

NAME: Howard Hu  
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PRIMARY AFFILIATION: Dalla Lana School of Public Health, University of Toronto (on administrative leave/sabbatical, July 1, 2017-June 30, 2018; appointed as Visiting Scholar, University of Washington)

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WEBSITE: <http://www.dlsph.utoronto.ca/faculty-profile/howard-hu>

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## EDUCATION:

9/1973-6/1976	Biology	B.Sc.	Brown University
9/1977-6/1982	Medicine	M.D.	Albert Einstein College of Medicine
9/1979-6/1980 (degree in 6/1982*)		M.P.H. (Occ Hlth)	Harvard School of Public Health
9/1985-6/1986	Epidemiology	M.S.	Harvard School of Public Health
7/1986-6/1990	Epidemiology	Sc.D.	Harvard School of Public Health

\* At Harvard, awarding of the M.P.H. to medical students is delayed until the M.D. degree is conferred

## POSTDOCTORAL TRAINING:

## Research Fellowships

7/1987-6/1988 Occupational Health Research Fellow, Dept. of Environmental Health  
Harvard School of Public Health

## Internship and Residencies

7/1982-6/1983	Intern in Medicine	Boston City Hospital
7/1983-6/1984	Junior Assistant Resident, Internal Medicine	Boston City Hospital
7/1984-6/1985	Senior Assistant Resident, Internal Medicine	Boston City Hospital
7/1985-6/1987	Resident, Occupational Medicine	Harvard School of Public Health

## CERTIFICATION AND LICENSURE:

1984	Massachusetts License Registration
1985	American Board of Internal Medicine, Diplomate
1987	American Board of Preventive Medicine, Diplomate (Occupational Medicine)
2006	Michigan License Registration
2013	College of Physicians & Surgeons of Ontario

## ACADEMIC APPOINTMENTS:

9/1988-6/1992	Instructor in Medicine Department of Medicine, Harvard Medical School
9/1988-6/2006	Associate Physician (Clinical and Research), Channing Laboratory, Department of Medicine, Brigham & Women's Hospital
9/1990-6/1994	Assistant Professor of Occupational Medicine Department of Environmental Health, Harvard School of Public Health
7/1992-6/1997	Assistant Professor of Medicine

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- 7/1994-6/2002 Department of Medicine, Harvard Medical School  
Associate Professor of Occupational Medicine  
Department of Environmental Health, Harvard School of Public Health
- 7/1997-8/2006 Associate Professor of Medicine  
Department of Medicine, Harvard Medical School
- 7/2002-8/2006 Professor of Occupational and Environmental Medicine (tenured)  
Department of Environmental Health, Harvard School of Public Health
- 9/2006-6/2012 Chair and Professor of Environmental Health Sciences (tenured), Department of  
Environmental Health Sciences, University of Michigan School of Public Health
- 9/2006-8/2009 Adjunct Professor of Occupational and Environmental Medicine  
Department of Environmental Health, Harvard School of Public Health
- 9/2006-6/2012 Research Associate Physician, Channing Laboratory, Department of  
Medicine, Brigham & Women's Hospital
- 5/2007-2012 Professor of Epidemiology, University of Michigan School of Public Health
- 5/2007-2012 Professor of Internal Medicine, University of Michigan Medical School
- 1/2009-2012 NSF International Endowed Department Chair, University of Michigan School of  
Public Health, Department of Environmental Health Sciences
- 7/2012- Professor of Environmental Health, Epidemiology and Global Health (tenured)  
Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario,  
Canada
- 7/2012- Professor, School of Medicine, University of Toronto, Toronto, Ontario, Canada
- 7/2012- Adjunct Professor, Department of Environmental Health Sciences, University of  
Michigan School of Public Health
- 7/2012-2013 Director, Dalla Lana School of Public Health, University of Toronto, Toronto,  
Ontario, Canada
- 7/2013-6/2017 Founding Dean, Dalla Lana School of Public Health, a Faculty of the University  
of Toronto, Toronto, Ontario, Canada
- 7/2017- Visiting Scholar, Department of Occupational and Environmental Health  
Sciences, University of Washington School of Public Health, Seattle, WA (on  
sabbatical/administrative leave from the University of Toronto, 7/2017-6/2018)

#### ADMINISTRATIVE APPOINTMENTS:

- 7/1991-6/2006 (Founding) Director, Metals Epidemiology Research Group, Channing Laboratory,  
Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, and  
Department of Environmental Health, Harvard School of Public Health
- 7/1992-6/1995 Director, Commission to Investigate the Health and Environmental Effects of Nuclear  
Weapons Production, International Physicians for the Prevention of Nuclear War
- 7/1996-6/2006 Director, Residency Program in Occupational and Environmental Medicine, Harvard  
School of Public Health
- 7/1996-8/2006 Director, Occupational and Environmental Medicine Core, National Institute for  
Occupational Safety and Health Educational Resource Center at the Harvard School of  
Public Health

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- 7/1998-6/2004 (Founding) Medical Editor, Environmental Health Perspectives (official journal of NIEHS)
- 7/2000-8/2006 Associate Director, the Harvard NIEHS Environmental Sciences Center, Harvard School of Public Health
- 7/2004-6/2009 (Founding) Principal Investigator and Director, Harvard Center for Children's Environmental Health and Disease Prevention Research (co-PI and co-Director after 9/1/08)
- 9/2006-6/2012 Chair, Department of Environmental Health Sciences, University of Michigan School of Public Health
- 9/2006-2012 Director, Occupational Epidemiology Core, NIOSH Education and Research Center, University of Michigan
- 9/2006-2012 Co-Director, Michigan-Harvard/Harvard-Michigan Metals Epidemiology Research Group
- 7/2009-2011 Director, NIA T32 Training Grant in Aging and Public Health, University of Michigan School of Public Health
- 1/2010-2012 Chair, Faculty Steering Committee on Global Health, University of Michigan School of Public Health
- 4/2011-2012 (Founding PI) and Director, University of Michigan NIEHS P30 Core Center.
- 7/2012-2013 Director, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada
- 7/2013-6/2017 Founding Dean, Dalla Lana School of Public Health, a Faculty of the University of Toronto, Toronto, Ontario, Canada

#### CLINICAL APPOINTMENTS:

- 7/1985-6/1987 Attending Physician, Emergency Department, Whidden Memorial Hospital
- 7/1985-6/1988 Assistant Visiting Physician, Department of Medicine, Boston City Hospital
- 1/1985-6/2006 Consultant in Occupational and Environmental Medicine, Center for Occupational and Environmental Medicine, Northeast Specialty Hospital (formerly known as the Olympus Specialty Hospital, the Massachusetts Respiratory Hospital, and Norfolk County Hospital).
- 3/1987-9/1987 Attending Physician, Occupational Health Program, University Hospital/Boston University Medical Center
- 7/1988-9/2006 Associate Physician, Brigham and Women's Hospital
- 7/1990-6/1995 Occupational/Environmental Medicine Consultant, Brigham and Women's Hospital Employee Health Services
- 7/2007-2012 Associate Physician, Division of General Medicine, Department of Medicine, University of Michigan Health System

#### OTHER ACADEMIC POSITIONS and MAJOR VISITING APPOINTMENTS:

- 7/1987-6/1990 Visiting Physician, South Cove Health Center, Boston (Chinatown)
- 7/1996-8/2006 Associate, Center for Health and the Global Environment, Harvard Medical School

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- 2/1997 Alice Hamilton Visiting Professor, Division of Occupational and Environmental Medicine, Department of Medicine, University of California at San Francisco
- 11/2000- Visiting Scientist, Sri Ramachandra Medical College and Research Institute
- 7/2010- Senior Consultant, Tianjin Centers for Disease Control and Prevention, Tianjin, China
- 10/2012- Visiting Professor, Shanghai Key Laboratory of Children's Environmental Health, Xinhua Hospital, Shanghai Jiao-Tung University, China
- 7/2013-6/2016 Visiting Professor, Shanghai Jiao Tong School of Medicine, China
- 5/2015- Affiliate Scientist to the Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, Canada

#### MAJOR RESEARCH INTERESTS:

1. Environmental and molecular epidemiologic research related to heavy metals, potential endocrine disruptors, other neurotoxicants, carcinogens, etc.
2. Gene-environment interactions; epigenetic dysregulation
3. Fetal/early life exposures and long-term effects
4. Aging-environment interactions
5. Environmental health, health inequities and health disparities, human rights
6. Health and the global environment
7. "Big Data" for population health
8. Environmental sensitivities/Multiple chemical sensitivities

#### GRANTS (as PI, Co-PI, or primary mentor only):

##### Past Funding:

- 1980 (summer) Montefiore Hospital, Bronx NY, PI; \$2,000 (approx)  
A study of rural and occupational health in Tulua, Colombia, South America
- 1982 (summer) Albert Einstein College of Medicine, PI; \$3,000 (approx)  
A study of occupational/environmental health in Shanghai, China
- 7/1987-6/1989 NIEHS Center Grant ES00002 Pilot Project, PI; \$12,000  
The Long-term Renal and Neurologic Effects of Childhood Plumbism
- 7/1989-6/1990 NIEHS subcontract 7083-1, PI; \$50,000 (approx)  
The Use of X-Ray Fluorescence to Measure Lead Burden and Childhood Lead Exposure
- 7/1990-6/1992 Agency for Toxic Substances and Disease Registry, PI; \$150,000 (approx)  
"Clinical Environmental/ Occupational Medicine Research Fellowship Award",
- 7/1990-6/1991 NIEHS Center Grant ES00002 Pilot Project, PI; \$12,000  
The Metabolic Effects of Pregnancy and Lactation on Lead Burden
- 7/1990-6/1991 Harvard School of Public Health Basic, PI  
Research Support Grant; \$10,000

