

# JUNFENG (JIM) ZHANG

## CURRICULUM VITAE



### DUKE UNIVERSITY

Nicholas School of the Environment  
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### DUKE KUNSHAN UNIVERSITY

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## I. EDUCATION

Degree	School	Date	Concentration
B.S.	Peking University, Beijing, China	1985	Applied Chemistry
M.S.	Peking University, Beijing, China	1988	Atmospheric Chemistry
M.S.	Rutgers University, New Brunswick, NJ	1991	Environmental Sciences
Ph.D.	Rutgers University and the University of Medicine and Dentistry of New Jersey, Piscataway, NJ (Paul Lioy, Advisor)	1994	Environmental Sciences and Public Health
Postdoctoral	East-West Center, Mentored by Kirk R. Smith, UC-Berkeley	1994-1995	Environmental health and Policy

### Special Training

- Attended “Stand and Deliver” Workshop by Steve Adubato, PhD, consisting of six two-hour sessions on “Speak from the Heart”, a UMDNJ effort of leadership development, 2005.
- Attached one-day “Ready for Media” training at University of Southern California, with hand-on training on how to effectively communicate with the media and the public about scientific discoveries, 2012.
- Participated in Teaching for Equity Fellow Program of Duke University, the program includes 48 hours of in class training plus homework of reading assignments, August 2018- April 2019. The program provides training to effective teaching to all including those who are underprivileged.

### