendix III: Bibliography of Some Key Works in the Field, 1990-2002 pp. 81-90
Appendix VI: Some Important Internet URLs for Biological Monitoring Information  p101

D. **Author of USEPA Criteria Documents (6):**

1. “Polychlorinated Biphenyls”, ECAO-CIN-414, Nov. 1986, 2 chapters written by Dr. Que Hee.

2. "The Dibenzofurans", EPA/600/8-86/018A was written mostly by Dr. Que Hee.


E. **Other Reports (7)**


F. **Letters/Polemics (6):**


G. **Submitted Manuscripts (1):**

H. Presentations and Abstracts at National/International Meetings  (128 since 1973):


CURRICULUM VITAE
January 2009

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Born 03/26/59 in Germany
Married, two children ages 16 and 18

EDUCATION

1995 Ph.D. in Epidemiology, School of Public Health, UCLA
1993 M.P.H. in Epidemiology, School of Public Health, UCLA
1987 Doctoral Degree in Medical Sociology, University of Hamburg.
1983 Medical Examination Certificate, Registration as a Physician (M.D.),
     Board of Health in Hamburg
1977-1983 Medical School, University of Hamburg, Germany

PROFESSIONAL POSITIONS AND APPOINTMENTS

2006-current Professor, Departments of Epidemiology, Environmental Health, and Center for
     Occupational and Environmental Health, School of Public Health, and Neurology, School
     of Medicine, UCLA
2005-current Vice Chair, Department of Epidemiology, School of Public Health, University of California
     Los Angeles (UCLA)
2004-current Appointment in the Department of Neurology, School of Medicine, UCLA
2002-current Co-director of the UCLA-CGEP (UCLA center for Parkinson’s Disease Environmental
     Research (CCPDER- CNS)
2001 -2006 Associate Professor, Department of Epidemiology, Department of Environmental Health,
     and Center for Occupational and Environmental Health, School of Public Health,
     UCLA
1995-2001 Assistant Professor, Department of Epidemiology and Center for Occupational and
     Environmental Health, School of Public Health, UCLA
1993-1995 Assistant Researcher, Department of Epidemiology, School of Public Health, UCLA
1989-1991 Hochschulassistentin (Assistant Professor), Institute of Medical-Sociology, University of
     Hamburg, Germany.
1987-1988 Research Fellow and Resident, Psychiatric University-Hospital Eppendorf, Hamburg,
     Germany
1984-1986 Research Fellow, Institute of Medical Sociology, University Hospital Eppendorf,
     Hamburg, Germany

OTHER HONORARY PROFESSIONAL APPOINTMENTS (IN THE PAST 5 YEARS)

2002-2008 Editorial Board: EPIDEMIOLOGY
2004-current Editorial Board: Epidemiologic Perspectives & Innovations
2007-current Editorial Board: Environmental Health
2001-current Chair (since 2005) and Member (since 2001) of the external advisory committee for the
     NCI/NIEHS Agricultural Health Cohort Study of 56,000 pesticide applicators and spouses
2001-current  Board of Directors for the ‘R. Lemelson Foundation for Psychocultural Research.’ Annual awards of $800,000 for research and training including a UCLA training grant for cross-disciplinary studies in anthropology, psychology and neuroscience

2001-2002  Member of the external advisory committee for the California Biomonitoring Planning Project conducted by the Environmental Health Laboratory’s Biomonitoring Project (CDHS)

2002  Member of the EPA Science Advisory Board for Human Health Research Strategy (HHRS)

2002-2004  Member of the external advisory committee for the California Environmental Health Surveillance System (Governor Davis appointee to expert working group for SB 702)

2003-2006  Member of the Ethic Committee for the International Society for Environmental Epidemiology

2003-2004  Member of NAS, IOM Committee on Gulf War and Health, Phase 3: Literature Review of Selected Environmental Particulates, Pollutants, and Synthetic Chemical Compounds

2002-2004  Member of the external advisory committee for the California Environmental Health Surveillance System (Governor Davis appointee to expert working group for SB 702)

2006  Member of NAS, IOM Committee on Gulf War and Amyotrophic Lateral Sclerosis

2006  Member of the Scientific Steering Committee for Pediatric BioBank in California

2007  Appointed as a Collegium Rammazini Fellow

2007  Scientific Organizing committee for the PPTOX conference in Faroe Island

2008  Scientific Organizing committee for the ISEE conference in Pasadena

2008  Member of the Environmental Exposures Working Group conducted by RTI International for the PhenX project of GWA research at NIH

2009  Member of NAS, IOM Committee on Gulf War and Health, Phase 4

2008-09  Member of the U.S. EPA CO standard setting panel for (CASAC: Carbon Monoxide National Ambient Air Quality Standards)

FUNDIED RESEARCH (ONGOING)

Registry of Parkinson’s Disease Study In Denmark
Principal Investigator: Ritz
NIEHS  09/01/06-08/31/11
Total Direct Costs: $5,600,000
We conduct 1) a case-control study of ~13,000 PD cases and age-gender matched controls from the Danish population via passive record linkage by unique ID between the National Patient Register, Pharmacy Database, and National Pension fund to identify risk factor information contained in these records (e.g. occupations, medication use, diseases prior to PD onset); and 2) recruit actively ~2500 of the most recently registered PD patients and population controls to collect additional risk factor information per interview and biological materials for gene-environment interaction analyses and to characterize PD patients phenotypically.

UCLA UDALL Parkinson’s Disease center
Principal Investigator: Chesselet, UCLA
NINDS Type: P50 NS38367  04/01/06-03/31/11
Total Direct Costs: $7,500,000
Project 6 within the center (budget of $ 500,000 annual direct costs): Progression and Health Impacts of PD Motor and Non-Motor Manifestations (C-PI Ritz)
Research goals are to assess whether development and progression of PD motor and non-motor manifestations in 300 PD patients ascertained in the PEG study (PI: Ritz see below) are influenced by environmental, behavioral, and social factors and by genetic variants of ApoE and serotonin transporter alleles; and to determine the relative contributions of progression of motor and non-motor manifestations of PD to changes in HRQOL over time.

UCLA Center for Centers for Neurodegeneration Science (CNS; former CGEP)
Director: Chesselet, UCLA; Co-director: Ritz
NIEHS  09/15/08-08/31/13
Total Direct Costs: $5,000,000
We have previously shown associations between high levels of exposure to specific environmental pesticides and Parkinson's disease and will build on this knowledge to determine the mechanisms of action that may be causing this association. We will use an integrated, multidisciplinary approach to identify additional agricultural pesticides that are disrupting similar molecular pathways, and determine whether these also increase the risk of Parkinson's. This work is expected to shed light on the pathological processes involved in sporadic Parkinson's disease, the most frequent form of the disorder, and could have public health implications for precautions in the use of some pesticides.

**Project 4: Pesticides and Genes in PD: Studies in Humans**
Principal Investigator: Ritz
NIEHS 09/15/08-08/31/13
Total Direct Costs: $1,250,000
This project will use the existing PEG data to test biological candidate genes and newly identified putative environmental toxicants for association with PD. We will recruit and collect biological (DNA) samples from and construct exposures estimates for 400 additional population controls. This will enable us to test new hypotheses for rarer exposures to specific toxins and will allow us to investigate gene-gene (GxG) and gene-environment (GxE) interactions with sufficient power. Targeted toxins are either (a) interfering with the ubiquitin proteasomal system (UPS), (b) altering microtubule integrity, and/or (c) inhibiting the aldehyde/alcohol dehydrogenase. Targeted genes include UBE1 and UBE1L2; PSMC2, 3, 4, and 5; HILP2; SKP1A; GSK3B; CDK5; MAPT, Sirt2, and ALDH and ADH gene clusters.

**California Parkinson's Disease Registry Pilot Feasibility Study**
Principal Investigator: Ritz
DOD 09/01/07-08/31/10
Total Direct Costs: $390,000
The primary goal is to conduct a pilot study for the legally mandated statewide population-based PD registry. We will identify PD cases in Kern, Tulare and Fresno counties from legally mandated sources (pharmacists, health care institutions, physicians and other providers). A secure prototype database will be established, and associations between PD and toxicant chemical exposure will be determined by linking to a database of toxicant chemicals established previously by UCLA based on California state data (e.g. the pesticide use databases).

**Traffic-Related Air Pollution and Asthma in Economically Disadvantaged and High Traffic Density Neighborhoods in Los Angeles County, California (with LA F.A.N.S.)**
Principal Investigator: Ritz
California Air Resources Board 01/06/05-09/30/09
Total Direct Costs: $420,000
The objectives of this research are: (1) to conduct NO\textsubscript{x} and NO\textsubscript{2} monitoring at 200 locations within LA County neighborhoods with varying levels of economic disadvantage and varying exposures to air pollution originating from vehicular sources; (2) to use these monitoring data to help inform land use-based regression (LUR) models developed to predict traffic pollutant exposures; (3) to use geostatistical models to estimate regional background concentrations of O\textsubscript{3} and PM\textsubscript{2.5}; (4) to evaluate associations between exposure to NO\textsubscript{x}, NO and NO\textsubscript{2} and measures of lung function and asthma prevalence, exacerbation and possibly incidence in children ages 0-17 years in conjunction with the Los Angeles Family and Neighborhood Survey (L.A. FANS) study; and (5) to evaluate whether concentrations of the more regionally distributed background pollutants (O\textsubscript{3} and PM\textsubscript{2.5}) confound or modify the effects of exposure to the more heterogeneously distributed traffic-related pollutants (NO\textsubscript{x}, NO and NO\textsubscript{2}) on lung function and asthma.

**Aggregate Exposure Assessment: Longitudinal Surveys of Human Exposure-Related Behavior**
Principal Investigator: Irva Hertz-Picciotto, UC Davis
EPA 01/12/04-11/30/09
Direct Direct Costs: $388,111
This project develops data collection platforms for longitudinal assessment of exposure-related behavior. The data characterize short-term, seasonal, and long-term changes in time-activities, food consumption habits, and use of household and personal care products. We assess exposure-related behaviors at multiple collection points over time, and evaluate a number of data collection methods for validity (accuracy), precision, completion rates, cost, feasibility, and user acceptability.
Disparity in asthma among Californians from pollutant exposures.
Principal Investigator: Meng, UCLA
California Air Resources Board
Direct Direct Costs: $270,000
The goal of the research is to conduct a population-based study to examine the effects of long-term air pollution exposure near residence on chronic severe asthma and asthma-like symptoms in vulnerable populations.

Development of Exposure and Health Outcome Indicators for Those with Asthma or Other Respiratory Problems
Principal Investigator: Meng, UCLA
EPA- R833629
Direct Direct Costs: $410,000
The goal of this research is to investigate the feasibility of combining existing environmental monitoring and health survey data to develop indicators that signal trends in exposures and health for those with asthma or other respiratory problems.

Neighborhood Effects on Children's Health & Access to Care
Principal Investigator: A. Pebley, UCLA
HRSA
Total Direct Costs: $500,000
The goal of this study is to significantly advance our knowledge about the relative importance of specific family and neighborhood characteristics in the development of major child health problems. This project is based on the Los Angeles Family and Neighborhood Survey (L.A.FANS), a longitudinal study of neighborhoods, families, adults, and children in Los Angeles County.

COMPLETED RESEARCH

UCLA Center for Gene-Environment Studies in Parkinson’s Disease (CGEP-part of the NIEHS CCPDER)
Director: Chesselet, UCLA; Co-director: Ritz
NIEHS
Total Direct Costs: $7,000,000
The overall objective of this Center is to understand how the detrimental effects of pesticides, a suspected environmental risk factor for Parkinson’s disease, are modulated by genetic variations that impact dopamine homeostasis in nigrostriatal neurons. The center integrates 3 RO1 research projects that investigate these questions in fly, mouse, cell culture models and applies the results also to human genetics (project 1: PI Ritz)

Research Project I within the CGEP center “Environmental toxins and genes that influence dopamine in Drosophila and humans”
Principal Investigator: Ritz
NIEHS
Total Direct Costs: $1,000,000
This project examines interindividual variability of dopamine vesicular transporter (VMAT) expression due to promoter variants in two human populations in parallel with a reporter gene assay. These populations will be genotyped for functional VMAT2 variants and association analyses of gene-environment interactions and pesticide exposures collected in the parent grant will be conducted. In addition, Drosophila genetics will be used to determine how the expression of VMAT affects dopamine-mediated toxicity and identify genes that modulate VMAT function, which will then be examined in the human population for their relevance to increase risk of PD.

Parkinson’s Susceptibility Genes and Pesticides (PEG)
Principal Investigator: Ritz
NIEHS/NINDS
Total Direct Cost: $2,653,852
We are testing the gene-environment interaction hypothesis for Parkinson’s disease by conducting an epidemiologic population-based case-control study of 400 newly diagnosed PD patients from three rural California counties matched to population controls; in addition we are collecting data for unaffected sibling controls. Environmental and occupational pesticide exposure estimate are derived from California pesticide-use reporting (PUR) and other data. We are examining the effects of gene-environment interactions by testing for associations of PD using multiallelic repeat markers and genotyping intragenic single nucleotide polymorphisms (SNPs) and/or deletions in 50 candidate genes.

**PD Consortium: Genetic and Environmental Factors in Parkinson’s Disease**
Principal Investigator: L. Nelson, Stanford
MJ Fox Foundation 10/01/04-09/30/07
Total Direct Costs $50,000
We established the Consortium for the Study of Genetic and Environmental Factors in Parkinson’s disease, with the goal of organizing the collaborative efforts of five investigative groups that have who have conducted (or are conducting) seven case-control studies of PD. For approximately 1700 PD cases and 2100 gender- and age-matched control subjects, we investigate how the risk of developing PD varies according to tobacco and caffeine intake, as well as variants in ten candidate genes that code for proteins that may be involved in conferring the protective effect of these agents.

**Alpha Synuclein and Environmental Exposures: A Study in Humans**
Principal Investigator: Langston, The Parkinson’s Institute
MJ Fox Foundation 01/01/05-12/31/07
Total Direct Costs $100,000
We are investigating the joint effects of: (1) consequences of alpha-synuclein over-production and enhanced mapping of the SNCA promoter region and (2) the biologic effects specific toxicants (e.g., rotenone, paraquat, organochlorine pesticides). We take advantage of two unique cohorts at high risk for pesticide exposure currently evaluated by members of the NIEHS-funded Collaborative Centers for Parkinson’s Disease Environmental Research (CCPDER) at the Parkinson’s Institute (PI) and UCLA, the Agricultural Health Study cohort and a population-based study of PD and pesticide exposure in rural Central California (the PEG study).