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- K-X-Ray Fluorescence Measured Lead Burden  
10/1991-11/1991 NIOSH Special Grants, PI; \$50,000 (approx)  
The Carpenters Lead Project
- 4/1991-3/1996 NIEHS/R01, PI; \$2,200,000 (approx)  
The Epidemiology of Lead, Diet and Blood Pressure
- 7/1991-6/1996 NIEHS/R01 supplement, PI; \$240,000 (approx)  
The Epidemiology of Lead, Diet and Blood  
Pressure--Research Supplement for Minority Investigator
- 7/1992-6/1995 NIEHS/R01 (Office of Research on Women), PI; \$200,000 (approx)  
Lead and Hypertension in Women
- 7/1993-6/1996 NIEHS/subcontract, PI; \$150,000 (approx)  
Exposure to Neurotoxins as Risk Factors for Amyotrophic Lateral Sclerosis
- 7/1995-6/1998 State of Washington, Department of Labor, PI; \$350,000 (approx)  
SPECT Imaging of the Brain in Patients with Multiple Chemical Sensitivity  
Syndrome and Controls
- 7/1996-6/1997 NIEHS Center Grant ES00002 Pilot Project, PI; \$15,000  
Electrocardiographic abnormalities in association with low-level lead exposure  
among middle-aged to elderly men: the Normative Aging Study
- 4/1995-3/2000 NIEHS Project PI (Program Project PI: Richard Monson); \$1,800,000 (approx)  
Lead Exposure, Accumulation in Bone, and Reproductive Toxicity Among Men and  
Women In Mexico
- 4/1995-3/2000 NIEHS Project PI (Program Project PI: Richard Monson); \$1,900,000 (approx)  
Lead Exposure, Accumulation in Bone, and Cognitive Toxicity Among Elderly Men  
and Women
- 6/1997-5/2002 NIEHS/R01 ES05257 PI; \$2,312,274  
Lead Biomarkers, Aging, and Chronic Disease
- 7/1997-6/1999 NIEHS Center Grant ES00002 Pilot Project, PI; \$10,000  
The effect of genetic polymorphisms of metallothionein-IIA on mRNA levels in  
middle-aged to elderly men: the Normative Aging Study
- 7/1998-6/2003 NIEHS/R01 PI (with no-cost extension; 5R01ES007821); \$2,291,833  
Lead Dose Biomarkers, Reproduction, and Infant Outcomes
- 7/1999-6/2000 NIEHS Center Grant ES00002 Pilot Project, co-PI; \$14,000  
Magnetic Resonance Spectroscopy in the Evaluation of Lead Neurotoxicity: the  
Normative Aging Study
- 7/2000-6/2001 MAVERIC (Massachusetts Area Veterans Epidemiology Resource and Institute  
Center) Pilot Project PI (with Dr. Robert Wright, co-PI); \$10,000  
The Use of Magnetic Resonance Spectroscopy in Lead Poisoning
- 7/2000-6/2001 NIOSH Center Grant Pilot Project, PI (with Dr. Robert Wright, co-PI); \$12,000  
Interaction between ApoE Genotype and Lead Exposure in the Development of  
Cognitive Impairment
- 7/2002-6/2004 The Rasmussen Foundation/Health Care Without Harm; \$50,000  
Medical Use of Phthalate Containing Products in the Neonatal Intensive Care Unit  
and Biomarkers of Neonatal Phthalate Metabolites

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- 7/2002-6/2003 NIEHS Center Grant Pilot Project, PI; \$8,000  
Vitamin D Receptor Gene and Bone Lead in Reproduction
- 3/2004-2/2005 The Critelli Family Foundation; \$10,000  
Review of Environmental Cadmium Exposure and Toxicity
- 4/2000-3/2007 NIEHS Project Leader (Program Project PI: Richard Monson; 5P01ES05947);  
\$2,472,677; Controlled Trial in Pregnancy of Dietary Supplements for the  
Suppression of Bone Resorption and Mobilization of Lead into Plasma (no cost  
extension)
- 4/2000-3/2007 NIEHS Project co-Leader (Program Project PI: Richard Monson; 5P01ES05947);  
\$1,210,000 (approx); A Community-Based Study of Lead Exposure Pathways,  
Biomarkers of Dose, Health Effects, and Phytoremediation Strategies at the Tar Creek  
Superfund Site (no cost extension)
- 4/2002-9/2007 NIEHS/R01 PI (5R01ES010798); \$3,011,295  
Gene-Metal Interactions and Parkinson's Disease
- 10/2003-9/2007 NCMHI/P20 Project Leader (MD000501-01; Hughes Harris, PI); \$828,781 (Project)  
"FAMU and Harvard Center for Health and Health Care Disparities"
- 8/2003-7/2008 NIEHS/R01 PI (2R01ES05257-11A2); \$3,357,424 (became co-PI in 2007 after  
move to University of Michigan)  
Lead-Gene Interactions and Cognition
- 6/2004-3/2009 NIEHS/P01 PI (5 P01ES012874-01); \$6,662,670 (became co-PI in 2006 after move  
to University of Michigan)  
Metals Mixtures and Children's Health (Center for Children's Environmental Health  
and Disease Prevention Research)
- 7/2002-12/2009 NIH/R03 PI (1R03TW005914; no cost ext through 2008); \$192,000 (approx)  
Lead, Genes, and Cognition in Children in Chennai, India
- 9/2006-7/2011 NIEHS/R01 PI (R01ES0007821); \$3,116,831  
Fetal Origins of Neurobehavior: Lead and Cholesterol Metabolism Interactions
- 7/2006-6/2011 NIEHS/R01 co-PI (R01ES013744; PI Wright), \$3,200,000  
Stress, Lead, Iron Deficiency and Neurodevelopment
- 7/2006-6/2011 NIEHS/R01 co-PI (R01ES014930; PI Wright), \$2,800,000  
Metal Mixtures and Neurodevelopment
- 2/2008-2/2010 Michigan Institute for Clinical and Health Research (MICHHR; home of the UM  
CTSA; UL1RR024986) Pilot Project PI; \$26,000 (no cost extension)  
Epigenetics of Early Life Events and Environmental Toxicants
- 4/2009-4/2010 Michigan Alzheimer's Disease Research Center Pilot Project PI, \$25,000  
Environment, Epigenetics and Alzheimer's Disease (no cost extension)
- 12/2009-12/2010 University of Michigan Center for Global Health Pilot Project PI, \$25,000  
Climate Variability and Impacts on Mortality and Morbidity in Chennai, India:  
A Pilot Project Stemming from the 2009 U.S.-India Workshop on Climate Change  
and Public Health, Goa India (no cost extension)
- 9/2009-9/2010 Michigan Institute for Clinical and Health Research (MICHHR; home of the UM  
CTSA; UL1RR024986) Pilot Project PI; \$26,000 (no cost extension)

- Epigenetics and Epigenomics in the Etiology of Alzheimer Disease  
7/2008-6/2011 NIA/T32 PI (T32AG027708); \$450,000  
Interdisciplinary Training Program in Aging and Public Health  
4/2010-3/2015 NIEHS P42 Superfund Co-Inv, Project 2, Co-investigator (P42ES017198; PI: Alshawabkeh, Project 2 Leader: Meeker) Puerto Rico Testsite For Exploring Contaminant Threats, \$12,000,000  
4/1/2011-6/2015 NIEHS Core Environmental Health Sciences Center, Founding PI and Director (until 2012; now consultant; P30 ES017885), \$ 4,620,100; “Lifestyle Exposures and Adult Disease”  
4/2010-3/2014 NIEHS/EPA P20 Co-PI and Clin Health Specialist (P20 ES018171; PI Peterson) Formative Children’s Environmental Health and Disease Prevention Center, \$1,959,960; “Perinatal Exposures, Epigenetics, Child Obesity & Sexual Maturation”  
7/1/2013-6/30/2014 CIHR, Canadian Institute for Health Services and Policy Research; Planning Grants-Priority Announcement:Partnerships for Health System Improvement; PI, \$24,992 “The Surviving Opioid Overdose with Naloxone (SOON) Project and Roundtable”  
07/1/11-06/30/16 NIEHS K01 ES019909 (co-mentor; PI: Somers) “Immune dysfunction associated with early life heavy metal exposure”

#### Current Funding

- 6/1/2012-3/30/2018 (NCE) 1R01ES021446-01, PI, \$3,840,000; “Prenatal and Childhood Exposure to Fluoride and Neurodevelopment”  
7/1/2012-7/1/2017 European Commission (EC), Funded under FP7-Health, Project 304925, co-Investigator; PI, epidemiologic studies, \$6,000,000 E “A novel micronutrient-based strategy to prevent hearing impairments: test and road to market for age-related hearing loss and preservation of residual hearing”  
5/15/2015-5/15/2017 Health Canada; PI, \$200,000 (Phase 1); \$1,400,000 (proposed Phase 2) “A Community-based First Nation Study of Cancer and the Environment in Northern Ontario”  
4/1/13-3/31/18 NIEHS/EPA P01ES022844 (co-inv; PI: Peterson at the University of Michigan) “Lifecourse Exposures & Diet: Epigenetics, Maturation & Metabolic Syndrome.”  
4/1/12-3/30/17 NIEHS R01ES013744 (consultant; PI: Wright; Mt Sinai School of Medicine) “Stress-Lead Interactions and Child Development”  
7/1/16-6/30/21 CIHR (co-PI; Director; PI: Jeffrey Brook at the Dalla Lana School of Public Health) \$4,700,000M CNDN “CANadian Urban Environmental (CANUE) Health Research Consortium”

#### Amended Application In Progress

- R01ES007821-11, PI, \$4,800,000; Early Life Toxicants and Cardiovascular Outcomes” (priority score 27 by CASE Study section; 25<sup>th</sup> percentile)



Applications Under Review

Project # 36393, Canadian Foundation for Innovation, co-PI, \$21,600,000  
 Big Data for Exposomic Sciences Integrated with Genomics Network (BiDESIGN):

## HONORS AND AWARDS:

- 1978-1982 National Health Service Corps Scholarship
- 1985-1988 National Research Service Award
- 1990-1992 Agency for Toxic Substances and Disease Registry Clinical Environmental Medicine Award
- 1994 Will Solimene Award of Excellence, American Medical Writers Association, for: Chivian E, McCally M, Hu H, Haines H, eds. *Critical Condition: Human Health and the Environment*. Cambridge: The MIT Press, 1993.
- 1997 Alice Hamilton Lecturer, University of California at San Francisco
- 1998 First Prize for Best Infant Nutrition Research, Instituto Danone, Mexico (for González-Cossío T, Peterson KE, Sanín L, Fishbein SE, Palazuelos E, Aro A, Hernández-Avila M, Hu H. "Decrease in birth weight in relation to maternal bone lead burden." Published in *Pediatrics*)
- 1999 National Institute for Environmental Health Sciences "Progress and Achievement of the Year Award", 1998-1999
- 1999 True Memorial Lecturer, Maine Medical Center, Portland ME.
- 2000-2001 Faculty Sabbatical Award, Harvard School of Public Health
- 2000-2001 Senior Fulbright Scholar in India
- 2001 Hoopes Prize, Faculty Mentorship (for Senior Thesis of Charles Lin, "More than Black and White: Lead Poisoning as an Environmental Justice Issue in Boston")
- 2003 Best Paper in Preventive Medicine by a Medical Student (for Senior Thesis of Vanitha Janakiraman; Janakiraman V, Hu H, Mercado-Garcia A, Hernandez-Avila M. A randomized crossover trial of nocturnal calcium supplements to suppress bone resorption during pregnancy. *Am J Prev Med* 2003;24:260-4.). American College of Preventive Medicine, Ulrich and Ruth Frank Foundation for International Health.
- 2004 Das Travel Grant Award, The South Asia Initiative, Harvard University (for Travel in India)
- 2005 Adolph G. Kammer Merit in Authorship Award, the American College of Occupational and Environmental Medicine (for Rhodes D, Spiro A, Aro A, Hu H "Relationship of Bone and Blood Lead Levels to Psychiatric Symptoms: The Normative Aging Study", Published in the *Journal of Occupational and Environmental Medicine*)
- 2006 Teacher of the Year Award, Occupational/Environmental Medicine Residents, Harvard School of Public Health
- 2006 Harriett Hardy Award, the New England College of Occupational and Environmental

- Medicine
- 2009 Linus Pauling Award for Lifetime Achievements, American College for the Advancement of Medicine
  - 2011 Award for Excellence, American Public Health Association
  - 2015 John R. Goldsmith Award for Outstanding Contributions to Environmental Epidemiology, International Society for Environmental Epidemiology
  - 2016 Election to Fellowship, Canadian Academy of Health Sciences

## MEMBERSHIPS IN PROFESSIONAL SOCIETIES

### Memberships

- 1981- American Public Health Association (APHA)
- 1982-2006 Massachusetts Coalition for Occupational Safety and Health
- 1983-1989 American College of Physicians
- 1985- Physicians for Social Responsibility
- 1987- Physicians for Human Rights
- 1990- International Society for Environmental Epidemiology (ISEE)
- 1990-2000 American Association for the Advancement of Science
- 1990-2006 Association of Occupational and Environmental Clinics (AOEC)
- 1991- International Physicians for the Prevention of Nuclear War (IPPNW)
- 1994-1996 Society for Occupational and Environmental Health (SOEH)
- 2000-2012 American College of Occupational and Environmental Medicine (ACOEM)
- 2009-2012 Society of Toxicology
- 2012- Canadian Public Health Association (CPHA)

### Committee Assignments

- 1981-1982 Program Committee, Occupational Safety and Health Section, APHA
- 1987-1988 Program Committee, Asian-American Caucus, APHA
- 1992-1998 Membership Committee, ISEE
- 1995-1998 Quality Assurance Committee, AOEC
- 1997-1998 Program Committee, 1998 Superfund Basic Research Program, Annual National Meeting
- 2001-2006 Program Committee, New England College of Occupational and Environmental Medicine Annual Meetings

## EDITORIAL POSITIONS AND BOARDS:

- 1977-1982 Einstein Community Health Newsletter
- 1988-1992 Bookreview Co-Editor, Section on Occupational Safety and Health, Am Public Health

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Assoc.  
1993- Journal of Health and Human Rights  
1998- Environmental Health Perspectives (Founding Medical Editor, 1998-2004; Associated Editor, 2004- )  
2004- American Journal of Industrial Medicine  
2007-2009 Faculty of 1000 Medicine  
2017- Current Environmental Health Reports  
2017- Faculty of 1000 Medicine

#### PEER REVIEW SERVICE

American Journal of Epidemiology  
American Journal of Industrial Medicine  
Archives of Environmental and Occupational Health  
Biomed Central  
Circulation  
Environmental Health  
Environmental Health Perspectives  
Environment International  
Environmental Research  
Epidemiology  
Indian Journal of Medical Research  
Journal of Health and Human Rights  
Journal of the American Medical Association  
Kidney International  
Lancet  
New England Journal of Medicine  
Pediatrics  
PLOS One  
Science of the Total Environment

#### TEACHING:

##### 1. LOCAL CONTRIBUTIONS (at the Harvard School of Public Health, 1985-2006)

1985- “Toxicology of the Kidney and Urinary Tract”  
Guest Lecturer for TOX204a,b  
1988- “Occupational Health”  
Guest Lecturer for EH201a,b  
1989-1992 “Lead Toxicology”

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- 1990- Guest Lecturer for TOX204a,b  
Grand Rounds in Occupational/Environmental Medicine  
 Director
- 1990-2000 Introduction to Occupational and Environmental Medicine (EH232c,d)  
 Course director, lecturer
- 1990- "The Epidemiology of Lead Exposure, Dose, and Toxicity"  
 Guest Lecturer for EPE215c,d and EPE215t
- 1990- "Solvent toxicity"  
 Fundamentals of Industrial Hygiene, Continuing Education Department
- 1992 "Current Research on Lead", Metals Epidemiology Research Group Seminar  
 Presenter
- 1992 "Lead Poisoning Without a Known Source in a Hyperthyroid Patient"  
 Case discussant, Grand Rounds in Occupational and Environmental Medicine
- 1992- "Biological Markers of Lead Dose"  
 Guest Lecturer, EHE280c,d
- 1994- "Screening for Lead Toxicity"  
 Guest lecturer, EPI227d
- 1994- "Lead Exposure and Biological Monitoring"  
 Guest Lecturer, ID263b
- 1994- "Case Study: Lead"  
 Guest Lecturer and Case Discussant, EH202d
- 1996- Introduction to Environmental Health (EH201b)  
 Course director and lecturer
- 1997- Human Health and Global Environment Change (EH278a,b)  
 Course Co-developer, Co-director, and lecturer

Hospital courses and Invited Teaching Presentations (Harvard-affiliated Hospitals)

- 1990 Guest Lecturer on Occupational Medicine  
 Residency Program, Department of Medicine, Brigham and Women's Hospital
- 1994 Speaker, Grand Rounds; "Is Lead a Ticking Time Bomb?"  
 Department of Obstetrics and Gynecology, Brigham and Women's Hospital
- 1994 Speaker, Grand Rounds; "Is Lead a Ticking Time Bomb?"  
 Department of Medicine, Brockton V.A. Hospital
- 1994 Speaker, Symposium on Preventive Medicine and Clinical Epidemiology; "Is Lead a  
 Ticking Time Bomb"; Brigham and Women's Hospital
- 1995 Discussant, "Multiple Chemical Sensitivity", Occupational/Environmental Medicine  
 Grand Rounds, Occupational Health Program, Harvard School of Public Health
- 1996 Guest lecturer, "Lead Toxicity as a Paradigm for a Regional and Global Health  
 Hazard", Environmental Health Student Group, Holmes Society, Harvard Medical  
 School
- 1997 Speaker, "Mobilization of maternal bone lead as a hazard to the fetus", Grand  
 Rounds, Dept. of Neonatology, Beth Israel Hospital, Boston, MA

- 2000 Guest lecturer, “Update on Lead Toxicity Research”, Program in Pediatric Toxicology, Children’s Hospital
- 2000 Discussant, “Adult Lead Toxicity”, Weekly Case Round, Department of Medicine, Brigham and Women’s Hospital, Boston.
- 2000 Lecturer, “Update on Lead Toxicity, Hypertension, and Chronic Renal Failure”, Renal Rounds, Division of Nephrology, Department of Medicine, Brigham and Women’s Hospital, Boston.
- 2002 Lecturer, “Maternal Bone Lead as a Threat to Fetal Development”, Program in Neonatology, Beth Israel-Deaconess Hospital, Boston, MA

#### Doctoral student committees

##### Chair and member:

- Dr. Rokho Kim Dr.P.H. Occupational Health and Epidemiology, ‘96
- Dr. Yawen Cheng Sc.D. Epidemiology, ‘98
- Dr. Sharon Tsaih Sc.D. Epidemiology, ‘99
- Dr. Hung Yi Chuang Sc.D. Occupational Health, ‘99
- Dr. Adrienne Ettinger Sc.D. Environmental Health, ‘03
- Dr. Florence Wang Sc.D. Environmental Health, ‘05
- Dr. Sung K. Park Sc.D. Environmental Health, ‘05
- Dr. Pradeep Rajan, Sc.D. Occupational Health, ‘06

##### Member/Advisor:

- Dr. How Ran Guo Sc.D. Occupational Health, ‘94
- Dr. Joshua Cohen Sc.D. Health Policy and Management, ‘94
- Dr. Jane Hoppin Sc.D. Environmental Health, ‘95
- Dr. Salma Elreedy Sc.D. Environmental Health, ‘97
- Dr. Mary Jean Brown Sc.D. Maternal and Child Health, ‘00
- Dr. Brisa Sanchez Sc.D. Biostatistics, '06
- Dr. Ami Zota Sc.D. Environmental Health, ‘07
- Dr. Ananya Roy Sc.D. Environmental Health, '08
- Dr. Elissa Wilker Sc.D. Environmental Health, '09

##### Post-doctoral fellow mentor:

Dr. Marinelle Payton (Channing Lab), Dr. Susan Korrick (Channing Lab), Dr. Rokho Kim (Channing Lab), Dr. Viji Potula (HSPH Research Fellow), Dr. Barbara Nowak (Visiting Scientist from Silesian University School of Medicine, Poland), Dr. Robert Wright (Channing Lab), Dr. Ming Tsuang Wu (HSPH Research Fellow), Dr. Yawen Cheng (Channing Lab), Dr. Geeta Mathur (neonatology fellow at the Brigham and Women’s Hospital), Dr. Sri Hari Bojja (HSPH Research Fellow), Dr. Hae-Kwan Cheong (Visiting Scientist from Dongguk University School of Medicine, S. Korea), Dr. Sahar Elmarsafawy (HSPH Research Fellow), Dr. Jing Lu (Visiting Scientist from the Chinese Academy of Preventive Medicine), Dr. Dieter Affeln (Occ/Env Med Fellow), Dr. Ahmed Gomaa (Occ/Env Med Fellow), Dr. Chris Leffler (Occ/Env Med Fellow), Dr. Ronald Dykeman

(Occ/Env Med Fellow), Dr. Uma Dhanabalan (Occ/Env Med Fellow), Dr. Hsien-Wen Hsu (Occ/Env Med Fellow), Dr. Betty Ann Cohen (Occ/Env Med Fellow), Dr. Arvin Chin (Occ/Env Med Fellow), Dr. Daniel Rhodes (Occ/Env Med Fellow), Dr. Richard Wittman (Occ/Env Med Fellow), Dr. Sun-Dong Lee (Visiting Scientist from Sangji University, Korea), Dr. Ronald Green (Occ/Env Med Fellow), Dr. Erma Lawson (Environmental Health Fellow), Dr. Marc Weisskopf (Environmental Health Fellow), Dr. Bridget Bagert (Occ/Env Med Fellow), Dr. John Jarrell (Visiting Scientist from University of Calgary), Dr. Jennifer Weuve (Environmental Health Fellow), Dr. Karen Chou (Visiting Scientist from Michigan State), Dr. Nitin Jain (Channing Laboratory Fellow), Dr. Adrienne Ettinger (Children's Center Scientist), Dr. Sam Myers (Fellow in Alternative and Complementary Medicine), Dr. Marcelo Targino (Occ/Env Med Fellow), Dr. Manish Arora (Post-doctoral fellow from University of Sydney), Dr. Huiling Nie (Post-doctoral fellow from McMaster University).