**Prostate Cancer and Pesticide Exposure in Diverse Populations in California’s Central Valley**
Principal Investigator: Cockburn, USC
DOD 05/01/06-12/31/07
Total Direct Costs: 250,000$
This is a pilot study bringing an innovative collaborative approach to prostate cancer research. Specifically, this study will apply novel methods of pesticide exposure assessment using Geographical Information Systems (GIS), examine whether our proposed method of recruiting and approaching cases and controls for a large population-based case-control study will result in acceptable response rates, or whether our sample will be biased with respect to socioeconomic status, race, and disease characteristics, and whether we will be able to obtain sufficient DNA from mailed (Oragene) spit collection kits to assess effect modification by known relevant genes, and have sufficient stored DNA to assess the impact of genes that may be discovered in future.

**Traffic-related Air Pollution and Adverse Birth Outcomes**
Principal Investigator: Ritz
NIEHS 07/15/01-06/14/07
Total Direct Costs: $641,612
The objectives of this project are to determine whether exposures to elevated and traffic-related ambient air pollution during pregnancy result in low birth weight, preterm birth, intrauterine and postneonatal mortality, or cardiac defects in infants born to women living in the South Coast Air Basin (SoCAB). We performed a cohort study of all births (between 1995 and 1999), fetal and infant deaths (between 1989 and 1997), and conducted a nested case-control study of 2600 women who delivered children in LA in 2003 to collect additional exposure, confounder, and effects modifier data.

**Ergonomic Interventions for Sewing Machine Operators**
Principal Investigator: Ritz
CDC/NIOSH 10/01-02/09/31/06
Total Direct Costs: $868,262
We are conducting a randomized trial of a newly developed ergonomic intervention in sewing machine operators working in LA garment shops. The ergonomic intervention package includes changes in workstation design, training of employees, and suggestions of improvement in work procedures. We are examining whether interventions can reduce rates of upper extremity, neck (and lower back) musculoskeletal disorders, severity of pain and impairment, and lost-time compared to 'placebo' (control) interventions. This study will provide employers, employees and public agencies with evidence of the effectiveness of ergonomic interventions in order to guide health and safety policy.

Traffic-Related Air Pollution and Acute Respiratory Diseases and Asthma in Children Ages 0-5 in the SoCAB From 1990-2000
Principal Investigator: Ritz
California Air Resources Board
Total Direct Costs: $55,000
01/06/04-09/30/05
The aims of this study are to estimate the transient effects of traffic related and background air pollution in the South Coast Air Basin (SoCab) on the risk for hospitalization for acute respiratory illness and asthma in children ages 0-5 using a case-crossover study design and a time-series analysis.

Assessment of In-Traffic Exposures and Human Reproductive Health
Pilot project Principal Investigator: Ritz; SCEHSC Center Principal Investigator: Froines, UCLA
EPA
Total Direct Costs Pilot Project within the PM-center: $28,000
07/01/04-06/30/05
The goal of this project is to evaluate whether maternal in-vehicle air pollutant exposures during commutes (either in passenger cases, buses or other means of public transportation) affected the risk of low birth weight (LBW) and preterm birth in infants born to women living in Los Angeles County, California between 2003-2004. Commuting behavior (travel time, mileage and/or modeled routes) will be used to evaluate exposure to motor vehicle exhaust pollutants while in-transit.

Molecular Epidemiology and Gene-Environment Interaction
Principal Investigator: Zhang, UCLA
NIH/NIEHS R21 ES 011667
04/01/02-03/31/05
Total Direct Costs: $450,000
This was a planning grant for molecular epidemiology in Environmental genome. The award was to establish a molecular epidemiology research program focusing on environmental genome.

Uncontrolled Asthma and Exposure to Air Pollutants: Linking Chronic Disease and Environmental Data Sources
Principal Investigator: Meng, UCLA
CDC/NIOSH/
10/01/02-09/01/05
Total Direct Costs: $600,000
Based on the California Health Interview Survey (CHIS 2001) data, an extensive air monitoring network, and detailed information on traffic density we are conducting a population-based epidemiologic case-control study to: (1) ascertain the relationship between control of asthma and exposure to air pollutants in Los Angeles County and San Diego County, California; and (2) build and enhance the partnerships between public health and environmental agencies and local communities.

Center of Excellence for Environmental Public Health Tracking
Principal Investigator: Balmes, UCSF
CDC/ATSDR
10/01/02-09/01/05
Total Direct Costs (UCLA only): $300,000
The UCLA part of this center grant uses the data from 5,200 California Health Interview Survey (CHIS 2001) respondents who reported having been diagnosed with asthma at some point in their lives and live in the Greater Bay Area, San Joaquin Valley, and Los Angeles County. Criteria pollutant averages are employed as measures of background ambient air quality and linked with sociodemographic information and data on asthma management, access to care, and risk behaviors collected through CHIS for each targeted respondent.

Community Response to Maternal/Child Health Disparities
The major goals of this study are to examine the interrelating biological and social-behavioral factors that contribute to health disparities in pregnancy outcomes and infant and early childhood mortality and morbidity. We will participate as one of five selected sites in the nation to plan for a multi-centered, community-based study examining the relationship between environmental factors and child health disparities.

**Extension of the Rocketdyne/AI Worker Cohort Through 1999**
Principal Investigator: Ritz  
California Cancer Research Program  
CRP award #00-00781V-20218  
Total Direct Cost: $324,508  

We extended the mortality follow-up of two previously established cohorts of workers employed at Rocketdyne/Atomics International (now Boeing North American) facility for an additional 5 years and added a cancer incidence component for the period 1972-1998. This study allowed evaluating the impact of radiation and some known animal carcinogens on cancer mortality and morbidity.

**Assessment Scale for End-of-Life Care in End-Stage Dementia**
Principal Investigator: Ackerman, UCLA  
Alzheimer's Association  
Total Direct Costs: $217,583  

This pilot project developed a scale to assess end-of-life care for end-stage dementia patients and evaluated its performance using mortality data.

**Pilot grant from Southern California Center for Airborne Particulate Matter (SCCAPM)**
Principal Investigator: Froines, UCLA; Pilot grant Principal Investigator: Ritz  
U.S.-EPA-Star grant  
Total Direct Cost: $12,000  

The pilot grant supported exposure assessment for an epidemiologic study of traffic related adverse birth outcomes.

**Evaluation and Validation of Pesticide Use Reporting in California**
Principal Investigator: Ritz  
UC Toxic Substances Research & Teaching Program  
Total Direct Costs: $ 50,000  

The goal of this pilot grant was to use biomarker data to evaluate the validity of pesticide exposures estimates derived from geographic models of environmental exposure based on pesticide use reports and land use maps in California residents.

**Identify and Reduce Work Hazards in Home Health Care Workers**
Principal Investigator: Ritz  
Institute of Labor and Employment Pilot Study  
Total Direct Costs: $ 7,500  

This pilot project developed and tested a survey instrument and collected preliminary data for a study of job hazards in 74,000 home health care workers in LA county.

**Pilot Study for Gene-Environment Interaction and Parkinson’s Disease Study**
Principal Investigator: Ritz  
APDA Center Pilot Grant  
Total Direct Costs: $35,000  

This pilot project involved establishing data resources to improve exposure measures for pesticides, and setting up of a county-wide networks to reach incident Parkinson’s cases in rural California.

**Development of a Temporary Parkinson’s Disease Registry for Southern California**
Principal Investigator: Ritz  
APDA/Pilot Grant from the PD-center at UCLA  
Total Direct Costs: $10,000
This pilot project established mechanisms to obtain incident Parkinson’s cases in rural California using information provided by local health care providers, Parkinson’s disease foundations, clinics, and Medicare, and to determine which data sources exist for the application of capture-recapture methods to validate coverage of a future PD registry.

**Modeling Air Pollution and Birth Defects**
Principal Investigator: Ritz  
CBDMP Grant/SCEHS/NIEHS Pilot Grant  
Total Direct Costs: $5,600  
The objective of this project was to examine the usefulness of some advanced statistical modeling procedures in order to determine whether exposures to elevated levels of ambient air pollutants (PM10, CO) at the levels found in the South Coast Air basin (SoCAB) basin caused defects of the cardiac system of fetuses.

**Pesticide Exposure Modeling Based on Historical Use Reporting in California to Investigate Long-Term Health Effects**
Principal Investigator: Ritz  
UCLA-USC NIEHS-Center Pilot Grant  
Total Direct Costs: $18,000  
The objectives of this pilot grant were to develop a geographic model for pesticide exposure of California residents between 1950 and 1990 using satellite images of crops, aerial photographs, and Pesticide Use Reporting Data from the California Department of Pesticide Regulations.

**Epidemiologic Study to Determine Possible Adverse Health Effects on Rockwell/Rocketdyne Workers from Exposure to Radioactive and Hazardous Substances**
Principal Investigator: Morgenstern, UCLA  
CPHF/DOE/DE-FG-03-91SF18983  
Total Direct Costs: $740,000  
The major goal of this study was to test the hypothesis whether exposure to toxic chemicals and ionizing radiation among Rockwell/Rocketdyne workers caused an excess of cancer mortality.

**Hazard Surveillance in the Defense Nuclear Industry**
Principal Investigator: Froines, UCLA  
CDC/NIOSH/R01-CCR912034?  
Total Direct Costs: $1,244,745  
The major goals of this project were to develop an integrated theory, approach, and methodology to exposure assessment and hazard surveillance in the U.S. defense nuclear industry.

**The Influence of Air Pollution in the Los Angeles Metropolitan Area on the Occurrence of Birth Defects, 1990-1993**
Principal Investigator: Ritz  
SCEHSC/NIEHS/UCLA-USC NIEHS-Center Pilot Grant  
Total Direct Costs: $24,000  
The objective of this pilot project were to examine whether the exposure of pregnant women to elevated levels of ambient air pollutants (Ozone, NO2, PM10, CO) at the levels found in the Los Angeles Metropolitan Area or the South Coast Air basin (SoCAB) basin cause low birth weight or preterm birth.

**RESEARCH CONDUCTED IN GERMANY (1984-1989)**
- Health effects of airborne-dioxin exposure in Hamburg nursery schools
- Rheumatic disorders, working conditions and coping behaviors in female office workers
- Work-related knee-joint and elbow injuries in pipe-fitters and welders
- Back and neck pain, psycho-social and ergonomic stresses in nursing professions

**HONORS AND AWARDS**
1999  UCLA Faculty Career Development Award
1999  ‘Rothman’ award presented at SER by C. Poole
1989-1992  Post-doctoral fellowship received from DAAD (“German Academic Exchange Office of the Ministry of Research and Technology”)
2001  Delta-Omega Award
2007  Robert M. Zweig M.D. Memorial Award (Clean Air Award) from the South Coast Air Quality Management District (AQMD)

TEACHING

UCLA, School of Public Health, graduate courses, 1995-present
Epidemiology Methods (Core course (200B) of the UCLA Epidemiology program)
Environmental Epidemiology
Occupational Epidemiology
Advanced Methods in Occupational and Environmental Epidemiology
Seminar: Occupational and Environmental Cancers
Seminar: Policy Issues in Occupational and Environmental Health

University of Hamburg, Medical School, 1984-89
Lectures and seminars in Medical Sociology for medical students
Lectures and seminars in Psychiatry for medical students

ADVISING AND MENTORING OF DOCTORAL STUDENTS (PH.D) AND POSTDOCTORAL FELLOWS (SUBJECT OF DISSERTATION OR FELLOWSHIP) – note: this list only includes primary advisees (i.e. chair of committee and not member of dissertation committee) and does not include master level students

At UCLA:
1996 - 2002  Hoyin Song (Air pollution and childhood asthma in Seoul, Korea)
1997 - 2001  Kurt Straif (Cancer mortality in the German rubber industry)
1998 - 2000  Timothy Clary (Pancreatic cancer mortality and pesticide use in California)
1998 - 2004  Michelle Wilhelm (Traffic-related air pollution and pregnancy related health effects)
1998 - 2004  Rudy Rull (GIS modeling of pesticide exposure and neural tube defects)
1998 - 2004  Anusha Krishnadsan (Occupational physical activity and prostate cancer incidence)
2001 - 2004  Yingxu Zhao (Work place exposures to chemicals and cancer incidence)
2003 - 2004  Gail Asleson Kang (Movement Disorder Fellow: Clinical characteristics of PD patients)
2002 - 2006  Pin-Chieh Jason Wang (Ergonomic interventions and health effects in LA garment workers)
2003 - 2006  Chad Lewis (TTHM contamination in drinking water and adverse birth outcomes)
2003 - 2005  Kathrine Hoggatt (Air pollution and adverse birth outcomes and asthma in children)
2004 - 2008  Marie Sharp (The Latina Paradox in Birth Outcomes)
2004 - 2008  Sadie Costello (Parkinson’s disease and life style factors)
2005- present  Shannon Rhodes (Doctoral student & postdoctoral fellow: Iron genetics and Parkinson’s disease)
2008- present  Nicole Gatto (Postdoctoral fellow: Vitamin D, sunlight and Parkinson’s disease)
2004 -present  Amanda Colligan (Residential pesticide exposure and Parkinson’s disease)
2005 - present  Anthony Wang (Occupational exposures and adverse birth outcomes)
2007- present  JoKay Ghosh (Psychosocial stress, air pollution and adverse birth outcomes)
2008- present  Tracey Becerra (Obesity and birth weight in Hispanic women)
2005- present  Christina Lombardi (Air pollution and respiratory diseases)
2009-present  Shilpa Narayan (Factors contributing to progression in Parkinson’s disease)

At University of Washington:
PARTICIPATION IN GRANT AND CENTER REVIEWS

Reviewer on a NCI Special Emphasis Panel “Improving Exposure Assessment in Environmental and Occupational Epidemiology of Cancer”, May 2001
Reviewer of the NIEHS-funded Columbia University Environmental Health Sciences Center, May 2002
Reviewer of the Charles Harkin Award Application for Research in Thyroid Cancer, NIH, April 2003
Reviewer of the Wellcome Trust Application “Pre and post-natal exposure to particulate matter and pregnancy and infant outcomes: an historical cohort study”, 2003
Reviewer of the Health Effects Institute’s (HEI) Walter Rosenblith New Investigator Award application, April 2003
Reviewer of pilot grants for the Southern California NIEHS center grant (2004 and 2005)
Reviewer of pilot grants for the UCLA-CCPDER center (NIEHS funded) (2003 and 2005 and 2008)
Reviewer for NCI, Epidemiology of Cancer (2004/05 Council EPIC)
Reviewer for several NIH, Department of Health & Human Services meeting applications, 2003-2005
Reviewer (Chair of Review Committee) for a NIEHS-PO1 application (2004)
Appointment to Review Committee of the European Science Foundation (ESF) (2005)
Annual Review of SCEHSC Pilot Project Submission (2004-current)
Conference grant applications (2004-2007)
NIH reviewer for Outstanding New Environmental Scientist (ONES) award in the Environmental Health Sciences (2006)
Member of the EPA's Clean Air Scientific Advisory Committee (CASAC) Carbon Monoxide (CO) Review Panel (2008-current)
Grant review for an internal NIEHS scientist’s application (Dr. Chen) (2007 and 2008)