Other faculty mentorship:

Elizabeth Rubinstein (HMS Summer research), Alicia Marier (HMS Summer research), Vanitha Janakiraman (HMS Summer research), Young-Sook Lim (Harvard College Summer research), Charles Lin (Harvard College Senior thesis research), Ed Hsieh (Harvard College Summer research), Naveen Thomas (Emory University Medical School Senior thesis research), Shreekrishna Akilesh (Harvard Dental School summer research), Christine Pace (HMS Summer research)

Advisory and supervisory responsibilities

1985-1987     Attending Physician, outpatient general medicine clinic, Boston City Hospital; weekly precepting for housestaff and medical students  
 1990-2006     Preceptor, Residency in Occupational and Environmental Medicine, Harvard School of Public Health at the Mass Respiratory Hospital  
 1990-2006     Advisor to general M.P.H. students, Harvard School of Public Health.

2. LOCAL CONTRIBUTIONS (at the University of Michigan, 2006-2012)

2006-           Principles of Environmental Health (EHS-500)  
                   Course director and lecturer  
 2006-           Environmental Epidemiology (EHS-608)  
                   Guest lecturer on birth cohorts and environmental epidemiology  
 2006-           Occupational and Environmental Disease (EHS-501)  
                   Guest lecturer on metals exposure and health effects; Course Director (2009-)  
 2007-           Metals Exposure, Biomarkers and Toxicity: A Multi-disciplinary Environmental Epidemiology Approach (EHS-698 reading course)  
                   Course director and lecturer  
 2008-2009,     Topics in Environmental Health Sciences (EHS-688)  
 2010-2011     Course director and lecturer  
 2009            Occupational and Environmental Disease (EHS-501)  
                   Course director and lecturer  
 2009-           On-line (Long-distance Foundations in Public Health Certificate Program): Principles

- of Environmental Health (EHS-500-801)  
 Course director and lecturer
- 2009 Introduction to Public Health (HMP-200)  
 Guest lecturer on environmental health
- 2009- Seminars in Aging and Public Health (EPID 813)  
 Course director and lecturer
- 2011 Seminar on Public Health in China (HMP-xxx)  
 Guest lecturer on “Environmental Health in China”

Post-doctoral fellow mentor:

Dr. Sung Kyun Park (Environmental Health Sciences Fellow, now Research Assistant Professor), Dr. Brisa Sanchez (Biostatistics Research Assistant Professor, now Assistant Professor), Dr. Richard Pilsner (Robert Wood Johnson Health & Society Fellow), Dr. Aimin Zhang (Environmental Health Sciences Fellow, Toxicology Training Grant), Dr. Ananya Roy (Environmental Health Sciences Fellow), Dr. David Cantonwine (Reproductive Sciences Fellow).

Doctoral Student Advisor (principal)

- |                    |                                                                           |
|--------------------|---------------------------------------------------------------------------|
| David Cantonwine   | Ph.D. Environmental Health Sciences (2009)                                |
| Myriam Afeiche     | Ph.D. Environmental Health Sciences (co-mentor with Karen Peterson; 2010) |
| Yoon-Hyeong Choi   | Ph.D. Environmental Health Sciences (co-mentor with Sung Kyun Park; 2011) |
| Katie F. Bush      | Ph.D. Environmental Health Sciences (co-mentor with Marie O’Neill; 2011)  |
| Kelly Bakulski     | Ph.D. Environmental Health Sciences (2012)                                |
| Gamola Fortenberry | Ph.D. Environmental Health Sciences (co-mentor with John Meeker; 2013)    |
| Siyang Huang       | Ph.D. Environmental Health Sciences (2013)                                |
| Deena Thomas       | Ph.D. Environmental Health Sciences (2014)                                |
| Rebecca Tutino     | Ph.D. Environmental Health Sciences (2015)                                |
| Zishaan Farooqui   | Ph.D. MD-PhD Medical Scientist Training Program (2015)                    |

Masters Student Thesis Advisor

Bradley Lampe (OEE), Troy Meissner (OEE), Pheba Alexander (OEE), Brian Davis (OEE & HBHE), Aaron Leftwich (OJOC program), Suengwon Lee (Nutrition), Allen Zhong (OEE), Graham Newman (OEE), Jacqueline Barkoski (OEE)

Undergraduate Thesis Advisor

Lauren Schwartz (Neuroscience, LSA)

3. LOCAL CONTRIBUTIONS (at the University of Toronto, 2012-present)

- 2012 Determinants of Community Health (Faculty of Medicine)  
Guest lecturer on ‘The Future of Medicine & Public Health in a Crowded, Diverse, Aging, Stratified, Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World’.
- 2012- CHL5004H Introduction to Public Health  
Guest lecturer on “The Future of Public Health (and Your Role !) in a Hot, Flat, Crowded...and Diverse, Aging, Stratified, Urbanized, Polluted, Thirsty, Hungry, Debt-Ridden World”. “What is Public Health?”, “Climate Change and Health”
- 2012- CHL 5912F Industrial Toxicology.  
Guest lecturer on the “Toxicology of Metals”.
- 2013-2014 Department of Family & Community Medicine “Building Blocks” (short course for International post-graduate primary care trainees); Guest lecturer on “Public Health & Primary Care”
- 2013- CHL5701H Doctoral Seminar, Collaborative Doctoral Program in Global Health  
Guest lecturer on “The Challenges of Environmental Health in a Rapidly-Changing World, from the Molecular to the Global”.
- 2014 JCR1000 “Interdisciplinary Approach to Global Challenges”  
Guest lecturer on “Global Environmental Health”
- 2014- PHS100H1 “Grand Opportunities in Global Health”; Guest lecturer on “Urban Environments”
- 2015 Public Health & Preventive Medicine Residency Rounds “Physicians, Climate, and other Global Environmental Changes: Our Role”
- 2016 CHL5004H Introduction to Public Health, Course Co-Director (with Professor Erica DiRuggiero)
- 2016 CHL 7001H F6 Environmental-Molecular Epidemiology, Course Co-Moderator (with Professor Morteza Bashash)
- 2016 CHL5701H Doctoral Seminar, Collaborative Doctoral Program in Global Health, Course Co-Director (with Professors Erica DiRuggiero and Abdallah Daar)
- 2016 Joint Seminar, “The Impact on Intelligence, Behaviour, and Society of Lead Exposure: A Case Study of a Global Pollutant and On-going Research”; Collaborative Program in Neurosciences and Collaborative Global Health Doctoral Program, University of Toronto
- 2016 CHL5420H “Global Health Research Methods”  
Guest lecturer on “The Early Life Exposures in Mexico to Environmental Toxicants Project (ELEMENT): A Global Health Collaboration Case Study”

Masters student research advisor

Maelle Marchand

Doctoral student advisor

Adele Carty

Doctoral student thesis committee member

Laura Bogaert



Doctoral student thesis examination committee member

Claudie CY Wong (doctoral student in epidemiology, Jockey School of Public Health and Primary Care, Chinese University of Hong Kong)

Zilong Zhang (doctoral student in epidemiology, Jockey School of Public Health and Primary Care, Chinese University of Hong Kong)

Post-doctoral fellow mentor:

Siying Huang, Ph.D.; Morteza Bashash, Ph.D.; Raymond Pabayo, Sc.D. (Harvard School of Public Health); Tripler Pell, M.D., M.P.H.

4. NIH K-grant mentorship:

Robert Wright, M.D., M.P.H. (K-23 ES000381, “*Neurochemical and Genetic Markers of Lead Toxicity*”), 2000-2005; Dr. Wright is now Prof of Pediatrics, Mt. Sinai School of Medicine

Marc Weisskopf, Ph.D. (K-01 ES012653, “*New Biomarkers of Neurotoxicity*”), 2004-2009; Dr. Weisskopf is now Associate Prof of Occup Health, Harvard Sch Public Health

Sung Kyun Park, Sc.D. (K-01 ES016587; “*Environment, Novel Aging Outcomes, and Genetics*”), 2009-2014; Dr. Park is now Assistant Prof, Department of Epidemiology, University of Michigan Sch Public Health

Emily Somers, Ph.D. (K-01 ES019909; “*Immune Dysfunction Associated with Early Life Heavy Metals Exposure*”), 2011-2016; Dr. Somers is now Associate Prof, Division of Rheumatology, Department of Internal Medicine, University of Michigan Medical School

## COMMITTEE, ORGANIZATIONAL, AND VOLUNTEER SERVICE

## National/International

1978-1982 Taskforce on Occupational and Environmental Health, Co-coordinator, Am Med Stu Assoc

1989 Ad Hoc Study Committee, National Institute for Environmental Health Sciences Council

1989-2006 Association of Occupational and Environmental Medicine Clinics (AOEC)-- (through the Northeast Specialty Hospital Center for Occupational and Environmental Medicine)

1989-1990 Member, Relative Risk Reduction Strategies Committee, Science Advisory Board, U.S. Environmental Protection Agency

1989-1992 Member, Board of Directors, Physicians for Human Rights, Boston, MA

1991 National Institutes of Health, General Clinical Research Center Program, Site Visit Team

1992- Member, National Advisory Committee, Physicians for Human Rights, Boston, MA

1992 Special Study Section member (R3/S1/B3), National Institutes of Health

1994 Ad Hoc Reviewer, National Institutes of Health, General Dental Research Center

- Program
- 1994- Advisory Board, Institute for Energy and Environmental Research
  - 1994-1996 Associate, Project on Global Environmental Change and Health, Physicians for Social Responsibility
  - 1995 Ad Hoc Reviewer, National Institutes of Health, Diagnostic Radiology Study Section
  - 1996- Membor, Editorial Board, Health and Human Rights—an International Journal
  - 1995-1998 Advisory Committee, Consortium for Environmental Education in Medicine, Cambridge, MA.
  - 1996-1997 Reviewer, Agency for Toxic Substances and Disease Registry
  - 1997-1998 Program Committee, Annual Mtg, NIEHS Superfund Basic Research Group Centers
  - 1998-2013 (Founding) Medical Editor (1998-2004); Associated Medical Editor (2004- ), Environmental Health Perspectives (official journal of NIEHS)
  - 2001 Ad Hoc Reviewer, National Institutes of Health, R-13 applications
  - 2002-2006 External Advisory Committee, Program Project on Lead and Osteoporosis, University of Rochester
  - 2003-2005 Member, Ad-Hoc Expert Panel to Form Medical Management Guidelines for Lead-Exposed Adults, (supported by NIOSH and AOEC)
  - 2003-2009 Member, Working Group on Lead and Pregnancy, Advisory Committee on Childhood Lead Poisoning Prevention, U.S. Centers for Disease Control and Prevention
  - 2004 Ad Hoc Reviewer, National Institutes of Health, K-23 applications
  - 2004 Ad Hoc Reviewer, Draft of “Immunization Safety Review: Vaccines and Autism” Immunization Safety Review Committee, Institute of Medicine, National Academies of Science
  - 2004 Finalist (one of 8), Search for Director, National Institute for Environmental Health Sciences, U.S. National Institutes of Health
  - 2005 Member, Strategic Planning Conference, National Institute for Environmental Health Sciences, Research Triangle Park, NC
  - 2006 Ad Hoc Reviewer, Draft of “Preterm Birth: Causes, Consequence, and Prevention” Committee on Understanding Premature Birth and Assuring Health Outcomes, Institute of Medicine, National Academies of Science
  - 2006 Member, External Advisory Committee, NIEHS Center, University of Rochester
  - 2007 Member, Ad Hoc Study Section, Special Emphasis Panel/Scientific Review Group 2007/05 ZES1 JAB-C (DI) (NIEHS Discover Centers)
  - 2007-2010 Member, Board on Population Health and Public Health Practice, Institute of Medicine, National Academies, Washington DC.
  - 2007 Member, Ad Hoc Review Panel, Centers of Excellence Program, Swedish Council for Working Life and Social Research.
  - 2007-2008 Member, Search Committee for Director of Extramural Research, NIEHS
  - 2007 Special Consultant, Ad Hoc Study Section, Special Emphasis Panel/Scientific Review Group 2008/01 ZAR1 CHW-G (NIAMS Arthritis Centers)
  - 2008 Report Reviewer, Draft National Research Council Report, "The National Children's Study Research Plan: A Review", National Academies

- 2008 Report Reviewer, Draft National Research Council Report, "Gulf War and Health: Updated Literature Review of Depleted Uranium", Institute of Medicine, National Academies
- 2008-2009 Data Safety Monitoring Board, "d-Penicillamine Chelation in lead-poisoned Children—A Phase II/III Trial" (R01FD003361; PI: Michael Shannon)
- 2008 Subcommittee to review Draft Report on Bisphenol A, Science Board, Food and Drug Administration
- 2008 Planning Committee, International Symposium on the Environmental and Health Consequences of Metal Mining and Smelting
- 2008-2009 Co-Chair, Planning Committee, "Climate Change Impacts on Public Health in India", Workshop that took place in Goa, India in Aug-Sept 2009 co-sponsored by UM Center for Global Health, the US Centers for Disease Control and Prevention and the Indian Council for Medical Research
- 2008 Finalist (one of 2), Search for Director, National Institute for Environmental Health Sciences, U.S. National Institutes of Health
- 2009-2012 Member, Board on Environmental Studies and Toxicology, National Research Council
- 2009 Reviewer, NIH Challenge Grants, Special Emphasis Panel/Scientific Review Group 2009/10 ZRG1 GGG-F
- 2009-2010 External Member, Academic Program Review Site Visit Committee, Department of Environmental and Occupational Health Sciences, University of Washington School of Public Health
- 2010-2012 Member, External Advisory Committee, University of Rochester NIEHS P30 Core Center
- 2010 Member, Ad-hoc review committee, National Health Research Institutes of Taiwan, Special Emphasis Panel—NHRI-Kaoshiung Medical College Program Project on "Gene Environment Interaction in the Genesis of Asthma and Allergic Diseases"
- 2010-2012 Member, Advisory Board, Institute of Public Health, Florida Agricultural & Mechanical University, Tallahassee, FL
- 2011 Reviewer, NIEHS Career Development Awards, Special Emphasis Panel/Scientific Review Group 2011/05 ZES1 LKB-J (K9)
- 2011-2016 Member, NIEHS National Advisory Environmental Health Sciences Council
- 2012 Member, Editorial Board, Journal of Alzheimer's Disease
- 2015 Member and External Reviewer, School of Population and Public Health Review Committee, University of British Columbia, Vancouver, B.C.
- 2016- Chair, Board of Directors, Canadian Urban Environmental Health Research Consortium, (National Consortium based out of the Dalla Lana School of Public Health)

## Regional

- 1988-1990 Health Facilities Appeals Board, Member, Dept. Public Health, Comm. Of Mass.
- 1988-2006 Advisory Board, Massachusetts Department of Public Health, Sentinel Event Notification System for Occupational Risks (SENSOR) Project
- 1989-1995 Advisory Board, Massachusetts Division of Occupational Hygiene, Lead Registry Project

- 1990-1992 Board of Directors, Member, Health Care for All, Boston, Massachusetts
- 1993-1995 Faculty Council, Member, Harvard School of Public Health
- 1995-2006 Faculty Advisory Committee, Public Health Practice Program, Harvard School of Public Health
- 1996-2006 Advisory Board, Boston VA Environmental Hazards Center, Boston
- 1997-2001 Faculty Steering Committee, Center for Children's Health, Harvard School of Public Health
- 1996-2006 Senior Epidemiology Consultant, Massachusetts Veterans Epidemiology Research and Information Center, Boston.
- 1996-2006 Associate, Center for Health and the Global Environment, Harvard Medical School
- 1997-2002 Faculty Advisory Committee on Continuing Professional Education, Harvard School of Public Health
- 1998-2006 Faculty Steering Committee, Masters of Public Health program, Harvard School of Public Health
- 2001-2003 Board of Directors, New England College of Occupational and Environmental Medicine
- 2001-2006 Associate Director, Harvard NIEHS Environmental Sciences Center, Harvard School of Public Health
- 2001-2006 Senior Advisory Council Member, Lowell Center for Sustainable Production, University of Massachusetts, Lowell, MA
- 2003-2006 Member, Human Subjects Committee, Harvard School of Public Health
- 2003-2006 Advisory Committee, Occupational Health Services Research Program, Harvard School of Public Health
- 2006 Study Section Review Committee, Pilot Project Program, Graham Environmental Sustainability Institute, School of Natural Resources and Environment, University of Michigan
- 2006-2007 Chair, Planning Committee, Health Sector, May 8-10, 2007 National Summit on Coping with Climate Change, University of Michigan
- 2007-2009 Member, Advisory Committee, SPH Practice Committee, University of Michigan School of Public Health
- 2007-2012 Member, Residency Advisory Committee, General Preventive Medicine Residency, University of Michigan School of Public Health
- 2008-2009 Member, Steering Committee, NIA T32 Training Grant on Aging Research (PI: Mary Haan), University of Michigan School of Public Health
- 2008-2013 Member, Advisory Committee, Outstanding New Environmental Scientist Awardee (Marie O'Neill), NIEHS
- 2008-2009 Member, Search Committee for Director of the Risk Science Center, University of Michigan School of Public Health
- 2009 Co-Chair, Planning Committee, Workshop on Predicting and Preventing Climate Change Impacts on Public Health, Goa, India (Collaboration with the UM Center for Global Health, the US Centers for Disease Control and Prevention, and the Indian Council for Medical Research)

- 2009-2011 Director and PI, NIA T32 Training Grant on Aging Research, University of Michigan School of Public Health
- 2009-2010 Member, Planning Committee, University Research Corridor (U of M, Michigan State, Wayne State) symposium on environmental health sciences in January 2010
- 2009-2012 Faculty Associate, Center for Global Health, University of Michigan
- 2009-2012 Member, Internal Advisory Board, Cancer Epidemiology Education in Special Populations Program, University of Michigan School of Public Health
- 2009-2011 Chair, Steering Committee on Global Health, University of Michigan School of Public Health
- 2010-2012 Member, Executive Committee, Graham Environmental Sustainability Institute, University Of Michigan
- 2010-2012 Member, Committee on Diversity, University of Michigan School of Public Health
- 2012-2017 Chair, Executive Committee, Dalla Lana School of Public Health, University of Toronto
- 2012-2017 Chair, Tenure Committee, Dalla Lana School of Public Health, University of Toronto
- 2012-2017 Chair, Decanal Promotions Committee, Dalla Lana School of Public Health, University of Toronto
- 2012-2017 Chair, Executive Advisory Committee, Institute for Global Health Equity & Innovation, Dalla Lana School of Public Health, University of Toronto
- 2013-2015 Interim Director, Institute for Global Health Equity & Innovation, Dalla Lana School of Public Health, University of Toronto
- 2013-2014 Co-Chair, Research Committee, Dalla Lana School of Public Health, University of Toronto
- 2014-2017 Chair, Executive Advisory Committee, Institute for Health Policy Management and Evaluation, University of Toronto
- 2014 Chair, Ad-hoc Committee to create an Institute for Indigenous Health (based on a \$10 million endowment gift made to DLSPH), Dalla Lana School of Public Health, University of Toronto; Chair, Executive Advisory Committee beginning 2015
- 2015-2017 Chair, Executive Advisory Committee, Joint Centre for Bioethics, University of Toronto
- 2015- Chair (2015-2017); Member (2017-present), Taskforce on Environmental Health, Ministry of Health and Longterm Care, Province of Ontario
- 2016-2017 Chair, Executive Advisory Committee, Centre for Critical Qualitative Health Research, University of Toronto

#### Hospital

- 1982-1985 Occupational Safety and Health Committee, Member, Boston City Hospital, Boston
- 1983-1984 House Officers Association, Treasurer, Boston City Hospital
- 1984-1985 House Officers Association, Co-President, Boston City Hospital

#### OTHER PUBLIC SERVICE

CV: Howard Hu, M.D., M.P.H., Sc.D.