JOURNAL REVIEWER FOR:

American Journal of Epidemiology
Epidemiology
International Journal of Epidemiology
Annals of Epidemiology
Environmental Health Perspectives
Occupational and Environmental Medicine
Neurology
Pediatrics
Lancet
Journal of the Air & Waste Management Association
Journal of Exposure Analysis and Environmental Epidemiology
Chemosphere
Pharmacogenetics
Movement Disorders
Zeitschrift Sozial- und Präventivmedizin (SPM)
Human Reproduction

INVITED SEMINARS AND LECTURES (SELECTED)

1. The Health Effects of Low-level Ionizing Radiation, USC, Health Science Doctoral Seminar 1996
2. Work Environment and Health, UCLA Health Sciences Seminar for Undergraduates 1996
5. Basic Principles of Reproductive Epidemiology, European School of Risk Assessment in Reproduction” in Florence/Italy December, 1997.
6. The Rocketdyne/AI Worker Health Study: Results and Lesson’s Learned, California Department of Health Services, Occupational Health Branch, 1998
7. Air Pollution and Low Birth Weight in Southern California, GSF Munich Germany, 1998.
8. Air Pollution and Adverse Birth Outcomes: Methodological Issues and First Results, Southern California Environmental Health Science Center, USC, 1998.
10. Air Pollution and Adverse Birth Outcomes in Southern California, Dept. of Reproductive Epidemiology, University of Michigan, East Lansing, 1999.
15. Traffic-related Air Pollution and Adverse Birth Outcomes in Southern California, Dept. Environmental Epidemiology, GSF Munich Germany, 2000
16. Studying Parkinson’s disease in Populations; American Parkinson’s Disease Association conference for patients and care providers at UCLA, 2001
17. From the Epidemiology of Parkinson’s Disease to Gene-Environment Interactions, VA-PD conference, Woodland Hills, 2001
18. GIS Modeling of Air Pollution and Pesticide Exposures in California, USC-UCLA NIEHS Town hall meeting; Dec, 2001
20. The Epidemiology of Parkinson’s Disease, Conference of the Society for Research on Amyotrophic Lateral Sclerosis, Colorado May 2002
21. Traffic-related Air Pollution and Reproductive Health Effects: An Overview; Environmental Health Sciences seminar at UC Riverside, Feb. 2002
22. Reproductive Health Effects due to Carbon Monoxide Air Pollution in Southern California, NRC Subcommittee on Health Effects from CO pollution meeting at UC Irvine, April 2002
25. Dopamine Imbalance and Oxidative Stress in Parkinson’s Disease, VA Research Conference on PD and Movement Disorders, Los Angeles 2002
26. The Center for Gene Environment Interaction in Parkinson’s disease (CGEP) at UCLA: Dopamine Imbalance in Parkinson’s Disease, Inaugural NIEHS Conference at the Parkinson’s Institute in Sunnyvale CA, August 2002
27. Air pollution effects on birth outcomes: An overview. Health Effects Institute, Annual conference held at Georgetown University; 2003
28. Linking air pollution effects and adverse birth outcomes in the Los Angeles basin throughout the 1990s. U.S. EPA, Chapel Hill, NC; 2003
29. Air Pollution and Adverse Birth Outcomes in the South Coast Air Basin, 1989-2000; Conference of the Czech NAS meeting on air pollution effects (Dr. Sram), Prague, 2003.
30. Air pollution and adverse birth outcomes, an update on recent developments. Department of Preventive Medicine at the University of Southern California, 2003
31. GIS modeling of environmental exposures: applications to air pollution and pesticide exposures. Department of Environmental Health, Harvard, 2004
32. Air pollution models of adverse birth outcomes. Department of Epidemiology at the University of North Carolina, 2004
33. Parkinson’s disease, metals and pesticides. Department of Toxicology, Symposium on Toxics Risks and Aging, Duke 2005
35. Parkinson’s disease and pesticide exposure assessment in farming communities in the California
37. Air Pollution and Asthma in Children . AQMD Asthma Impacts of Air Pollution Conference Los Angeles, Feb. 2006
38. Parkinson’s disease and pesticides in the Central California Valley. NIEHS center at Columbia University, NY 2007
40. Air pollution and adverse birth outcomes in LA. INSERM, Paris 2007
41. Gene Environment Interactions in Parkinson’s disease. CREAL Institute, Barcelona 2008
42. Latest results on Gene Environment Interactions in Parkinson’s disease. INSERM, Paris 2008
44. Methodological Issues in studying risk factor for Parkinson’s disease in populations. MDS conference symposium, Chicago 2008
46. Air pollution, pregnancy and child health; Healthy Development and Ageing Workshop; British Foreign & Commonwealth Office, LA 2009

PUBLICATIONS

PEER REVIEWED JOURNAL ARTICLES (*indicates mentored students/fellows)


54. Wilhelm M, Qian L, Ritz B. Outdoor Air Pollution, Family And Neighborhood Environment, And Asthma In LA FANS Children. Health Place. 2008 Feb 14. [Epub ahead of print]


**MANUSCRIPTS CURRENTLY UNDER REVIEW**

1. Wu J, Ren C , Delfino R, Chung J, Wilhelm M, **Ritz B**. Association between local traffic-generated air pollution and preeclampsia and preterm delivery in the South Coast Air Basin of California. EHP


5. Lewis C, Hoggatt KJ*, **Ritz B**. Methodologic issues in studies of TTHM exposures and preterm births. Environmental Research


8. Rod-Nielsen N, Schernhammer E, Hansen J, **Ritz B**. Life event stress and PD in Denmark. IJE


10. **Ritz B**, Wahner A*, Schernhammer E, Olsen J, Friis, S. L-type Calcium Channel blockers and PD in Denmark.


**MANUSCRIPTS IN PREPARATION**


2. Wilhelm M*, **Ritz B**. Commuting behavior and adverse pregnancy outcomes.


5. Hoggatt, KJ, Sharp M*, Wilhelm M, **Ritz B**. The Latina Paradox revisited: Data from a LA birth cohort

6. Wahner A*, Olsen J, Friis, S, **Ritz B**. NSAIDs and aspirin use and PD in Denmark.


8. Wahner*, Farrer, **Ritz**, LRRK2 mutations not found in a central California population of PD cases (Letter)

9. Gatto N*, Cockburn M, Bronstein J, **Ritz B**. Occupational traits and Parkinson’s disease

10. Wang A*, Cockburn M, Bronstein J, **Ritz B**. Occupational pesticide exposures and Parkinson’s disease

INVITED COMMENTARIES AND EDITORIAL


BOOKS AND MONOGRAPHS


PEER REVIEWED REPORTS


CHAPTERS OR SECTIONS IN BOOKS

1. Appelt H, Ritz B: Medikamentengebrauch und -abhängigkeit bei Frauen ("Female Drug Abuse and Dependency"). In: Medikamente und Sucht, Berichtsheft zur Arbeitstagung der Hamburgischen Landesstelle gegen die Suchtgefahren e.V.(Eds.) Hamburg 1984.
3. Glaser N, Ritz B: Lungenkrebs, Rauchen und Schadstoffbelastung bei Hamburger Gaswerkern; Risikoabschätzung anhand der logistischen Regression ("Lung Cancer, Smoking and Air Pollutants of
Letters and other Publications


ABSTRACTS


16. Ritz B, Krishnadasan A, Rull R, Broeske D. Validation of a Long-Term, Pesticide Exposure Assessment Model with Biomarker Data from Residents of Kern County, California. Epidemiology, July 2002, 13(4 Suppl.): S244


35. Wahner AD, Lincoln S, Farrow M, Bronstein JM, Cockburn MG, Ritz B. Increased Risk of Parkinson Disease Associated with Dopamine Transporter Variability and Pesticide Exposure. Supplement to Epidemiology, Vol 19, No 6, 2008: ISEE-749.


CURRICULUM VITAE

WENDIE A. ROBBINS

Occupational & Environmental Health Nursing Program  
School of Nursing  
Department of Environmental Health Sciences  
School of Public Health  
University of California  
Los Angeles, CA  
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office: (310) 825-8999  
lab: (310) 794-7511  
FAX (310) 206-3241

EDUCATION

Ph.D. 1994 Epidemiology  
University of California, Berkeley
M.S. 1990 Epidemiology  
University of Washington, Seattle
M.S.N. 1981 Nursing  
University of Arizona, Tucson
B.S.N. 1978 Nursing  
Arizona State University, Tempe

PROFESSIONAL EXPERIENCE

2004-present  Associate Professor  
UCLA School of Nursing, Primary Care and  
UCLA School of Public Health, Environmental Health Sciences
1997-2004  Assistant Professor  
UCLA School of Nursing, Primary Care and  
UCLA School of Public Health, Environmental Health Sciences
1999-present  Faculty  
UCLA Inter-Departmental Program in Molecular Toxicology
1997-present  Faculty  
UCLA Center for Occupational & Environmental Health
1997-present  Director, UCLA Occupational & Environmental Health Nursing Program
1994-1997  Guest Researcher, Special Volunteer  
National Institute of Environmental Health Sciences
1994-1997  Assistant Clinical Professor, Public Health Nursing  
Assistant Research Professor, Epidemiology  
University of North Carolina at Chapel Hill
1990-1994  Graduate Student Biomedical Scientist  
Lawrence Livermore National Laboratory, University of California,  
Livermore, CA
PROFESSIONAL EXPERIENCE (continued)

1988-1990  Graduate Student Research Assistant
           University of Washington, Seattle

           San Francisco General Hospital, San Francisco, CA

1981-1986  Nurse Practitioner
           Public Health and Non-profit Health Clinics
           Austin, Texas and Phoenix, Arizona

RESEARCH

Major Research Interests

- Male Reproductive Toxicology & Epidemiology
- Spermatozoa DNA/Chromatin
- Gene-gene & gene-environment interactions in complex medical disorders
- Occupational & Environmental Epidemiology Studies

Research Grants and Contracts, W.A. Robbins-Principal Investigator

<table>
<thead>
<tr>
<th>Institution</th>
<th>Description</th>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Toxic Substances Research &amp; Teaching Program, Health Effects Component</td>
<td>Development of a Method to Detect Aneuploidy in Sperm of Men Exposed to Environmental and Occupational Toxicants</td>
<td>1991-1993</td>
<td>$20,000</td>
</tr>
<tr>
<td>U.S. EPA, U of North Carolina Cooperative Agreement</td>
<td>Effects of Smoking Cigarettes on Aneuploidy Frequencies in Human Sperm</td>
<td>1995</td>
<td>$5,000</td>
</tr>
<tr>
<td>NIEHS, Environmental Toxicology Program, Repro Toxicology Group</td>
<td>A Pilot Study to Investigate Human Germ Line Effects from Zidovudine and Other Dideoxynucleosides (Co-P.I. JB Bishop)</td>
<td>1996-1999</td>
<td>$476,000</td>
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<td>U.S. EPA, U of North Carolina Cooperative Agreement</td>
<td>Male Reproductive Biomarker Studies</td>
<td>1996-1997</td>
<td>$20,000</td>
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<tr>
<td>U.S. Environmental Protection Agency</td>
<td>Effects of Air Pollution on Aneuploidy in Sperm of Men from the Czech Republic</td>
<td>1996-1997</td>
<td>$10,000</td>
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<td>Research Grants and Contracts, W.A. Robbins-Principal Investigator (continued)</td>
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<tr>
<td><strong>UCLA School of Nursing</strong></td>
<td>Pilot Study of a Container for Semen Collection</td>
<td>1997-1998</td>
<td>$8,720</td>
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<tr>
<td><strong>UCLA School of Nursing</strong></td>
<td>Sperm Cytogenetic Damage in Pesticide Exposed Canadian Farmers</td>
<td>1998-1999</td>
<td>$8,701</td>
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<tr>
<td><strong>UCLA Faculty Senate</strong></td>
<td>Sperm Cytogenetic Damage in Pesticide Exposed Canadian Farmers</td>
<td>1998-1999</td>
<td>$1,401</td>
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<tr>
<td><strong>UCLA School of Nursing Intramural Grant</strong></td>
<td>Cytogenetic Damage in Sperm in Swim-up versus Unprocessed Semen</td>
<td>1999-2000</td>
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<td><strong>U.S. Environmental Protection Agency</strong></td>
<td>Validation of Genetic Testing in Sperm Collected for Epidemiologic Studies</td>
<td>1999-2001</td>
<td>$18,000</td>
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<tr>
<td><strong>Center for Vulnerable Populations Research, UCLA School of Nursing</strong></td>
<td>Male Reproduction Following Childhood DBCP (Dibromochloropropane) Exposure</td>
<td>1999-2000</td>
<td>$10,000</td>
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<tr>
<td><strong>UCLA School of Nursing Intramural Grant</strong></td>
<td>Effects of Smoking Cessation on DNA and Aneuploidy in Human Sperm</td>
<td>2000-2001</td>
<td>$10,000</td>
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<tr>
<td><strong>NIH/National Institute for Nursing Research</strong></td>
<td>Multifactorial Genetic Disease Model: Schizophrenia/HLA</td>
<td>2001-2004</td>
<td>$313,912</td>
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<tr>
<td><strong>National Institute for Occupational Safety &amp; Health (N.I.O.S.H.)</strong></td>
<td>Male Reproductive Effects from Occupational Exposure to Boron</td>
<td>2001-2007</td>
<td>$2.4 million</td>
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<tr>
<td><strong>National Institute for Occupational Safety &amp; Health (N.I.O.S.H.)</strong></td>
<td>Director, Occupational &amp; Environmental Health Nurse Training Program, Southern California ERC</td>
<td>2004-2009</td>
<td>$630,011</td>
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<td><strong>UCLA School of Nursing Intramural Grant</strong></td>
<td>Human Reproductive Effects from Herbicide Exposure in a Chinese Production Plant</td>
<td>2005-2007</td>
<td>$25,000</td>
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<tr>
<td>Research Grants and Contracts, W.A. Robbins-Principal Investigator (continued)</td>
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<td>Kaiser Permanente</td>
<td>Kaiser and UCLA School of Nursing Genetics Initiative</td>
<td>2006-2009</td>
<td>$20,000</td>
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<td>Benefits of Walnuts for Male Reproductive Health</td>
<td>California Walnut Commission</td>
<td>2009-2010</td>
<td>$183,051</td>
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<tr>
<td>National Institute for Occupational Safety &amp; Health (N.I.O.S.H.)</td>
<td>Director, Occupational &amp; Environmental Health Nurse Training Program, Southern California ERC</td>
<td>2009 – 2012</td>
<td>$615,000</td>
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**Research Grants and Contracts, W.A. Robbins, Co-Investigator**

| State of California | Summary Report on the Health Effects of Methyl Tertiary Butyl Ether (MTBE) and Its Metabolites, Combustion Products, and Potential Gasoline Additive Substitutes | 1998 | $50,000 |
| NIH/ National Institute of Nursing Research | Center for Vulnerable Populations Research, UCLA School of Nursing | 1999-2009 | $1.5 million |