- 1987 Member, Fact-finding tour on "The Health Effects of Massive Exposure to Tear Gas", Seoul, South Korea, July 11-18 (Sponsored by Physicians for Human Rights, American College of Physicians)
- 1988 Member, Fact-finding tour on "Chemical Weapons and the Iraqi Kurdish refugees", Turkey Oct 6-16 (Sponsored by Physician for Human Rights and the MacArthur Foundation)
- 1990 Leader, Fact-finding tour on "Health and Human Rights in Burma (Myanmar)", Thailand-Burma Dec. 26-Jan 6 (Sponsored by Physician for Human Rights and the MacArthur Foundation)
- 2009 Consultant and senior advisor, Fact-finding tour on "Mining and Potential Exposures and Health Effects in Guatemala", August 2009 (Sponsored by Physicians for Human Rights)

### CONSULTING POSITIONS

- 1987-1989 Consultant, "In-Vivo Total Body Lead Analysis by X-Ray Fluorescence", NIH/SBIR Grant 2R44ES03918-02
- 1988-1989 Consultant, "Boston Area Health Coalition Demonstration Project", DHHS/MP000003-A1
- 1993-1995 Consultant, Employee Health Services, Brigham and Women's Hospital
- 1994 Consultant, Public Welfare Foundation, Washington, DC (review of Environmental Programs)
- 1997-2006 Consultant, Pediatric Environmental Health Center, Children's Hospital, Boston, MA
- 2000 Consultant, Doris Duke Foundation, New York, NY (review of potential Environment and Medicine programs)
- 2009-2010 Consultant and Member, Academic Program Review Site Visit Committee, Department of Environmental and Occupational Health Sciences, University of Washington School of Public Health, Seattle, WA
- 2011 Consultant, JPB Foundation, New York, NY (review of Environmental Health programs)
- 2014- Advisor, Hearing Health Sciences, Ann Arbor MI and Amsterdam, Netherlands

### VISITING PROFESSORSHIPS

- 1997 Alice Hamilton Visiting Professor, University of California at San Francisco
- 2000-2001 Visiting Professor, Sri Ramachandra Medical College & Research Institute, Chennai, India
- 2004 Visiting Professor, Department of Environmental Medicine, University of Rochester
- 2013 Visiting Professor, Shanghai Key Laboratory, Shanghai Jiao-Tung University

SEMINARS AND EXTRAMURAL INVITED PRESENTATIONS (last 15 years, since 2002; prior presentations upon request)

CV: Howard Hu, M.D., M.P.H., Sc.D.

- 2002 Guest Lecturer, "Lead Toxicity: An Enduring Global Threat and Scientific Puzzle", Watson Institute Lecture Series, Brown University, Providence, RI.
- 2002 Guest Lecturer, "Lead Toxicity: Much Studied, Much Regulated, but Much Remains Unknown", New England Society for Risk Assessment, Cambridge, MA.
- 2002 Speaker, "A delta-aminolevulinic acid dehydratase (ALAD) polymorphism modifies the relationship of low-level lead exposure to uricemia and renal function", annual American Occupational Health Conference, American College of Occupational and Environmental Medicine, Chicago, IL.
- 2002 Guest Lecturer, "Lead Toxicity: An Enduring Threat and Scientific Puzzle", Division of Occupational and Environmental Health Sciences, University of Illinois School of Public Health, Chicago, IL.
- 2002 Speaker/Panelist, "The Link Between Clinical Practice and Public Health: Health Care Professionals as Public Health Advocates" In Harm's Way: Toxic Threats to Child Development, Boston University School of Medicine, Boston, MA.
- 2002 Discussant, "Acute Lead Intoxication in a Bridge Paint Stripper", Grand Rounds in Occupational/Environmental Medicine, Harvard School of Public Health
- 2003 Speaker, "Metals Toxicity" Sri Ramachandra Medical College and Research Institute, Chennai, India.
- 2003 Guest lecturer, "Lead as a trans-generational toxin", Seminar series, Department of OB/GYN, Brigham and Women's Hospital
- 2003 Plenary speaker, "Clinical opportunities in environmental health", Annual Leadership Retreat, National Institute for Environmental Health Sciences, Greensboro, NC.
- 2003 Discussant, "Uncontrolled Hypertension in a Painter", Grand Rounds in Occupational/Environmental Medicine, Harvard School of Public Health
- 2003 Discussant, "A 53-Year Old Teacher with Chemical Sensitivities", Grand Rounds in Occupational/Environmental Medicine, Harvard School of Public Health
- 2003 Lecturer, "Pestilence and Progress: The Future of Public Health through the Lens of Blood", Center for Blood Research Symposium, Museum of Science, Boston, MA.
- 2003 Speaker, "Bones, Genes, Plasma, and Lead: New Frontiers in Understanding the Toxicity of an Old Hazard", Distinguished Lecture Series. National Center for Environmental Health/Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, Atlanta GA.
- 2003 Plenary speaker, "Biomarkers, Genes, Interactions and Lead: New Insights from Research on an Old Hazard", Superfund Basic Research Program Annual Meeting, Dartmouth University, Hanover, NH.
- 2003 Special Lecturer, "Lead Exposure and Chronic Disease: Recent Research on Susceptible Sub-populations", Florida Agricultural and Mechanical University, Tallahassee, FL.
- 2004 Speaker, "New Frontiers in Understanding the Toxicity of Lead", Department of Environmental Medicine, University of Rochester, Rochester, NY.
- 2004 Presenter, "Lead Exposure During Pregnancy: Mobilization of Maternal Bone Lead Stores and Their Threat to the Fetus", Semi-annual meeting of the Childhood Lead Poisoning

- Prevention Branch, Centers for Disease Control and Prevention, Baltimore, MD
- 2004 Presenter, “Environmental Medicine”, Annual meeting of the Editorial Board, *Environmental Health Perspectives*, Baltimore MD
- 2004 Plenary speaker, “Metals, Genes, and Neurodegeneration: the Approach of the Metals Epidemiology Research Group at the Harvard School of Public Health”, National Institute for Environmental Health Sciences Conference on Neurodegeneration.
- 2004 Discussant, “Suspected Lead Toxicity” Grand Rounds in Occupational/Environmental Medicine, Harvard School of Public Health
- 2004 Discussant, “Mercury Exposure in a Metal Worker”, Grand Rounds in Occupational/Environmental Medicine, Harvard School of Public Health
- 2004 Presenter, “Effects of Our Environment on Intellect, Behavior, Life and Death,” Leadership Council meeting, Harvard School of Public Health
- 2004 Guest Speaker, “Biomarkers, Genes, Interactions and Lead: New Insights from Research on an Old Hazard”, Department of Environmental Health, University of Michigan School of Public Health
- 2004 Guest Speaker, "Medicine, Public Health, and the Great American Melting Pot: A Second-Generation Chinese-American Reflects on His Personal Odyssey", Sponsored by the Asian Student Association, Harvard School of Public Health
- 2004 Speaker, “Aging, the Environment and Genetics: Recent Insights from Epidemiologic Studies of Environmental Lead Exposure”, Annual Leadership Retreat, National Institute for Environmental Health Sciences, Pinehurst, NC.
- 2004 Plenary Speaker, “Guidelines for the Management of Lead-Exposed Adults: Recommendations by a National Expert Panel Based on Recent Research”, New England College of Occupational and Environmental Medicine Annual Meeting
- 2005 Lecturer, “Biomarkers, Genes, Interactions and Lead: New Insights from Research on an Old Hazard”, Sri Ramachandra Medical College and Research Institute, Chennai, Tamil Nadu, India
- 2005 Lecturer, “Your Child’s IQ, Behavior and Neuropathology: Genes or Environment?”, the Harvard Club of Boston, Boston, MA
- 2005 Guest Speaker, “Metals, Neurodevelopment, and Neurodegeneration: The Work of the Metals Epidemiology Research Group at HSPH”, Neurostatistics Working Group, Harvard School of Public Health, Boston, MA.
- 2005 Plenary Speaker, “Aging, the Environment and Genetics: Recent Insights from Epidemiologic Cohort Studies of Environmental Lead Exposure”, NIEHS Symposium on Aging and the Environment, Duke University, Durham, NC.
- 2005 Plenary Speaker, “SPECT Imaging and Chemical Intolerance”, NIEHS/NIAA symposium on “Chemical Intolerance and Addiction: a Shared Etiology?”, Research Triangle Park, NC
- 2005 Workshop Presenter, “Social and Environmental Threats: the Unnecessary Epidemics”, Harvard School of Public Health Leadership Council Annual Conference, Boston, MA
- 2005 Keynote Speaker, “Our Food, Our Water, Our Homes: Toxic Metals”, The Boston Foundation, Boston, MA.
- 2006 Invited Speaker (invited by David Schwartz, NIEHS Director), “Goal IV: Improve



- and Expand Community-Linked Research”, Roundtable on Environmental Health Sciences, Research, and Medicine; Institute of Medicine, National Academy of Sciences, Wash DC.
- 2006 Speaker, “The Future of Environmental Health Sciences at the University of Michigan”, Dean’s Advisory Board, University of Michigan School of Public Health, Ann Arbor, MI
- 2006 Keynote Speaker and Harriett Hardy Annual Lecturer, “The ‘E’ in Occupational/ Environmental Medicine: the Present and the Future”, New England College of Occupational Medicine Annual Meeting, New Bedford, MA
- 2007 Speaker, “The Future of Environmental Health Sciences at the University of Michigan”, Meetings of the UMSPH Alumni Council and the EHS Emeritus Faculty, Ann Arbor, MI
- 2007 Moderator and Speaker, “The Normative Aging Study: Health Effects of Lead”, Symposium on the Health Effects of Lead, 2007 Annual Meeting of the International Society for Environmental Epidemiology, Mexico City, Sept 8, 2007
- 2007 Guest Lecture, “Uncovering the Impact of the Environment on Disease: Big Opportunities for Physician-Scientists”, Medical Scientist Training Program, University of Michigan Medical School
- 2007 Guest Lecture, “Industrialization, Pollution and Public Health in India: Can India Survive Modernization?”, Osher Institute, Ann Arbor, MI
- 2007 Plenary Speaker, “Environmental Equity: Local and Global Challenges and the Balance Between Research and Advocacy”, Michigan’s Premier Public Health Conference, October 16, 2007, Dearborn, MI
- 2007 Board Member Lecture, "Metals, Genes, Health and Human Rights: from the Molecular to the Global", Fall Meeting of the Board of Population Health and Public Health Practice, Institute of Medicine, National Academies of Science, Washington DC, Dec 13, 2007.
- 2008 Speaker, "MDs as Leaders for Change in Environmentalism", 2008 Annual Regional Political Leadership Institute, American Medical Student Association, University of Michigan Medical School, February 16, 2008
- 2008 Speaker, Grand Rounds, “The Impact of Environmental Pollutants on Disease: New Insights and Implications for Research and Medical Practice” Department of Medicine, University of Michigan Health System.
- 2008 Guest Lecture, "Emerging Insights into the Pervasive Influence of Environment Toxicants on Reproductive Outcomes and Offspring Development: Lead as a Case Study", Reproductive Sciences Program, University of Michigan
- 2008 Panelist, "Environmental Health in China", Public Health Grand Rounds, Division of Health Practice, University of Michigan School of Public Health
- 2008 Keynote Speaker, "Human Health and the Role of Water", Symposium on Water, Health & The Environment, Graham Environmental Sustainability Institute, University of Michigan
- 2008 Guest Speaker, “Lead Exposure and Toxicity: New Insights Using Molecular Epidemiology” Wadsworth Laboratories and SUNY-Albany
- 2008 Speaker: “Impact of Climate Change on Human Health: Vulnerability” 5<sup>th</sup> AKKA World Kannada Conference, Chicago IL
- 2008 Speaker, “The ‘E’ in Occupational/Environmental Medicine: the Present and the Future”, Michigan Occupational/Environmental Medicine Annual Meeting, Mackinac Island, MI

- 2008 Speaker, "Impact of Climate Change on Human Health", University of Michigan Chapter of the American Medical Student Association, Ann Arbor, MI
- 2008 Speaker, "Early Life Origins of Adult Chronic Disease: Environmental Health and Toxicology at a Crossroads" Michigan Chapter of the Society for Toxicology, Ann Arbor, MI
- 2009 Speaker, "Evidence for Lead as an Environmental Stressor of Alzheimer's Disease and the Role of Epigenetics", Symposium Panel, Annual Meeting of the Society for Toxicology, Baltimore, MD
- 2009 Keynote Speaker, "Lead, Late-Life and Early Life Effects, and the Emerging Field of Environmental Epigenetics: Looking Ahead", Annual Meeting of the American College for the Advancement of Medicine, San Diego, CA
- 2009 Speaker, "Lead Toxicity and Mechanistically-Oriented Molecular Epidemiology: Targeting the Epigenetics of Alzheimer's Disease", Seminar Series, Institute for Environmental Health Sciences, Wayne State University, Detroit, MI
- 2009 Speaker, "Climate Change Impacts on Health in the Developing World", Research Discussion Series, University of Michigan Center for Global Health
- 2009 Speaker, "Autism, Aggressive Behavior, Anxiety, and Alzheimer's: are Environmental Toxicants Playing a Major Etiologic Role?", Department of Psychology, University of Michigan
- 2009 Speaker, "Early Life Exposures and Endocrine Disruption: Evidence from Molecular Epidemiology", Pediatric Endocrine Seminar, University of Michigan Medical School
- 2009 Distinguished Speaker, "Lead Toxicity: Twenty Years of Research On The Poison That Keeps on Poisoning" 10<sup>th</sup> Anniversary of the Department of Microbiology and Environmental Toxicology, University of California at Santa Cruz
- 2010 Speaker, "The Centers for Disease Control and Prevention & the Environmental Protection Agency: Potential Funding Opportunities for Regional Collaboration in Michigan", University Research Corridor Symposium on Environmental Health, Detroit, MI.
- 2010 Speaker, "The Future of Public Health", University of Washington School of Public Health
- 2010 Speaker, "The Environment Meets the Epigenome: Is This Where Autoimmunity Begins?" Symposium on Autoimmunity and Epigenetics, University of Michigan
- 2010 Keynote Speaker, "A New Twist to an Old Story: The Evidence for Early Life Lead Exposure as a Risk Factor for Alzheimer's Disease through Epigenetic Programming", NIEHS Environmental Health Sciences Center and Toxicology Training Program Retreat, University of Rochester, NY
- 2010 Speaker, "Lead Toxicity: Twenty Years of Research on The Poison That Keeps on Poisoning" and "Environmental Health Sciences at the University of Michigan", Tianjin Centers for Disease Control, Tianjin, China
- 2010 Speaker, "Pediatric Lead Toxicity", Xinhua Hospital and the Shanghai Jiao-Tung Medical University Department of Pediatrics, Shanghai, China
- 2010 Speaker, "Environmental Health Sciences at the University of Michigan", Fudan University, Shanghai, China
- 2010 Speaker, "Alzheimer's Disease, Epigenetics and the Environment", Symposium Update, Alzheimer's Disease Association, Ann Arbor, MI

- 2010 Speaker, “Environmental Justice, Progress (and the Lack Thereof) and the Role of Research”, Roundtable on Environmental Health Sciences, Research and Medicine, Institute of Medicine, National Academies, Washington DC.
- 2010 Speaker, “White Coats, Population Science and Poison Gas: A Life Spent at the Intersection of Academic Medicine, Global Health & Human Rights”, Robert Wood Johnson Clinical Fellows Program, University of Michigan Medical School, Ann Arbor, MI
- 2011 Speaker, “The Three Most Difficult Challenges to Molecular Epidemiologic Research on Gene-Environment Interactions: Lead Toxicity as a Case Study.” Department of Human Genetics, University of Michigan Medical School, Ann Arbor, MI
- 2011 Speaker, “The Integration of Data on Environmental Carcinogens with Population and Genetic Resources”, “Opportunities & Challenges for Translational Research on Cancer Prevention”, Translational Cancer Prevention & Biomarkers Workshop, Mazamdur-Shaw Cancer Center, Bangalore, India.
- 2011 Speaker, “Success in the Academy”, Faculty Panel, Students of Color of Rackham, Rackham Graduate School, University of Michigan
- 2011 Speaker, “White Coats, Population Science and Poison Gas: Fact-Finding Missions by Health Professionals for Human Rights”, Sujal Parikh Memorial Symposium, University of Michigan Medical School.
- 2011 Speaker, “The Analysis of Biomarker Data to Ascertain the Contribution of Environmental Exposures to the Etiology of Disease: Lead Exposure and Toxicity as a Case Study”, Department of Computational Medicine and Bioinformatics, University of Michigan Medical School.
- 2012 Speaker, “Research and Analysis Linking Upstream and Downstream Disparities Work”, Webinar hosted by the Health & Environmental Funders Network, Bethesda, MD, with 52 Foundations related Health.
- 2012 Keynote Speaker, “The Future of Public Health & Medicine in a Crowded, Diverse, Stratified, Hot, Urbanized, Polluted, Thirsty, Hungry and Debt-Ridden World”. E.J. Van Liere Memorial Convocation and Health Sciences Center Research Day, West Virginia University, Morgantown, West Virginia
- 2012 Plenary Speaker, “Transgenerational Impacts of Pollutants on Offspring: Recent Insights and Case Studies”, Connaught Global Challenge International Symposium, University of Toronto.
- 2012 Speaker, “Environmental Impacts on Aging (+ an update on the Dalla Lana School of Public Health)”, Community Medicine Rounds, University of Toronto
- 2012 Speaker, “The Environment & Public Health in a Research-Intensive University: Opportunities for Scholarship in a Crowded, Diverse, Stratified, Hot, Urbanized, Polluted, Thirsty, Hungry and Debt-Ridden World”, School for the Environment, University of Toronto
- 2012 Speaker, “Big Public Health Challenges (& Opportunities) in a Crowded, Diverse, Aging, Stratified, Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World”, External Advisory Meeting, Public Health Ontario, Toronto
- 2012 Speaker, “Canadian Public Health Schools (in a Crowded, Diverse, Aging, Stratified,

- Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World): The View from Toronto, External Advisory Board Meeting, Institute for Population and Public Health, Canadian Institutes for Health Research, Toronto
- 2012 Speaker, “Sustainable Development and Health: The Global Mining Industry”, Canadian Society for International Health Annual Meeting, Ottawa
- 2012 Speaker, “Big Public Health Challenges (& Opportunities) in a Crowded, Diverse, Aging, Stratified, Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World”, Xinhua Hospital/Shanghai Jiao-Tung University, Shanghai, China.
- 2012 Speaker, “The Impact of Population-Wide Lead Exposure and Gene-Lead Interactions on Chronic Disease”, Genetic Grand Rounds, Sick Kids Hospital, Toronto.
- 2012 Speaker, “Looking behind the curtain: Lead Toxicity as a Case Study of Methodologic Challenges in Gene-Environment Interactions Research”, Strategic Training in Advanced Genetic Epidemiology (STAGE), Dalla Lana School of Public Health, University of Toronto.
- 2012 Keynote speaker: “Public Health—the Next Frontier in Health Professions Education”. Council of Health Sciences annual retreat, University of Toronto.
- 2013 Speaker, “White Coats, Population Science and Poison Gas: Lessons from a Life Spent at the Intersection of Academic Medicine, Global Health & Human Rights”, Joint Center for Bioethics, University of Toronto
- 2013 Speaker, “Gauging environmental impact on the development of chronic inflammation”, Connaught Global Challenge Workshop, University of Toronto.
- 2013 Speaker, “The Future of Public Health & Medicine in a Crowded, Diverse, Aging, Stratified, Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World”, Grand Rounds, Department of Medicine, University of Toronto.
- 2013 Speaker, “Metals, Mega-trends, and Me: Reflections on Research and the Vision for the Dalla Lana SPH”, Occupational and Environmental Medicine Grand Rounds, St. Michael’s Hospital, Toronto, ON.
- 2013 Speaker, “Air pollution and Cardiovascular Disease: Health Impacts, Mechanisms, and Research Opportunities”, University of Toronto & FMUSP-InCor Symposium on Cardiology, Sao Paulo, Brazil.
- 2013 Speaker: “Lead Exposure's Impact on Health and Policy: A History of Neglect and Missed Opportunities”, Public Health Policy Rounds, CIHR Strategic Training Program in Public Health Policy, University of Toronto.
- 2013 Speaker: “Lead Toxicity: The Long Tail of Health Impacts (and On-going Research Opportunities!) From an Historical Environmental Air Pollutant”, Southern Ontario Centre for Air Pollution and Aerosol Research, University of Toronto.
- 2013 Speaker: “Water and Sanitation”, Water, Sanitation and Hygiene (WASH) Canada, Toronto, Ontario, Canada
- 2014 Speaker: “Conflict and Public Health”, Ontario Medical Association, Toronto, Canada
- 2014 Panelist: “Judging Evidence: Finding a Place for Variation in an Evidence-Based World”, Health Quality Ontario, Toronto, Canada
- 2014 Speaker: “The Grand Convergence: Creating Health in a Globalized World”, Special meeting of the Canadian Chamber of Commerce in Shanghai