**Co-Investigator as Mentor/Advisor of Graduate Students**

| Naureen Tareen, PhD Student UC Toxic Substances Research and Teaching Program | Male Reproductive Effects of Childhood Dibromochloropropane Exposure | 1999-2000 | $20,000 |
| Naureen Tareen, PhD Student Southern California Environmental Health Effects Research Center | Effects of Smoking Cessation on Semen Quality | 1999-2000 | $15,000 |
| Ka Ling Lim, Industrial Hygiene MS Student UC Toxic Substances Research and Teaching Program | Influence of Cryopreservation on Integrity of DNA in Human Ejaculated Spermatozoa Over Time: Study of Variation in DNA Strand Breaks Between Subjects and Within Subjects | 2001-2002 | $25,000 |
| Daria Zandi & Lori Frank, OEHN MSN students | Safety & Health Audit Research Project | 2001-2002 | $3,000 |
Otis Clapp New Investigator Award

Co-Investigator as Mentor/Advisor of Graduate Students (continued)

Karen Young, MS
UCLA/UCR/LANL Lead
Campus Program in Toxic Mechanisms
Karen Young, PhDc
NIOSH/SC ERC Pilot Project
Karen Young, PhDc
EHS Community Stars Award

In vivo and in vitro Studies of Oxidative Injury in Human Sperm Related to Air Pollution
Farmer Organophosphate Pesticide Exposure and Sex Chromosome Aneuploidy in Sperm
The Effects of Occupational Nickel Exposure on Human Sperm DNA Integrity
Identifying Greater Los Angeles Area Communities at Risk of Exposure to Metal Contaminants

2002-2003 $17,000
2003-2004 $15,000
2003-2004 $17,000
2005-2006 $20,250
Summer $5000

HONORS

Sigma Theta Tau, National Honor Society of Nursing
Charter Member, Austin AIDS Project, Austin, Texas
Regents Fellowship, University of California, Berkeley
Delta Omega Honor Society in Public Health
XVth Testis Workshop Travel Award, NIH#R13Hd37271
Faculty Senate Career Award, University of California, Los Angeles
Fellow American Academy of Nursing (F.A.A.N.)
Audrienne H. Mosley Endowed Chair in Biological Nursing Research

TEACHING

Courses Taught

Courses University of North Carolina, Chapel Hill
Public Health Nursing Program:
Occupational Health Nursing Field Practicum I, (Public Health Nursing 281)-1994
Research Methods II: Data Management, (Public Health Nursing 299)-1995-96
Community Health Assessment, Roles and Theory (Public Health Nursing 245)-1996
TEACHING (continued)

Adult Physical Assessment Courses for Public Health Nurses, (Public Health Nursing Distance Learning)-1996-1997

Epidemiology Department
Fundamentals of Epidemiology Laboratory / Discussion (Epidemiology 168)-1995

Theory and Quantitative Methods in Epidemiology, Consulting Faculty (Epidemiology 268) -1996

Courses University of California, Los Angeles

School of Nursing


Reproductive Endocrinology (N235)-1998

Occupational Health Programs (N213B)-1998


Advanced Pathophysiology (N230)-2005

Biological Nursing Science, (N248B) 2007


Environmental Health Sciences, School of Public Health


Doctoral Committees – Ph.D. Degree

Chair
Karen Young, 2009 (Interdepartmental Program in Molecular Toxicology)
Dawn Stone (Nursing)
TEACHING (continued)

Doctoral Committees – Ph.D. Degree

Committee Member

Suh-Woan Hu, 1996 (Epidemiology, *UNC*)
Russel Seiichi Okoji, 2000 (Environmental Health Sciences)
Jiang-Hong Liu, 2002 (Nursing)
Guadalupe Chapa (Environmental Health Sciences)
Rudy Rull, 2004 (Epidemiology)
Grace Sangeun Lee, 2004 (Molecular Toxicology, IDP)
David Simonowitz, 2004 (Islamic Studies)
Anusha Krishnadasan, 2004 (Epidemiology)
Isabell Biene Purdy, 2004 (Nursing)
Mina Attin, 2005 (Nursing)
Lisa Joy Martin 2006 (Molecular Toxicology IDP)
Danny Hyunsoo Kim, 2005 (Environmental Health Sciences)
Craig Fertig Conlon, 2007 (Environmental Health Sciences)
Wade Thomas Barranco, 2006 (Molecular Toxicology, IDP)
Robert Phalen, 2006 (Environmental Health Sciences)
Xu Wenhai 2007 (Environmental Health Sciences)
Xiaoyan Liao, 2007 (Environmental Health Sciences)
Cecilia Yuen-Ting Chan, 2007 (Molecular Toxicology IDP)
Jeng Wang, 2006 (Nursing)
Kim Henderson 2009 (Molecular Toxicology IDP)
Jeff Birkner, 2007 (Environmental Health Sciences)
Amjad Ibrahim Khawaldeh 2008 (Nursing)
Chunyuan Fei (Epidemiology)
Isabel Garcia (Fogarty Program, Environmental Health Sciences)
Rachelle Rodriguez (Epidemiology)
Sarah Kobylewski (Molecular Toxicology IDP)

Masters Students Thesis or Masters Report

Chair

Tina Hess, MPH, 1997 (OHN, *UNC*)
Ingrid Bilan, MPH, 1998 (OHN, *UNC*)
Slade Matthews, MPH, 1999 (EHS)
Thuan Ong, MPH, 2000 (EHS)
Phillip Joo Kim, MPH, 2001 (EHS)
Vyacheslav Alec Pekler, MS, 2002 (EHS)
Ka Ling Lim, MS, 2002 (EHS)
Jennifer Rodriguez, MPH 2002 (EHS)
Kathleen Kozawa, MPH, 2003 (EHS)
Karen Young, MS, 2003 (EHS)
Myranda Rachelle Austin, MS, 2005 (EHS)
Yasmin Jahan Chowdhury, 2006 MPH (EHS)
TEACHING (continued)

Masters Students Thesis or Masters Report

Committee
Tina Hamblin, MS, 1995 (OHN, UNC)
Lisa Pompeii, MS, 1995 (OHN, UNC)
Amy Miller, MS, 1997 (OHN, UNC)
Lisa Martin, MS, 2002 (EHS)
Hirohito Shiumizu, MS, 2005 (EHS)
Ming-Fen Josephine Ho, MS, (EHS)
David Liu, MPH, 2009 (EHS)
Katia Gee, MPH, (EHS)

UCLA Undergraduate Student Research Program (SRP) Mentees

Paul-Joseph Penaflor Aspuria 1998, 1999 Pre-Micro and Molecular Genetics
Jacqueline Bautista Guinto 1999, 2000 Physiological Science
Kim Hoang Le 2000, 2001 Biochemistry
Tiffany Anne Y L Lee 2001, 2002, 2003 Pre-psychobiology to Molecular Genetics
Angelica Riestra, 2005 Psychobiology

UCLA CARE Fellows Program and MERC Fellows Program

Angelica Riestra, 2005 Psychobiology/ her laboratory work was awarded best poster presentation at the National SACNAS Conference in the Medicine and Health category (Society for the Advancement of Chicanos and Native Americans in Science)

UCLA School of Nursing, Nurses Caring for Older Adults Young Scholars Program Mentee

Karmen Abaza, 2009 Nursing Generic/Prelicensure

University Guest Lecturer or Seminar Speaker

Epidemiology for Advanced Nursing Practice: Community Health Nursing, Virginia Commonwealth University, Medical College of Virginia, 1994

NIEHS-UNC Nursing-Duke University Medical Center Fellowship Program
NIEHS, Research Triangle Park, NC 1995, 1996

Cytogenetic Biomarkers in Human Sperm, Graduate Student Seminar Series, Graduate Program in Toxicology, University of California, Riverside, 1997

Health Screening and Disease Prevention, Biobehavioral Foundations of Health Assessment N200A), University of California, Los Angeles, 1997, 1998
TEACHING (continued)

University Guest Lecturer or Seminar Speaker

Measurement of Human Sperm Cytogenetic Damage in Studies of Occupational Environmental and Lifestyle Exposures, EHS Seminar Series (M411), University of California, Los Angeles, 1998

Reproductive Hazards in the Workplace, Occupational Medicine (EHS251), University of California, Los Angeles, 1998

Clinical Research Questions and Research Design, FNP Clinical Practicum (N439C), University of California, Los Angeles, 1998

Epidemiology of Workplace Hazards, Occupational Epidemiology (Epidem261), University of California, Los Angeles, 1998

Introduction to Genetics and Gametogenesis, Advanced Pathophysiology (N230), University of California, Los Angeles, 1999


Gametogenesis, Fertilization, and Sexual Differentiation, Reproductive Endocrinology (N235), University of California, Los Angeles, 1999

Andrology and Assessment of Male Infertility, Reproductive Endocrinology (N235), University of California, Los Angeles, 1999


Health Hazards of Industrial Processes, Faculty leader for two site visits, Environmental Health Sciences, UCLA (EHS254), 1999, 2000

Introduction to Occupational and Environmental Epidemiology, Environmental Health Sciences: The Field and Its Paradigm, UCLA (EHS200), 1999

Environmental and Occupational Health, Environmental Health Undergraduate Course, University of Southern California, School of Public Health, 1999
TEACHING (continued)

University Guest Lecturer or Seminar Speaker

Andrology and Male Reproduction, *Reproductive Endocrinology* (N235), University of California, Los Angeles, 2000

Assessment of Male Infertility and Assisted Reproductive Technologies, *Reproductive Endocrinology* (N235), University of California, Los Angeles, 2000

Sperm Biomarkers in Occupational Studies, *Occupational Epidemiology* (Epidem261), University of California, Los Angeles, 2000

Community Health Assessment, *Biobehavioral Foundations of Health Assessment* (N200A), University of California, Los Angeles, 2000


Data Collection and Assessing Data Quality, *Introduction to Research* (N193), University of California, Los Angeles, 2002

Environment and Health, *Introduction to Public Health* (Public Health 150), University of California, Los Angeles, 2002

Human Sperm Biomarkers in Environmental and Occupational Toxicology Studies, *Molecular Toxicology Seminar Series*, University of California, Los Angeles, 2002

Reproductive Effects from Workplace & Environmental Exposures, *Occupational Diseases: Recognition and Prevention* (EHS251B), 2003


TEACHING (continued)

Male Mediated Developmental Toxicology, *Graduate Student Seminar Series*, Graduate Program in Environmental Toxicology, University of California, Riverside, 2006


Reproductive Pathophysiology, *Advanced Pathophysiology* (N230B), 2006


Work and Environmental Health Policy, *Health Care Policy* (N267), 2007

Evaluating the Effects of Environmental Exposures on Male Reproductive Health, *Molecular Toxicology Seminar* (246), 2007

Human Subjects Research, Faculty facilitator for discussion group, *Ethics and Accountability in Biomedical Research* (C134/234), 2006, 2009


Epidemiology, Toxicology, and Male Reproductive Health, *Methodologic Issues in Reproductive Epidemiology* (EPIDEMIOLOGY 267), 2009 15 graduate students

SERVICE

**Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels – outside University of California**


1995  International Aneuploidy Workshop Committee: Aneuploidy in Germ Cells: Etiologies and Risk Factors, September 11-13, NIEHS, RTP

1995  North Carolina Tarheel Association of Occupational Health Nurses, Research Committee Member

1995-1997  Environmental Toxicology Research Program, University of California at Riverside, Consultant for studies on Pesticide Exposures and Sperm Cytogenetic Damage, and Benzene Exposures related to Blood Cytogenetic Damage in Exposed Worker Populations

1995  IRTA Summer of Discoveries Program, NIEHS, Research Triangle Park, Mentor for Occupational Health Nursing Graduate Student
SERVICE (continued)

Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels – outside University of California

1996 Sigma Theta Tau, Alpha Alpha Chapter, Research Awards Committee

1996-1997 Genotoxicity and Environmental Mutagen Society, Research Triangle Park, Board Member

1995-1997 Human Studies Faculty, National Institute of Environmental Health Sciences, Research Triangle Park

1997 Associated Women in Science, Travel Awards Committee


1998-2002 Health, Opportunities, Problem-Solving, and Empowerment Project (HOPE), consultant

1999-2003 Sigma Theta Tau, Gamma Tau Chapter, Research Committee Chair

1999-2004 Service Employees International Union Education and Support Fund (SEIU & SF) Training Program Advisory Board, Los Angeles, CA

1999-2002 Southern California Environmental Health Sciences Center, Community Outreach and Education Program, UCLA representative

2000 National Institute for Occupational Safety and Health (NIOSH), Division of Applied Research and Technology (DART) and the NIOSH Division of Hazard Evaluation and Field Studies (DSHEFS), Peer Reviewer for intramural protocol “Health Assessment of Workers Exposed to 1-Bromopropane”

2000 Epidemiology Review Panel for the US Army Medical Research and Material Command, Gulf War Illnesses Research, Epidemiological Investigations of Deployment Health Monitoring Methods

2000-present Germ Cell/Aneuploidy Special Interest Group, Environmental Mutagenesis Society
2001-2005  National Institute Occupational Safety and Health NORA Fertility and Pregnancy Abnormalities, Team Member

SERVICE (continued)

Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels – outside University of California

2001-present  Arizona Disease Control Research Commission, National Peer Reviewer

2002  AIDS FONDS, The Netherlands, Peer Reviewer, new grant applications

2002  US Environmental Protection Agency Peer Review Panelist:
Graduate Fellowships: Public Health Sciences

2002  US Environmental Protection Agency Peer Review Panelist:
Grants for Research: Biomarkers for the Assessment of Exposure and Toxicity in Children

2002  National Institute for Occupational Safety and Health, Reproductive Health Assessment Section, Biomonitoring & Health Assessment Branch, Division of Applied Research and Technology, Peer Reviewer for intramural project “Reproductive Health in Workers Exposed to Acrylamide and Its Cogeners”

2002  American Society of Andrology Program Committee for 2003 Annual Meeting

2002  Sigma Theta Tau, Seventh Joint Southern California Chapters’ Conference, Nursing Odyssey 2002, Peer Reviewer, abstracts

2002-2006  Environmental Mutagenesis Society, Awards and Honors Committee

2003  National Institute for Occupational Safety and Health, Reproductive Health Assessment Section, Biomonitoring & Health Assessment Branch, Division of Applied Research and Technology, Peer Reviewer for intramural project “Health Effects Associated with Occupational Cycling”

2004-present  American Society of Andrology, Awards Committee

2005  Canadian Institutes of Health Research, Grant Peer Reviewer

2005  US EPA STAR Research Grants Review Panel: Early Indicators of Environmentally Induced Disease

2005  DHHS/CDC/National Institute for Occupational Safety and Health, Grants Review panel: Occupational Exposure Risk on Reproductive Development
2006 Southern California Environmental Health Sciences Center, Pilot Project Peer Reviewer

**SERVICE (continued)**

**Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels – outside University of California**

2006 Chair, NIOSH Occupational Health Nursing Directors meeting, Albuquerque, New Mexico, funded by the UCLA Center for Occupational and Environmental Health


2007 Western Institute of Nursing Annual Meeting, Anaheim, California, Co-Chair of Local Planning Committee

2007 University of Arizona, Quality Assurance for Nursing Faculty Training in Laboratory Bench Research, Consultant

2007-2009 California Association of Occupational Health Nurses (CSAOHN), Secretary

2007, 2008 US EPA “Development of Environmental Health Outcome Indicators”, grant review panel

2008-present National Children’s Oncology Group, Long Term Follow-up Guidelines for Survivors of Childhood, Adolescent, and Young Adult Cancers Taskforce, Fertility and Reproduction

2009 Canadian Institutes of Health Research (CIHR), Grants Review Panel: Environment and Reproductive Health Team Grants

2009 National Institute for Occupational Safety and Health, Review Panel and Site Visitor for University of Minnesota and University of Washington

**University of California Service**

1997 Ad Hoc Committee on Adult Nurse Practitioner Option, School of Nursing

1997-1999 Ad Hoc Committee for review of format for the Master’s of Science in Nursing Comprehensive Examination

1997-2006 CAPAM A/B -Subcommittee Member, School of Nursing
1998 Special Fellowship and Dissertation Year Fellowship Reviewer for the Graduate Division Special Fellowship Office
1998-2000 Chair, Faculty Research & Professional Affairs Committee
2005-2009 School of Nursing
1998-2000 Faculty Executive Committee, School of Nursing
2002-present

SERVICE (continued)

Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels
University of California

1998-1999 Student Research Awards Committee member, Chair 1999 Center for Occupational and Environmental Health
1998 Committee to Review the School of Nursing Research Office
1999-2000 Catalyst Mentorship Program- mentor, College of Letters and Science, Women's Resource Center
1999-2008 Admissions and Financial Aid Committee, Environmental Health Sciences
1999-2000 Student Affairs Committee, School of Nursing
1999-2004 UCLA Labor Occupational Safety and Health Program (LOSH), Faculty Advisory Committee
1999-2004 UCLA Center for Labor Research and Education, Institute of Industrial Relations, School of Public Policy and Social Research, Faculty Advisory Committee
2000 Computer Support Committee, School of Nursing
2000 UCLA Labor Occupational Safety and Health (LOSH) Program, Advisory Committee, for "Voices: California Workers' Perceptions of Health and Safety" research project
2000-2001 Ph.D. Sub-committee of the Graduate Programs Committee, School of Nursing
2000-2001 Faculty Research & Professional Affairs Committee, member
2001          IT Strategic Planning Committee, School of Nursing

2001-2002     Collaborator on Multi-campus Research Incentive Fund proposal ‘Application of Molecular Cytogenetic Techniques to Improve the Detection of Cervical Cancer’ with UC Riverside Graduate Programs in Toxicology

2002-2008     School of Public Health Laboratory & Equipment Committee

**SERVICE (continued)**

**Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels**

*University of California*

2002          Ad Hoc Program Evaluation Committee on Review of Small Programs, UCLA School of Nursing

2002-2004     Search Committee for Chair, Environmental Health Sciences Department

2002-2005     Student Affairs Committee member, Chair 2003-2005 School of Nursing

2003          Search Committee member for Family Medicine / Occupational and Environmental Medicine Faculty

2003          Search Committee member for Chair, Global Health Faculty, School of Public Health

2003-2006     Faculty Advisory Committee, Interdepartmental Program in Molecular Toxicology

2003-present  UCLA Center for Society and Genetics, Associate Faculty

2005          School of Nursing Research Strategic Planning Committee, Chair

2005-2007     School of Nursing Representative to the Legislative Assembly, UCLA Faculty Senate

2006, 2007    Southern California NIOSH Education and Research Center, Pilot Project Grants, reviewer

2005-2006     Acting Chair two quarters, Primary Care Section, School of Nursing

2006          School of Nursing Doctoral Program Subcommittee on evaluation of courses

2006          UCLA Academic Senate COR Faculty Grants Program, grant reviewer

2006          National Public Health Nursing Initiative, Associated Schools of Public Health,
UCLA School of Public Health representative to the working group, Washington, D.C.

2006-2007 South Campus General Institutional Review Board, (IRB), Committee Member, 2007-present Vice Chair 2007-present

**SERVICE (continued)**

**Professional and Scholarly Service on Committees, Boards, Advisory, Review Panels – University of California**

2006, 2007 College of Letters and Science, Undergraduate Research Center (URC), Center for Academic and Research Excellence (CARE), Science Poster Day Dean’s Prize judge

2007 - present Executive Committee, UC Toxics Substances Research & Teaching Program (UC TSR&TP) Multi-campus Research Unit

2006-present Recruitment Committee member, New Faculty for School of Nursing

2007 - 2009 UCLA/ CSUN Sigma Theta Tau, Gamma Tau Chapter Research Grant reviewer

2007 Search Committee, Associate Dean for Research, School of Nursing

2007-2008 Search Committee for Dean of the School of Nursing

2007- present CAPA Committee, School of Nursing

2008, 2009 UCLA Health System, Department of Nursing, Conference Planning Committee and Nursing Practice Research Council, Annual Research and Evidence-based Practice Conference

2008 UCLA Center for Vulnerable Populations Research, Pilot Study Proposals – reviewer

2008 - present Faculty Advisor for Nursing Students at UCLA (NSUCLA), undergraduate nursing student organization

2009 Chair, Search Committee for ERC Director and Aerosol Faculty, Environmental Health Sciences, School of Public Health

2009 - present Academic Subcommittee, UCLA Campus Sustainability Committee

2009 UCLA International Activities Workgroup, Chaired by R. Craig Squire, Corporate Accounting
2009 UCLA School of Nursing Alumni Weekend Planning Committee
2009-2012 UCLA Committee on International Education

OTHER PROFESSIONAL ACTIVITIES

Editorial Service to Scholarly Journals: Periodic referee of papers for:
American Journal of Epidemiology
American Journal of Human Genetics
Asian Journal of Andrology
Cancer Genetics and Cytogenetics
Cytogenetic and Genome Research
Fertility and Sterility
Human Reproduction
Journal of Andrology, Editorial Board, 2008 - present
Journal of Urology
Mutagenesis
Mutation Research
Nursing Research
Occupational and Environmental Medicine
Progress in Community Health Partnerships: Research, Education, and Action
Reproduction, Fertility and Development
US Environmental Protection Agency, National Health and Environmental Effects
Research Laboratory (NHEERL), Gamete & Early Embryo Branch, External
Reviewer for Manuscripts

Professional Associations
American Association of Occupational Health Nurses
American Nurses Association
American Public Health Association
American Society of Andrology
California State Association of Occupational Health Nurses, Secretary 2007-2009
Environmental Mutagen Society
Genotoxicity and Environmental Mutagen Society 1994-1997
International Society of Nurses in Genetics
National Institute Environmental Health Sciences, Associated Women in Science 1995-1996
Society for Occupational and Environmental Health 1997-2000

Certifications
California Board of Registered Nursing, License No. 399881
Certified Nurse Practitioner, Practitioner Furnishing Certificate 3311, 1986- present

Invited Seminars, Lectures, Podium Presentations at Workshops

**OTHER PROFESSIONAL ACTIVITIES** (continued)

Invited Seminars, Lectures, Podium Presentations at Workshops (continued)


Robbins WA (1998) Seasonal Air Pollution and Sperm Aneuploidy in Healthy 18 Year Olds, 11th Annual UCLA Nursing Research Day, Faculty Center, UCLA.


Robbins WA (1999) Reproductive Hazards: New Concerns, Occupational-Environmental Medicine Seminar Series, Faculty Center, UCLA.

Robbins WA (1999) Molecular Genetic Techniques to Identify Chromosomal Abnormalities in Human Sperm, Southern California Chapter of the Society of Toxicology, Irvine, CA.

Robbins WA (1999) Genetics, Molecular Biology, Nursing Science and Beyond, UCLA School of Nursing 50th Anniversary Program, UCLA Covel Commons.


OTHER PROFESSIONAL ACTIVITIES (continued)

Invited Seminars, Lectures, Podium Presentations at Workshops (continued)


Anderson N, Robbins WA, Kohpahl G (2001) Qualitative and Participatory Methods for Community and Biological Research, UCLA Center for Vulnerable Populations Research Training Workshop, University of California, Los Angeles, CA.

Robbins WA (2002) Integrating Biological Laboratory Assays in Participatory Research, Western Institute of Nursing 35th Annual Communicating Nursing Research Conference, Pre-Conference Course: Methodological Challenges with Research Addressing Health Disparities, Palm Springs, CA.


Robbins WA (2003) Sperm DNA Chromatin Measures in Occupational and Environmental Field Studies, Programa Del II Encuentro Regional De Investigadores En Salud, Las Instalaciones de la Facultad de Medicina, Unidad Torreón, Mexico.


OTHER PROFESSIONAL ACTIVITIES (continued)

Invited Seminars, Lectures, Podium Presentations at Workshops (continued)


Robbins WA (2007) Evaluating Effects of Environmental Exposures on Male Reproductive Health, Guest Speaker for Environmental Health Research Conference, Beijing, China

Robbins WA (2007) Male Reproductive Effects of Workplace Boron Exposure, Joint Colloquia Center for Vulnerable Populations Research and the School of Nursing Research Office Research Office

Robbins WA (2009) Older Workers, seminar for UCLA School of Nursing Gerontology Nursing Special Interest Group

Robbins WA and Orkin A (2009) School of Nursing Social, Behavioral, and Educational Research IRB Submissions: Q&A brown bag seminar sponsored by UCLA School of Nursing Office of Research
A. PEER-REVIEWED PAPERS


PUBLICATIONS (continued)
November 2009

A. PEER-REVIEWED PAPERS (continued)

Not accessible online

Not accessible online


http://www.journals.uchicago.edu/doi/pdf/10.1086/322002


Not accessible online

http://www.andrologyjournal.org/cgi/reprint/23/2/270

Not accessible online
A. PEER-REVIEWS PAPERS (continued)


http://brn.sagepub.com/cgi/reprint/4/1/22

http://www3.interscience.wiley.com/cgi-bin/fulltext/106563974/PDFSTART


http://www.andrologyjournal.org/cgi/reprint/24/6/853

*no free access* http://www.aaoihnjournal.com/showabst.asp?thing=34684


δPapers with UCLA students as co-authors
PUBLICATIONS (continued)
November 2009

A. PEER-REVIEWED PAPERS (continued)

Papers In Preparation

Robbins WA, Egan B, Peterson E, Interventions for improving stamina and health in older workers.

C. BOOK CHAPTERS and PROCEEDINGS


D. PEER-REVIEWED PUBLISHED ABSTRACTS


D. PEER-REVIEWED PUBLISHED ABSTRACTS (continued)


18. Opas S, Robbins WA (2000) Sperm aneuploidy not increased in pesticide exposed Canadian farm families, as part of Building Excellence & Scholarship With Vulnerable Populations, 33rd Annual Communicating Nursing Research Conference, 14th Annual WIN Assembly: Building on a Legacy of Excellence in Nursing Research, Denver, Colorado


D. PEER-REVIEWED PUBLISHED ABSTRACTS (continued)


*Abstracts with student advisees as first author.
Curriculum Vitae Robert H. SCHIESTL, Ph.D.

Robert H. Schiestl, Ph.D.
Professor of Pathology, Environmental Health
and Radiation Oncology
UCLA Schools of Medicine and Public Health
71-295 CHS,
650 Charles E. Young Drive South
Los Angeles, CA 90095

phone office: 310-267-2087
phone lab: 310-267-2593 or 2591
fax: 310-267-2578
e-mail: rschiestl@mednet.ucla.edu

Personal Data
Birth: Vienna, Austria, Nov. 10, 1959
Citizenship: Austrian
Permanent Resident of the USA

Education
University of Vienna, Vienna, Austria B.S. 1980 Biology/Biochemistry
University of Vienna, Vienna, Austria Ph.D. 1983 Biology/Genetics
PhD: University of Vienna (1983) Biology, Genetics with Dr. U. Wintersberger, Department of
Molecular Genetics, Institute of Tumor Biology and Cancer Research, University of Vienna,
Vienna, Austria

Research/Professional Experience
1982 Fellow of the European Molecular Biology Organization
with Drs. F. Zimmermann and M. Ciriacy, Department of Microbiology
Technische Hochschule Darmstadt, Darmstadt, FRG
1981 - 1983 "Studienassistent" (Student Lecturer, 50% effort) at the Institute for Tumorbiology-Cancer
Research, Thesis Research with Dr. U. Wintersberger, University of Vienna, Austria
1983 - 1984 "Universitaetsassistent" (85% research) at the Institute for Tumorbiology-Cancer
Research, University of Vienna, Austria
1984 - 1986 Alberta Heritage Foundation for Medical Research fellow with Dr PJ Hastings,
Department of Genetics, University of Alberta, Edmonton, Canada
1986 - 1989 Postdoctoral Research Fellow with Dr. Satya Prakash
Department of Biology, University of Rochester, Rochester, NY
1989 - 1991 Research Associate with Dr. Tom Petes
Department of Biology, University of North Carolina, Chapel Hill, NC
1991 - 1996 Assistant Professor, Department of Molecular and Cellular Toxicology, Harvard
School of Public Health (HSPH)
1996 - 2000 Associate Professor, Department of Cancer Cell Biology, HSPH
2000 – present Professor of Pathology, Environmental Health and Radiation Oncology, University
of California at Los Angeles Medical School and School of Public Health
Currently supervised Personnel:
Dr. Ramune Reliene (Assistant Researcher)
Dr. Zorica Scuric (Assistant Researcher)
Dr. Akos Szakmary (Assistant Researcher)
Dr. Katrin Hacke (Posdoctoral Fellow)
Aaron Chapman (Graduate Student)
Aya Westbrook (Graduate Student)
Mitsuko Lynn Yamamoto (Graduate Student)
Danica Cowan (Lab Technician)