- 2014 Speaker: “The Grand Convergence: Creating Health in a Globalized World”, Jockey School of Public Health and Primary Care, Chinese University of Hong Kong, Hong Kong, China
- 2015 Speaker: “The Grand Convergence: Creating Health in a Globalized World”, School of Public Health and the ASEAN Institute, Mahidol University, Bangkok, Thailand
- 2015 Speaker: “Gene-environment Interactions and the Role of Big Data in Environmental Health” Seminar series, School of the Environment, University of Toronto, Toronto, Canada
- 2015 Speaker: “Global Health Security”, Ill with Illness—Economic, Social & Security Barriers to the Provision of Global Health, Munk School of Global Affairs, University of Toronto, Toronto, Canada
- 2015 Speaker: “The Dalla Lana School of Public Health: Big Ideas and Initiatives for Creating Health in a Globalized World”, Speaker Series, University of Toronto Alumni of Toronto.
- 2015 Speaker: “Unique Scientific Opportunities for the Precision Medicine Initiative National Research Cohort: Exposomics, Data Linkage, and Global Collaborations”. Working group on President Obama’s Precision Medicine Initiative (Chaired by Francis Collins, Director, NIH)
- 2015 Speaker: “What is the Role of Schools of Public Health in the 21st Century?” 50<sup>th</sup> Anniversary Celebration of the Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, Quebec.
- 2015 Welcoming Address: “Global Public Health and Mental Health”, Going Glo-cal for Mental Health conference, Centre for Addictions and Mental Health/Department of Psychiatry/Dalla Lana School of Public Health, Toronto, ON
- 2015 John Goldsmith Memorial Lecture: “Big Data, Environmental (and Social) Epidemiology, Power and Politics”, Opening Plenary Session, International Society for Environmental Epidemiology Annual Meeting, Sao Paulo, Brazil
- 2015 Inaugural Speaker: “The Future of Public Health and Medicine in a Crowded and Complex World”, Global Health Leadership Series, PSG Medical School & the Shanti Ashram Foundation, Coimbatore, Tamil Nadu, India
- 2016 Speaker “The Future of Public Health & Medicine in a Crowded, Diverse, Aging, Stratified, Urbanized, Polluted, Hot, Thirsty, Hungry, Debt-Ridden World”, Indian Institutes of Public Health—Hyderabad, Hyderabad, India
- 2016 Speaker: “Integration of Public Health & Health Care: The Unmet Agenda for a Truly Sustainable Health System”, Board of Directors Retreat, Toronto East General Hospital, Toronto
- 2016 Plenary speaker: “Health Promotion, Prevention and Health Protection: Innovative Initiatives”, 6th Asia-Pacific Conference on Public Health | 1st ASEAN Health Promotion Conference Bangkok, August
- 2016 Speaker: “Big Data, Environmental (and Social) Epidemiology, Power and Politics”, Mount Sinai School of Medicine, New York, NY
- 2016 Plenary Speaker: “The Impact of Environmental Toxicants on Health: Recent Epidemiologic Approaches & Advances”, International College of Integrative Medicine Annual Meeting, Toronto, ON
- 2016 Plenary Speaker: “Big Data and Implications for Environmental Health”, 15<sup>th</sup> Anniversary Conference, Jockey Club School of Public Health & Primary Care, Chinese University of

- Hong Kong, Hong Kong
- 2016 Plenary Speaker: “Innovations in Assessing Lead Poisoning and Child Health: Policy & Clinical Implications”, Chinese University of Hong Kong-Fudan-Oxford International Symposium on Health Impacts of Environmental Exposures”, Hong Kong
- 2016 Speaker: “Addressing a Changing Environment (and Impacts on Health, AKA Can India Survive Modernization?)”, Indian Institutes of Technology Alumni, Canada, International Conference 2016, Toronto.
- 2016 Plenary Speaker, “Hidradenitis Suppurativa: Research Directions from a Population Health Perspective”, Symposium on Hidradenitis Suppurativa Advances, Toronto.
- 2016 Plenary Speaker, “Children’s Environmental Health”, The 2016 Annual National Conference on Children’s Healthcare, Shanghai, China
- 2016 Special Guest Speaker, “Big Data, Environmental (and Social) Epidemiology, Power and Politics”, Shanghai Municipal Center for Disease Control, Shanghai, China
- 2016 Lecturer, “Lead and Human Health: Recent Research and Associated Lessons for Science & Policy”, Fudan University School of Public Health, Shanghai, China
- 2017 Lecturer, “The Impact of Environmental Toxicants on Health: Recent Epidemiologic Approaches & Advances”, Saw Swee Hock School of Public Health, National University of Singapore, Singapore
- 2017 Lecturer, “The Future of Academic Public Health”, Saw Swee Hock School of Public Health, National University of Singapore, Singapore
- 2017 Lecturer, “Recent Advances in Understanding, Preventing, and Reversing the Impact of Environmental Factors on Health, Society of Chinese Bioscientists in America, Li Ka Shing Knowledge Institute, St. Michael’s Hospital, Toronto, ON
- 2017 Lecturer, “Environmental Epidemiology in the Era of Exposomics, Lifecourse Epidemiology, Big Data and Big Science”, Department of Environmental Health, Harvard School of Public Health, Boston, MA
- 2017 Speaker, “The Role of a Re-emergent Canadian School of Public Health in a Hot, Hungry, Polluted, Aging, Polarized World Prone to Pandemics, Chronic Disease, and Unsustainable Health Systems”, Royal Canadian Institute for Science, Toronto, ON
- 2017 Speaker, “The Early Life Exposures in Mexico to Environmental Toxicants (ELEMENT) Birth Cohort Study: Current Research on Fluoride and Neurodevelopment”, Seminar Series in Environmental Epidemiology, University of Washington School of Public Health, Seattle, WA

INVENTIONS/PATENTS: n/a

BIBLIOGRAPHY: (H-index, as of July, 2017: 77)

Peer-reviewed journals

CV: Howard Hu, M.D., M.P.H., Sc.D.

1. Hu H, Markowitz SB. A case-study of industrial bladder cancer. *Einstein Quarterly Review of Biology and Medicine* 1982;1:29-35.
2. Hu H. Benzene and myelofibrosis. *Annals of Internal Medicine* 1987;106:171-172
3. Hu H, Milder FL, Burger DE. X-Ray Fluorescence: Issues surrounding the application of a new tool for measuring burden of lead. *Environmental Research* 1989;49:295-317.
4. Hu H, Fine J, Epstein P, Kelsey K, Reynolds P, Walker B. Tear Gas: Harrassing agent or toxic chemical weapon? *JAMA* 1989;262:660-663.
5. Hu H, Cook-Deegan R, Shukri A. The use of chemical weapons: Conducting an investigation using survey epidemiology. *JAMA* 1989;262:640-643.
6. Hu H, Tosteson T, Aufderheide AC, Wittmers L, Burger DE, Milder FL, Schidlovsky G, Jones KW. Distribution of lead in human bone: I. Atomic absorption measurements. *Basic Life Sci* 1990;55:267-274.
7. Burger DE, Milder FL, Morsillo PR, Adams BB, Hu H. Automated bone lead analysis by k-x-ray fluorescence for the clinical environment. *Basic Life Sci* 1990;55:287-292.
8. Schidlovsky G, Jones KW, Burger DE, Milder FL, Hu H. Distribution of lead in human bone: II. Proton microprobe measurements. *Basic Life Sci* 1990;55:275-280.
9. Jones KW, Schidlovsky G, Burger DE, Milder FL, Hu H. Distribution of lead in human bone: III. Synchrotron x-ray microscope measurements. *Basic Life Sci* 1990;55:281-286.
10. Hu H, Milder FL, Burger DE. X-ray fluorescence measurements of lead burden in subjects with low-level community lead exposure. *Arch Environ Health* 1990;45:335-341.
11. Hu H, Win KU, W, Arnison ND. Burma: Health and human rights. *Lancet* 1991;337:1335.
12. Hu H. A 50-year follow-up of childhood plumbism: hypertension, renal function, and hemoglobin levels among survivors. *Am J Dis Child* 1991;145:681-687.
13. Hu H. Knowledge of diagnosis and reproductive history among survivors of childhood plumbism. *Am J Publ Health* 1991;81:1070-1072.
14. Hu H, Milder FL, Burger DE. The use of K-X-Ray Fluorescence for measuring lead burden in epidemiological studies: high and low lead burdens and measurement uncertainty. *Environ Health Perspect* 1991;94:107-110.

15. Hu H, Pepper L, Goldman R. Effect of repeated occupational exposure to lead, cessation of exposure, and chelation on levels of lead in bone. *Am J Ind Med* 1991;20:723-735.
16. Hu H. Toxic weapons, epidemiology, and human rights. *Polit Politics and Life Sci* 1992;February:3-4.
17. Hu H, Sparrow D, Weiss S. Association of serum albumin with blood pressure in the Normative Aging Study. *Am J Epidemiol* 1992;136:1465-1473.
18. Hu H, Christiani D. Reactive airways dysfunction after exposure to tear gas. *Lancet* 1992;339:1535.
19. Hu H. Physicians, IPPNW, and the Environment. *PSR Quarterly* 1993;3:79-87.
20. White RF, Diamond R, Proctor S, Morey C, Hu H. Residual cognitive deficits 50 years after lead poisoning during childhood. *Br J Industr Med* 1993;50:613-622.
21. Hu H, Beckett L, Kelsey K, Christiani D. The left-sided predominance of asbestos-related pleural disease. *Am Rev Resp Dis* 1993;148:981-984.
22. Payton M, Hu H, Sparrow D, Young JB, Landsberg L, Weiss ST. Relation between blood lead and urinary biogenic amines in community-exposed men. *Am J Epidemiol* 1993;138:815-825.
23. Hu H, Kotha S. Ethics and epidemiology: International Guidelines. *Polit Life Sci* 1993;February:29-30.
24. Goldman RH, White R, Kales SN, Hu H. Lead poisoning from mobilization of bone stores during thyrotoxicosis. *Am J Industr Med* 1994;25:417-424.
25. Bellinger D, Hu H, Titlebaum L, Needleman HL. Attentional correlates of dentin and bone lead levels in adolescents. *Arch Environ Health* 1994;49:98-105.
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27. Hu, H. Decision-making in human health impact assessments: a clinician's perspective. *Environ Impact Assess Rev* 1994;14:439-450.
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Normative Aging Study. *Am J Epidemiol* 1994;140:821-829.

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- chronic toxicity: Conceptual paradigms. *Environ Health Persp* 1998;106:1-8.
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- questionnaire for screening for multiple chemical sensitivity syndrome. *Tox Industr Health* 1999;15:582-588.
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