Previous trainees of the Schiestl lab followed by their current positions:
Previous postdoctoral fellows:
Dr. Beatrice Secretan: Scientist at Internat. Agency for Research on Cancer, Lyon, France
Dr. Niall Howlett: Associate Professor, University of Rhode Island
Dr. Alexander Bishop, Assistant Professor of Molecular Genetics, UT San Antonio
Dr. Richard Brennan, Principal Scientist, Iconix Pharmaceuticals
Dr. Wendy Yap: Scientist, Environmental Protection Agency
Dr. Alvaro Galli: Group Leader, C.N.R., Institute of Mutagenesis and Differentiation, Pisa, Italy
Dr. Fathia Khogali: Chairperson, Dept. of Zoology, Faculty of Sciences Univ. of Khartoum, Sudan
Dr. Jiri Aubrecht: Senior Scientist, Pfizer Central Research, CT
Dr. Thunder Jalili: Associate Professor, Dept Nutrition, Univ. of Utah, Salt Lake City, UT
Dr. Palaniyandi Manivasakam: Principal Scientist, CombinatorX Inc.
Dr. Nicole Hurst: Scientist, CombinatorX Inc.
Dr. Tom Luby: Scientist, Zycox, Inc.
Dr. Marina Repnevskaya: Professor of Genetics, St. Petersburg, Russia
Dr. Markus Kiechle: Scientist, Society for Radiation Research, Munich, Germany
Dr. Horst Maxeiner: Researcher, Clinical Testing, Hamburg, Germany
Dr. Mohammed Naimuddin: Scientist, National Institute of Environmental Sciences, Tokyo, Japan
Dr. Ken Ohnishi, Associate Professor, Nara Medical University, Nara, Japan
Dr. Yofre Cabeza-Arvelaiz
Dr. Cecilia Chan
Dr. Zhanna Sobol, Senior Scientist, Genetic Toxicology; Drug Safety Res. and Develop.
Dr. Nikos Hontzeas, Researcher, Pacific Heart, Lung, and Blood Institute, Los Angeles, CA
Dr. Owen Kelley
Dr. Kurt Hafer
Dr. Efrem Neuwirth, Toxicologist, State of California
Dr. Benedicte Trouiller, Assistant Researcher, USC, Los Angeles, CA

Previous Graduate Students in the Schiestl lab:
Dr. Jie Zhu (GS): Principal Scientist, Analytical Specialties Inc.
Dr. Rebecca Rugo (GS): Postdoctoral Fellow, Massachusetts Institute of Technology
Dr. John Davidson (GS) Scientist, Blue Heron Biotechnology, Bothell, WA

Teaching Experience and Service:
1992 to 2000, Principal Instructor of TOE 204ab Principles of Toxicology
Since spring 1992 guest lectures in TOX250 "Molecular and Cellular Toxicology", TOX225
"Genetic Toxicology" and DBS205 "Seminars in Biological Public Health", general area:
DNA Repair and Recombination
Fall 1987 Part of a course and seminar on Recombination, DNA Repair and Replication, Department of Genetics, University of Alberta, Edmonton, Alberta, Canada

Graduate Student Committees:
Ph.D. Advisory and Thesis Committees: 3 students: Kathryn Hall (Genetics, HMS), Todd Milne (HMS) Ziyi Li (TOX, HSPH)
Preliminary Exam Committee: 12 students: Lee Soreng (Genetics, HMS), Ziyi Li, Lauren Posnick, Bevin Engelward, Ted Chang, Song Han, (all TOX, HSPH), Carroll Goldsmith (Environmental Health, HSPH), Hayan Xu, Lyndal Emmerson (BPH, HMS) Mark Hickman, Veronica Leautaud (BPH).

1991 – 2000 Member of the HSPH NIEHS Center
1996 – 2000 Planning Group Member of the HSPH Center for Cancer Prevention (CCP)
1999 – 2000 Member of the Harvard Cancer Center
1997 – 2000 Member of the HSPH Committee on Educational Policy
1997 – 2000 Member of the HSPH Ph.D. Student Admissions Committee
2000 – present Faculty Advisory Committee Member of the UCLA Interdepartmental Program/Seminar Series in Molecular Toxicology
2000 – present Member of the UCLA Jonsson Comprehensive Cancer Center
2000 – present Member of the UCLA Center for Occupational and Environmental Health
2000 – present Member of the UC Toxic Substances Research and Training Program, Lead Campus Steering Committee
2002 – 2003 Member of the UCLA School of Public Health Dean's Mission Planning Committee
2002 – present Member of the UCLA ACCESS Graduate Program Steering Committee
2002 – present Director of the UCLA Center for Environmental Genomics
2002 – present Member of the Collaborative Centers for Parkinson's Disease Environmental Research, Center for Gene-Environment Studies in Parkinson's Disease Steering Committee
2003 – present member of the UCLA Molecular Biology Institute
2005 – present Member of the National Institute of Allergy and Infectious Diseases, Centers for Medical Countermeasures against Radiation Steering Committee Meeting
2007 – present Co-Director of Molecular Toxicology Interdepartmental Program
2007 – present Co-PI of NIEHS Training Grant in Molecular Toxicology


Served as reviewer for Grant Applications to the NSF and the U.S. DOE and as special reviewer for NIH RFA on "Transgenic Model Systems in Molecular Toxicology". Regular Member on American Cancer Society Study Section on Carcinogenesis, Nutrition and the Environment 1996-2001 and on the California Cancer Research Program 2000. Ad hoc reviewer for the NIH Radiation Study Section

Seminars 2000-present:
Jan. 18, 2000: Department of Environmental Toxicology Seminar Series, UC-Davis, “Carcinogens Induce DNA Deletions – in vivo and in vitro”
Jan 21, 2000: Dept. Biology, University of North Carolina, Chapel Hill “Genetic Control of Illegitimate Recombination in Saccharomyces cerevisiae”
Jan. 26, 2000: Division of Radiation Biology, Society for Radiation Research, Munich, Germany, “Radiation Induced Genomic Instability – Acute and Persistent Effects”
Jan 27, 2000: Department of Radiation Oncology, University of Heidelberg Medical School, Heidelberg Germany, “Radiation Induced Genomic Instability – Acute and Persistent Effects”
Feb. 9, 2000: Cell and Molecular Biology, Life Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, “Carcinogen Induced Genomic Instability – Acute and Persistent Effects”
Feb. 10, 2000: Department of Cell and Molecular Radiobiology, Colorado State University, Fort Collins, CO, “Carcinogen Induced Genomic Instability in vitro and in vivo – Acute and Persistent Effects”
March 24, 2000: Division of Cancer Biology, National Cancer Institute, NIH, Bethesda, MD, “Genetic Predisposition to Genomic Instability”
May 17, 2000: Department of Genetics, University of Washington, Seattle, Seattle, WA 98195, “Carcinogen Induced Genomic Instability in vitro and in vivo – Acute and Persistent Effects”
June 28, 2000: Genetic & Molecular Toxicology, Eli Lilly Corp. Greenfield, IN, “Xenobiotics Induce DNA Deletions in vitro and in vivo”
Aug. 29, 2000: Pfizer Global Research and Development, Groton, CT, “Xenobiotics Induce DNA Deletions in vitro and in vivo”
Jan 8, 2001: UCLA Pathology Seminar Series: Genetic and Environmental Factors Predisposing to Elevated Levels of Genetic Instability”
Mar 25-29, 2001, Chair and Speaker at the Workshop on “In vivo Genotoxicity Assays – Novel Findings”, Society of Toxicology Meeting, San Francisco, CA,
June 6, 2001: UCLA Yeast Group: Genetic Control of Illegitimate Recombination in Saccharomyces cerevisiae”
Oct. 12, 2001, Beckman Research Institute, City of Hope, Duarte, CA: Genetic and Environmental Factors Predisposing to Elevated Levels of Genetic Instability”
Oct. 21–26, 2001: Chair and Speaker at the Symposium on “Genetic Instability” at the Eighth International Conference on Environmental Mutagenesis, Shizouka, JP
Dec. 4, 2001: Los Alamos National Laboratory, Los Alamos, NM “Carcinogen Induced Genomic Instability in vitro and in vivo”
May 10-14, 2003: Member of the Planning Committee for the Environmental Mutagen Society meeting and Chair and Speaker at the Symposium on “Genetic Instability” in Miami Beach, Florida
September 23-27, 2003: Speaker at Radiation Effects Research Foundation Symposium, Hiroshima, Japan, "Genetic and Environmental Effects on Genetic Instability: Stories of Yeast and Mice and Acute and Persistent Effects"
October 4-8, 2003: Speaker on "Genetic Instability" at Eighth International Conference on Mechanisms of Antimutagenesis and Anticarcinogenesis in Pisa, Italy
October 28-30, 2003: Speaker at Annual European Meeting of the Toxicology Forum, Brussels
May 6, 2004: Speaker at Genetic Toxicology Association Spring Meeting, Delaware
May 7, 2004: Chair and Speaker of "Genomics Group" for Annual Meeting of the Collaborative Centers for Parkinson's Disease Environmental Research, Atlanta
March 4, 2005: Presenter at Harbor-UCLA Medical Center, Department of Pathology Grand Rounds, "Genetic and Environmental Causes of Genome Rearrangements and Cancer and Prospects of Nutritional Intervention"
June 8-11, 2005: Speaker at the 2005 International Workshop on Ataxia-Telangiectasia and the DNA Damage Response, Lake Maggiore, Italy
July 22-August 3, 2005: Speaker at the Third National Summer School for Graduate Students in Public Health, sponsored by the National Education Ministry and the National Natural Science Foundation Committee, People's Republic of China at the School of Public Health, Nanjing Medical University, Nanjing China
October 28-29, 2005: Speaker at Mechanisms of Air Pollution Toxicity Symposium, UCTSR&TP Lead Campus Annual Meeting, "Effect of Air Pollution on DNA Deletions and Gene Expression," Riverside, CA
November 7-8, 2005: Speaker at the National Institute of Allergy and Infectious Diseases, Centers for Medical Countermeasures against Radiation Steering Committee Meeting, Arlington, Virginia. "Radioprotection of acute and persistent DNA deletions."
March 5-9, 2006 Speaker at the SOT 45th Annual Meeting & ToxExpo, San Diego, CA
April 1-5, 2006 Speaker at the American Association for Cancer Research 97th Annual Meeting, Washington D.C.
June 7-8, 2006 Speaker at the NIH Centers for Countermeasures Against Radiation (CMCR) 2006 Annual Meeting, Gaithersburg, MD, June 8, 2006: Invited Speaker, "DNA recombination-based approaches for studying genotoxicity and carcinogenicity of chemicals" Pfizer, New Groton, CT
July 2-6, 2006: Speaker at the European Environmental Mutagen Society 36th Annual Meeting, From Genes to Molecular Epidemiology, Prague, Czech Republic
July 7, 2006: Speaker at the University of Vienna, Institute of Cancer Research, "Gene Environment Nutrition Interaction in the Causation of DNA deletions in Cancer" Vienna, Austria
Oct 20-21, 2006: Speaker and Chair UCLA Symposium on Countermeasures Against Radiation Damage and Annual meeting of the UCLA TSRTTP lead campus and MolTox IDP to MolTox
May 7-11, 2007: Speaker at the 3rd Japan U.S. Conference on DNA Repair, Sendai Japan, "DNA Double strand breaks induce microhomology mediated recombination in trans"
September 15, 2007: Speaker at the Department of Cancer Research, Medical University of Vienna, "DNA Double strand breaks induce microhomology mediated recombination in trans," Vienna, Austria
October 28-31, 2007: Invited Speaker at the SBMCTA VIII Brazilian Congress of Environmental Mutagenesis, Carcinogenesis, and Teratogenesis, Angra Dos Reis, Brazil
July 2, 2008: Speaker at the 19th Annual NASA Space Radiation Investigators’ Workshop
August 2008: Invited Speaker at Alpbach Technology Forum, Vienna, Austria

Organized Symposia:
Chair and Speaker at the Symposium on "Recombination and Genome Rearrangements; Involvement in Carcinogenesis and Genotoxic Endpoints." Society of Toxicology meeting in Anaheim, CA, Mar 10-14, 1996.
Chair and Speaker at the Continuing Education Course on "Molecular Basis of Genetic Toxicity Assays." SOT, Cincinnati, OH Mar 9-13, 1997.
Chair of the Symposium on "Xenobiotic-Induced Oxidative Stress in Genotoxicity and Carcinogenesis." SOT Seattle, WA, Mar 1-5, 1998
Chair and Speaker at the Workshop on “In vivo Genotoxicity Assays – Novel Findings” SOT San Francisco, CA, Mar 25-29, 2001
Chair and Speaker at the Symposium on “Genetic Instability” at the Eighth International Conference on Environmental Mutagenesis, Oct. 21 – 26, 2001, Shizouka, JP
Chair and Speaker at the Symposium on “Genetic Instability” May 10-14, 2003 Miami Beach, Florida and Member of the Planning Committee for the Environmental Mutagen Society meeting
Chair and Speaker at the Symposium on "High Thorough-put Assays in Genetic Toxicology" for the Society of Toxicology, New Orleans, March 6-10, 2005
Chair and Speaker at Current Issues Symposium for the 9th International Conference of Environmental Mutagens, "Genetic and Environmental Effects of Non-homologous End Joining," San Francisco, September 4-8, 2005
Oct 20-21, 2006: Chair and Speaker UCLA Symposium on Countermeasures Against Radiation Damage and Annual meeting of the UCLA TSRTTP lead campus and MolTox IDP to MolTox
June 19-20, 2008: Chair and Speaker at the UCLA Annual Molecular Toxicology Meeting and UCLA Center for Biological Radioprotectors Annual Symposium

Honors:
1979 - 1983 Each year a special stipend for "the gifted students of the University of Vienna" was granted on a competitive basis
1982 Fellowship of the European Molecular Biology Organization (EMBO)
1984 - 1986 Alberta Heritage Foundation for Medical Research fellowship (AHfMR)
1998 1998 Novartis Award for Outstanding Contributions in Biochemistry
2006 Jonsson Comprehensive Cancer Center, Helene Brown Award

Professional Societies:
American Association for the Advancement of Science
American Association for Cancer Research
American Society for Microbiology
Austrian Biochemical Society
Environmental Mutagen Society
Genetics Society of Canada
Publications


intrachromosomal homologous recombination in vivo in mice. DNA Repair 3(2): 103-111


143. Westbrook, M., W. Bo, J. Braun, and R.H. Schiestl (accepted pending revisions) Intestinal mucosal inflammation leads to systemic genotoxicity in mice. Cancer Res. (included in UCLA JCCC press release)


Additional manuscripts submitted and in preparation.

**RESEARCH SUPPORT:**

**Past Support (direct costs)**

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<thead>
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<th>Project Details</th>
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<td>ACS Mass. Div. (Schiestl)</td>
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<td>Development of a short term test to detect potential carcinogens</td>
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<td>$46,566</td>
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<td>This project concerns the further development for genetic toxicology of an assay screening for intrachromosomal recombination in yeast.</td>
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<td>NIH</td>
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<td>$53,550</td>
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<tr>
<td>Construction of a short term test to detect carcinogens. This project concerns the construction and the preliminary evaluation of an assay screening for intrachromosomal recombination in mammalian cells.</td>
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<td>March of Dimes Birth</td>
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<td>$234,580</td>
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<td>Inducibility of deletions in the mouse</td>
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<tr>
<td>This project concerns the inducibility of intrachromosomal recombination in the mouse by carcinogens.</td>
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<td>Environmental Protection Agency</td>
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<td>$828,435</td>
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<tr>
<td>Development and evaluation of a short-term test to detect potential carcinogens with yeast</td>
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<tr>
<td>This project concerns the further development and the evaluation for genetic toxicology of an assay screening for intrachromosomal in yeast.</td>
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<th>Project Details</th>
<th>Start</th>
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<tr>
<td>Council for Tobacco Research Grant (Schiestl)</td>
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<tr>
<td>Inducibility of intrachromosomal recombination in human cells</td>
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<td>$275,400</td>
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</table>
The purpose of this project is to contribute to the understanding of the mechanism of carcinogenesis, recombination and DNA repair in mammalian cells to develop a short term assay utilizing human cells to detect mutagenic as well as nonmutagenic carcinogens.

**CN-83A,B (Schiestl)**  
7/1/92-6/30/97  
20%  
American Cancer Society  
$612,000

**Nonhomologous recombination in yeast**  
This project concerns the mechanisms of nonhomologous, illegitimate and restriction enzyme mediated recombination in yeast.

**R01, ES-92-04 (Schiestl)**  
8/1/93-7/31/97  
20%  
NIH/NIEHS  
$872,497; $298,962 to RHS

**Biological responses to ozone exposure**  
The major goal of this project is to investigate the mechanism of ozone action in human cell lines, in mice and hamsters.

**CN-142 (Schiestl)**  
7/1/95-6/30/98  
15%  
American Cancer Society  
$367,200

**Radiation induced recombination in the mouse**  
This project concerns the effects of X-rays on p^53_\text{un} reversions in wildtype, p53 and ERCC1 mutant mice.

**1 RO1 ES07694-01 (Schiestl)**  
8/1/95-7/31/98  
25%  
NIH/NIEHS  
$587,749

**Carcinogen induced deletions in mice**  
The specific aim of this project is to create transgenic mice to determine the effect of environmental carcinogens on the frequency of DNA deletions in different tissues in the mouse.

**NIH, STTR 95-4, Phase I (Schiestl)**  
7/1/97-6/30/98  
15%  
Development and validation of the yeast DEL assay  
$48,980

The specific aims of this study are to thoroughly validate the DEL assay and to develop it further using oxidative stress mutants, excision repair mutants and cell wall mutants.

**R825359-01-0 (Schiestl)**  
12/02/96-12/01/99  
20%  
Environmental Protection Agency  
$552,030

**Carcinogen induced deletions in mice**  
This project uses a short term in vivo mouse assay to determine dose responses and interactions among carcinogens for the purpose of improved risk assessment.

**1 K02 ES00299-04 (Schiestl)**  
5/1/96-4/30/01  
N/A  
NIH/NIEHS  
$489,600

**Carcinogen induced deletions in vivo and in vitro**  
The specific aims of this project are to investigate genetic and environmental effects on genetic deletions in transgenic mice.

**2 RO1 ES06516-05 (Overstreet)**  
04/01/98-3/31/02  
10%  
NIH  
$306,000 (subcontract for RHS)
Heritability of embryonic radiosensitive targets
The specific aim of this project is to understand the biological mechanism of cell proliferation disadvantage after irradiation of embryos.

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<tr>
<td>2R42ES/CA09038-03 (Brennan)</td>
<td>07/01/99</td>
<td>06/30/02</td>
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<tr>
<td>NIH-SBIR Phase II</td>
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<tr>
<td>Development and validation of the yeast DEL assay</td>
<td>$1,147,500 subcontract to RHS</td>
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The specific aims of this grant are to finish automation of the yeast DEL assay into a high throughput assay to detect potential carcinogens and to further develop the assay.

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<td>NIH-SBIR Phase I</td>
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<tr>
<td>Development and validation of a mammalian DEL assay</td>
<td>$229,500 subcontract to RHS</td>
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The specific aims of this study are to construct and initially validate the mammalian DEL assay.

German Research Council, Markus Kiechle fellowship: $29,217

SCPC joint Project w. John Fukuto and Art Cho: $76,500

1 RO1 CA82473-01 (Schiestl) | 09/15/99         | 09/14/03       | 20%     |
| NIH                       | $959,114         |
| Mechanism of radiation induced delayed genotoxicity
This project aims to investigate the mechanism of delayed reproductive effects in response to ionizing radiation.

JCCC (Schiestl) | 05/01/02         | 04/28/03       | 10%     |
| Center for Environmental Genomics Operating fund | $250,000 |

Toxic Substances Research and Training Program (Schiestl) | 07/01/02         | 06/30/04       | 2%      |
| Effect of Particulate Matter on the Frequency of DNA Deletions in vivo in Mice | $50,000 |

UC Campus Laboratory Exchange Program (Schiestl) | 08/01/02         | 07/31/03       | 2%      |
| Assay to determine the Frequency of Genetic Instability in Human Cells – Collaboration with Los Alamos National Laboratory | $45,000 |

Southern California | 08/01/02         | 07/31/03       | 2%      |
| Environmental Health Sciences Center (Schiestl) | $38,250 |
| Assay to determine the Frequency of Genetic Instability in Human Cells |

UCLA Specialized Program of Research Excellence (SPORE) in Lung Cancer: Developmental Research Program
Development of a DNA rearrangement assay for human cells | 01/01/03         | 12/31/03       |         |
| Pfizer (Schiestl) | 05/01/04         | 04/30/05       | 5%      |
Determination of the suitability of the yeast DEL Assay to detect clastogens $120,784 (sponsored research agreement)

1 R21 ES011667-01 (Zhang) NIH 04/01/02 - 03/31/05 5%
Molecular Epidemiology and Gene-Environment Interactions $1,350,000 subcontract to R.H.S.
Role: Co-Investigator

AICR (Schiestl) 01/31/05-01/31-07 4%
Effect of Dietary Antioxidants on Genetic Instability and Cancer Incidence in Ataxia Telangiectasia
The objective of this project is to determine the effect of dietary antioxidants on genetic instability in ataxia telangiectasia deficient mice

1 U54ES012078-01 (Chessellet) NIH 08/01/02 - 07/31/07 5%
Center for Gene -Environment Studies in Parkinson's Disease
The overall objective of the Center is to understand how genetic variations in mechanisms that control dopamine homeostasis impact the detrimental effects of environmental toxins, specifically pesticides, on nigrostriatal dopaminergic neurons, thereby increasing the risk of Parkinson’s disease.
Role: Co-Investigator

1 R21 ES013547-01A1 (Schiestl) NIH/NIEHS 07/01/05 – 06/30/08 .96 calendar
Effect of parkin on DNA damage induced rearrangements
The objective is to determine the effect of mutation in the parkin gene on cigarette smoke induced DNA deletions.

1 R21 ES013713-01 (Schiestl) NIH 04/01/05 - 04/30/08 .96 calendar $137,500
Effect of Diesel Exhaust Particles on DNA Deletions
The objective of this project is to determine the effect of diesel exhaust particles on the frequency of genetic instability, DNA deletions, DNA adducts and/or oxidative DNA damage to mice in vivo.

Pfizer (Schiestl) 4%
Development of the DEL recombination assay in S.cerevisiae $200,000 for high throughput detection of clastogens and mutagens

Center for Human Nutrition Pilot Project
Effect of Dietary Supplementation with Tomato Products $25,000 on the Frequency of DNA Deletions and Oxidative DNA Damage in Cancer-prone ATM Deficient Mice

Pfizer Fellowship
Chemically induced persistent genetic instability: implications for genetic toxicology and carcinogenicity testing. $150,000
JCCC Helene Brown Award $10,000
Stein Oppenheimer Award (Schiestl) $20,000.
COEH: Toxicology Subdivision Director $3,000

ACTIVE:
NNH04ZUU005N (Schiestl) 05/04/05 - 08/14/09 1.44 calendar
NASA $194,175
Effect of Space Radiation on degenerative tissue disease, genetic instability and oxidative DNA damage in Ataxia Telangiectasia deficient mice.
This project aims to determine the effect of space radiation on the frequency of DNA deletions in Atm deficient mice and whether the antioxidant dietary supplement N-acetyl cysteine will reduce the frequency of deletions.

1RO1ES09519-07A2 (Schiestl) 06/01/05 – 05/31/10 2.28 calendar
NIH/NIEHS $225,000
Antioxidant Therapy for Ataxia Telangiectasia
This project aims to determine whether nutritional supplementation with the antioxidant N-acetyl cysteine reduces the frequency of genetic instability, oxidative DNA damage, and cancer in ATM deficient mice

1 U19 A1 67769-01 (McBride) 09/01/05 – 08/31/10 3.24 calendar
NIH-NIAID $1,945,387; 288,293 to RHS
UCLA Center for Biological Radioprotectors
This cooperative agreement establishes a new UCLA center for biological radioprotectors and will lead to the development of new pharmaceuticals that counteract radiation and radioactive material induced cellular damage, including cancer.
Role: PI Project 1, Core Leader

R03TW007166-01A1(Schiestl) 11/01/05 - 10/31/09 .12 calendar
NIH-FIRCA $32,000
Effect of Particulate Matter on DNA Deletions in Mice
(Fogarty International Research Collaboration Award)
This project aims to determine whether particulate matter from different areas within Mexico City increases the frequency of DNA deletions and whether antioxidant exposure may reduce the potential effects of particulate matter on the frequency of deletions.

042218 (Schiestl) 07/01/05 – 06/30/09 1.44 calendar
FAMRI
Base Excision Repair in ETS Caused DNA Deletions and Cancer
The objective of this project is to provide mechanistic insight into the genetic control of side-stream smoke and, more specifically, the effect of side-stream smoke on frequencies of genetic instability, lung cancer, oxidative DNA damage, and DNA adducts in oxidative DNA repair-damaged deficient mice.

#unassigned (Schiestl) 09/1/08 - 08/31/09 .6 calendar
UCLA JCCC $150,000
Effect of Intestinal Microbiota on Genetic Instability and Immune/ Inflammatory Responses in Atm Deficient Mice
This project aims to investigate the role that microbiota plays in modulation of genetic instability, a process implicated in cancer development. A combination of beneficial bacteria will be compared with the conventional flora for a cancer study and a complete pathology will be performed on all the mice that suffer from cancer.

- **U19 SEED Grant**
  - 11/1/08 – 10/31/2009 .6 calendar
  - UCLA CBRP $50,000

   *Evaluation of 6-thioguanine in vivo selection and HLA marker deletion for radiation emergency hematopoietic stem cell transplantation (HSCT)*

   This project aims to evaluate the rescue efficacy of 6-thioguanine (6TG) in vivo selection mediated synergenic and allogeneic Hprt deficient HSCT on irradiated mice. Another aim is to develop state of the art lentiviral vectors simultaneously expressing hprt and HLA marker targeting siRNAs to render donor HSC’s deficient of hprt protein and broaden donor availability.

   *PI: Noriyuki Kasahara, PhD  Role: Co-PI*

- **TSR&TP (Nel)**
  - 07/01/06 - 06/30/13

   *Training Grant in Nanotoxicology*

   *Role: Co-Investigator*
**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tr>
<td>Irwin (Mel) Suffet</td>
<td>Professor of Environmental Chemistry UCLA, School Public Health, Dept. of Env. Health Sciences Los Angeles California</td>
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**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Brooklyn College, Brooklyn NY</td>
<td>B.S.</td>
<td>1957-1961</td>
<td>Chemistry</td>
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<tr>
<td>University of Maryland, College Park, Maryland</td>
<td>M.S.</td>
<td>1962-64</td>
<td>Chemistry</td>
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<tr>
<td>Rutgers University, New Brunswick, N.J.</td>
<td>Ph.D.</td>
<td>1965-1968</td>
<td>Environmental Sciences</td>
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A. Positions and Honors

A.1. Professional Positions:
Assistant Professor of Chemistry (1968-1973) - Department of Chemistry and Environmental Studies Institute,
Drexel University, Philadelphia PA
Associate Professor of Chemistry (1973-1978)
Professor of Chemistry and Environmental Science (1978-1988),
P.W. Purdom Professor of Environmental Chemistry (1988-1992)
Professor Step VI (1992-1998), Environmental Science and Engineering Program, Department of Health Science,
UCLA - School of Public Health, Los Angeles California
Professor, Step IX, (1998-2006)
Distinguished Professor, (2006- Present)

A.2. Award
- International Water Assn., Distinguished Service Award, Off-Flavors Group Award, 2005.
- Golden Spigot Award, Distinguished Service Award, American Water Works Association, Water Quality Division, 2003
- A. P. Black Annual Research Award, American Water Works Association, 2002. “In recognition of research in the field of organic contaminants and taste and odor in water”
- Distinguished Teaching Award, UCLA Public Health Student Association, School of Public Health, 1996-1997
- American Chemical Society, Environmental Chemistry Division - Distinguished Service Award, 1991.
- F. J. Zimmerman Award in Environmental Science, American Chemical Society, 1983.
- Drexel University - University Research Achievement Award for 1981-82.

A.3. Memberships and other Professional Activities:

Editorial Boards:
- Chemosphere, Pergamon Press (1980-82)
- Chemtech, ACS Journal (1981-86)

Book Editor: *(9 Volumes)*
Selected Organization Appointments


American Public Health Association, Standard Methods of Water and Wastewater Committee (1981- Present)

National Aeronautics Space Administration, Space Station Water Quality Panel, NASA Johnson Space Center, Houston, TX (July, 1986 and Nov. 1989), Wastewater Reuse in Space Workshops at NASA Johnson Space Station Center, Houston TX (Aug. 1991)


B. Selected Publications of over 200 (selected major pubs since 2000):


2003  J. A. Pedersen, M. A. Yeager, and I.H. (Mel) Suffet, Xenobiotic Organic Compounds in Runoff from Field Irrigated with Treated Wastewater”, J. Agriculture and Food Chemistry, 51,1360-1372,


2006  Wei R. Chen, Charles M. Sharpless, Karl G. Linden, I. H. (Mel) Suffet, Treatment of Volatile Organic Chemicals (VOCs) on the EPA Contaminant Candidate List Using Ozonation and O_{3}/H_{2}O_{2} Advanced Oxidation Process, Environmental Science and Technology , 40, 2734-2739.


I. H. (Mel) Suffet, V. Decottignies, E. Senante, A. Bruchet, Assessment and Characterization of Odor Nuisance Emissions During the Composting of Wastewater Biosolids, Water Environmental Federation, In Press.

### C. Selected Research Grants (2001-2009)

1. **2001/2004** U.S. Environmental Protection Agency via Duke University (Co-Principal Investigator Dr. Karl Linden) ($214,762), “Advanced Oxidation Processes for the Treatment of Candidate Contaminant (CCL) List Chemicals” Section: Ozonation and Ozone/Peroxide ($157,381)


4. **2002/2003** Long Beach Water Department, via Water Reuse Association ($250,000) in cooperation with a consortium of research groups, Section: “Development Of Extraction Methods For The Analysis of Nitrosoamines in Water Reuse Systems” ($72,499), plus Nitrogen Chemiluminescence Detector ($30,000)

5. **2002/2004** Metropolitan Water District of Southern (96,100), $140,000 additional funds 2003/2004 “Effect of Ozone/Biofiltration on Reverse Osmosis Membrane Performance”


7. **2004/2005** Santa Monica Bay Restoration Foundation, LA, CA ($190,002 via Institute of the Environment), Co-Principal Investigator - Michael Stenstrom, Dept. Civil & Env. Eng. Accepted for Funding via State of CA PRISM Funds – 10/2003, “Determination of the Primary Source of Chlorinated Pesticides that Enter Ballona Creek”

8. **2005/2006** California State Water Resources Control Board, Los Angeles Region, ($40,000), Co PI with Dr. L. Pendelton, Env. Science and Eng. Program

I. H. (Mel) SUFFET
AQUATIC CHEMISTRY

The application of chemistry principles to the aquatic environment is evolving into a mature field with specializations. Aquatic chemistry may be defined as an area of applied chemistry that deals with the analysis, distribution, transport and reaction of chemicals in natural aquatic environments, air and soils as well as during the treatment of water and solids from different water, wastewater and hazardous waste processes. The aquatic chemist is concerned with the study of the aquatic environment with particular interest in the chemistry of water, wastewater and hazardous waste treatment, ground and surface waters and the oceans. He is concerned with the study of the nature and composition of natural waters, the composition of bottom sediments, soil, and water surfaces in contact with the atmosphere and soil. Research in environmental chemistry requires systematic investigation of analysis, thermodynamics and kinetics of the chemical reactants that occur in the environment and during treatment processes. The use of structure-activity relationships between chemicals and environmental behavior and the development of models as "frames of reference" to define where chemicals are, how much is potentially present and how the chemicals will react in the environment of concern is an evolving process as more is learned about aquatic environments.

Two primary objectives of my research are:
1) to understand the underlying physiochemical mechanisms that occur during environmental and treatment processes; and
2) to develop new analytical chemistry approaches to determine the fate and transport of natural humic materials, hazardous organic pollutants as well as organoleptic compounds in the environment itself, during treatment processes and after the chemical leaves the treatment process and can become an environmental problem.

For example, more efficient analytical methods and a better understanding of the mechanism of an environmental process can help develop optimum treatment processes for hazardous organic pollutants as well as for taste and odor compounds in drinking water. Hazardous organic pollutants are of great interest, because of their direct influence on human and environmental health. Organoleptic compounds are also of significance as they can affect the aesthetic quality of water.

A specific example of this approach is a present research efforts which involves new analytical methods to isolate and concentrate carcinogenic nitrosamines, pharmaceuticals and personal care products and other potential hazardous organic chemicals from water, suspended sediments and organic colloids that transport organic pollutants in storm drains, agricultural drains and from river and lake sediments environments as well as during water treatment processes. These analytical methods are being used to develop a better understanding of the mechanism of environmental transport processes as well as help to develop optimum treatment processes for these potentially hazardous organic pollutants.

An aquatic chemist works in an "interdisciplinary" manner and developing understanding between traditional fields is evolving as the optimum approach for environmental problem solving. There is a need for aquatic chemists, who understand the interactions of chemicals in the environment to work with other scientists, engineers, and social scientists to solve environmental problems.

SPECIFIC RESEARCH AREAS OF CONCERN

I. Hazardous Organics in the Water Environment
A. Analysis - Isolation Methods (2-Phase Systems)
1. Liquid-Liquid Extraction and Solid Phase Extraction for Broad Spectrum Chromatographic Analysis
2. Micro-Extraction of Polar Organic Chemicals - Endocrine Disruptors e.g. Pharmaceuticals and Personal Care Products
3. Taste and Odor Compounds
4. Disinfection Byproducts in Water
5. Continuous On-Line Analysis including Natural Organic Matter
B. Treatment - Unit Operations For Hazardous and Odorous Chemicals During Water, Wastewater Treatment, Water Reuse and Hazardous Waste Treatment
1. Adsorption e.g. Activated Carbon
2. Oxidation/Disinfection e.g. Ozonation, Chloramination
3. Monitoring of Processes e.g. Trace Organics - Endocrine Disruptors e.g. Pharmaceuticals and Personal Care Products
4. Automation e.g. Process Control of Adsorption Processes
5. Membrane Processes e.g. Reverse Osmosis, Ultrafiltration and Nanofiltration for Water Treatment and Water Reuse
C. Fate of Chemicals in the Environment
2. Trace Organics in Agricultural Products, Soils, and Sediments- Endocrine Disruptors e.g. Hormones & Pharmaceuticals

D. **Trace Organics in the Air Environment**
1. Odor Nuisance Evaluation, e.g. Wastewater Odor, Compost Odors, Sludge Drying Odors, Landfills, etc.
2. Carcinogens Evaluation from Industrial Processes
CURRICULUM VITAE

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Degrees

B.S. Chemistry Tennessee State University, Nashville 1967
M.S. Water Chemistry University of Wisconsin, Madison 1970
Ph.D. Environmental Health/ Public Health University of Texas, Houston School of Public Health 1973

Honors

International Society for Trace Element Research in Humans (founding member)
Delta Omega Public Health Society
Sigma Xi
Invited Lecture to Grand Rounds in Dermatology on Arsenic Exposure to Populations, 1989

Service

1980-1984 Member, California State Sanitarian Registration Advisory Committee
1984-present Attendance, California State Sanitarian Registration Advisory Committee
1986-1990 Member, Public Health Subcommittee, San Joaquin Valley Drainage Program, U.S. Bureau of Reclamation
1987-1988 Member, Public Health Strategic Planning Environmental Health Panel, County of Los Angeles, Department of Health Services
1987-1988 Member, 4th International Union of Pure and Applied Chemists (IUPAC) Interlaboratory Trial on Selenium Determination in Human Whole Blood
1992-2006 Member, Technical Advisory Committee, Santa Monica Bay Restoration Project sponsored by EPA and California State Water Resources Control Board.

Member, Public Health Assessment work group San Joaquin Valley Post-Drainage programs.

Consultant to Science Advisory Board of the Environmental Protection Agency.

1993-1996 UC Mexus Natural Sciences Grants Advisory Committee for the University of California Institute for Mexico and the United States.
1993-present Consultant to NIH/AD AMHA for peer reviews.

1994 Participant, Environmental Health Internship Model Standards Project, Health Resources and Services Administration, Bureau of Health Professions / Tulane University Medical Center

1995-present Consultant to Agency for Toxic Substances and Disease Registry (ATSDR)

1998-2002 Member, Board of Directors, American Water Resources Association (AWRA)

1999 September 16-19 Panelist speaker (one of five) at Society of Environmental Journalists on the panel “Water Blues: Can We Trust What Comes out of the Tap?”

2000-present Secretary and Founder, American Water Resources Association Southern California Section

2001 Publicity Chair, Association of Academic Women

2001-2003 President-elect and President, American Water Resources Association

2003-present Participant, UCLA Volunteer Advocacy Workshop, Government Relations Program


2005-2007 Member, UC Water Resources Center Coordinating Council

2005-2007 General Interest in Science and Engineering, Representative of Affiliates, American Association for the Advancement of Science (AAAS)

2005-present (EHSRC) Member, Environmental Health Specialist Registration Committee

2006, 2008 Member, Evaluation panel for grant awards, Southern California World Water Forum College Grant Program, Metropolitan Water District of Southern California.

2007-present Faculty Advisory Committee, Latin American Institute, UCLA

2007 Member, Canadian Water Network Expert Panel, Networks of Centres of Excellence Program
Major Research Interests

Trace metal relationships to health and disease; controls on trace element mobility in soils; general environmental problems.

Research and Professional Experience

1983-present  Associate Professor of Public Health, Department of Environmental Health Sciences, School of Public Health, UCLA

1980-1983  Associate Professor of Public Health, Division of Environmental and Nutritional Sciences, School of Public Health, UCLA

1974-1980  Assistant Professor of Public Health, Division of Environmental and Nutritional Sciences, School of Public Health, UCLA

1973-1974  Postdoctoral Fellow in Preventive Medicine, Program of Environmental Toxicology, New Jersey College of Medicine and Dentistry, Newark, New Jersey

Courses Taught

1. General Environmental Health (UCLA)
2. Advanced Environmental Health (UCLA)
3. Environmental Measurements (UCLA)
4. Chemistry of Aquatic Systems (UCLA)
5. Laboratory Techniques in Environmental Health and Nutrition (Instrumental Methods of Analysis) (UCLA)
6. Water Quality and Health (UCLA)
7. Seminar in Health Effects of Environmental Contaminants
Professional Activities

Professional Associations and Scholarly Societies

- American Public Health Association
- American Water Resources Association
- Sigma Xi
- International Society for Trace Element Research in Humans
- International Society for Environmental Epidemiology
- American Association for the Advancement of Science
- California Environmental Health Association
- Association of Academic Women

University Committee Service

1. School of Public Health Committees

   Student Affairs Committee Member, 1974-75
   Laboratory and Research Committee Member, Winter 1975-June 1975
       Chairman, 1978-1979
       Member, 1979-1980
   Research Committee Member, 1986-89
   Laboratory Subcommittee Chair, 1986-89
   Admissions Policy Committee Member, 1975-1976
   Admissions Policy Committee Chair, 1982-1983
   Continuing Education Committee Member, 1976-1977
   MPH Comprehensive Committee
       Member, 1977-1978
       Member, 1979-1981
   Faculty Executive Committee Member, 1977-1978
   Educational Policy & Curriculum Committee
       Subcommittee on Course Approval, Chair, 1984-85; Member, 1985-86
       Dean's Advisory Committee of School of Public Health for the Latin American Center
       1988-89
       Member - Dean's Advisory Committee of School of Public Health for the Latin American Center, 1989-1990
   Recruiting and Alumni Relations Committee 1990-present
   Member, EHS Admissions Committee 2008-present.

2. UCLA Committees (University Wide)

   Member, Program on Mexico Advisory Committee 1991 – 1995
   Legislative Assembly
       School of Public Health Representative, 1975 – 1977
   Faculty Welfare Committee, Environmental Science and Engineering, 1977 – 1983
   UCLA Library Committee, 1994 – 1997
   UCLA Committee on Undergraduate Admissions, 2003 – 2006
   UCLA Charges Committee, 2006 – 2008
3. University of California Committees (System Wide)


Professional Committee Service

American Water Resources Association
  International Affairs Committee, 1994 – 1996.
  Founder, Southern California Section, 2000.
  Secretary, Southern California Section, 2000 – present.

Editorial Service

Member of Editorial Board, Trace Elements in Experimental Medicine

Member of Editorial Board, California Journal of Environmental Health

Reviewer, Environmental Protection Agency, occasional grant proposals, no formal arrangements

Reviewer, Water Resources Center, University of California, Davis, occasional grant final reports, no formal arrangements

Reviewer, Journal of Occupational Medicine, occasional reviews, no formal arrangements

Reviewer, Journal of Environmental Professional, occasional reviews, formal arrangement

Reviewer, U.S. Geological Survey grant proposals, for the University's Council on Water Resources, Lincoln, Nebraska

Reviewer, Heart and Lung Journal, occasional reviews, no formal arrangements

Reviewer, Nutrition Research, occasional reviews, no formal arrangements

Reviewer, The American Journal of Public Health, formal arrangement

Reviewer, New Mexico Water Resources Institute grant proposals

Reviewer, ATSDR grant final reports, through Visions USA (contractor)

Reviewer, ATSDR public health assessment reports

Reviewer, National Academy of Sciences Institute of Medicine Workshop Summary, “From Source to Drinking Water”

Papers Presented with and without Published Abstracts


Valentine, J.L. Environmental Arsenic Exposures from Drinking Water. Presented at California Environmental Health Association, 41st Annual Educational Symposium, Fresno, California, April 8-10, 1992.


Conferences Attended


Papers Published in Reviewed Journals


Dr. Arthur M. Winer is Distinguished Professor of Environmental Health Sciences, and a core faculty member and former Director (1989-1997) of the interdepartmental Environmental Science and Engineering Program based in UCLA’s School of Public Health. Dr. Winer is also a Luskin Scholar at the UCLA Luskin Institute for Innovation and holds an appointment at the UCLA Institute of the Environment where he has served as the Associate Director.

Dr. Winer received a B.S. in Chemistry from UCLA (1964), a Ph.D. in Physical Chemistry (1969) from the Ohio State University, and spent two years as a Post-Doctoral Fellow in Chemistry at UC Berkeley. Prior to joining the faculty at UCLA in 1989, he spent 18 years at the UC Riverside, where he served as Assistant Director of the Statewide Air Pollution Research Center from 1978 to 1986. From 1995 to 2002 he served as Associate Director of the University of California’s Toxic Substances Research and Teaching Program. His teaching activities focus on the atmospheric transport and transformations of airborne chemicals, and their influence on regional and global air pollution problems such as photochemical smog, accumulation of greenhouse gases and resulting climate change, stratospheric ozone depletion, human exposure to toxic air contaminants, and the inter-relationship between energy and air pollution issues.

Dr. Winer is the author or co-author of more than 190 peer-reviewed journal articles and sixteen book chapters on a wide range of air pollution topics. Over the past three decades, his research has included studies of the lifetimes and fates of airborne chemicals; application of regional and individual air pollutant exposure models; direct measurements of human exposure to gaseous and particulate air pollutants, with an emphasis on children’s exposure in diesel school buses, portable classrooms and homes; measurement of novel vehicle emissions; and the application of long optical path spectroscopy to studies of trace air pollutants.

The co-keynote speaker, with Dr. David Bates, at the Eighth International Clean Air Conference in Melbourne, Australia, Dr. Winer has given numerous invited and plenary lectures at national and international meetings. He has worked extensively at the state, national and international level to promote legislation and public policy measures designed to address a broad range of air pollution, environmental justice and public health problems.

Dr. Winer has served as an advisor to the President’s Council on Environmental Quality, EPA’s Clean Air Scientific Advisory Committee, the National Academy of Sciences/National Research Council, the Health Effects Institute, California’s Air Resources Board and the South Coast Air Quality Management District. He is a member of the International Society of Exposure Analysis, the American Chemical Society, the Air and Waste Management Association, and the American Association for the Advancement of Science, and has received numerous awards for his contributions to the air pollution field, including the Haagen-Smit Award, the Carl Moyer Award for Scientific Leadership, and the American Lung Association’s Clean Air Award.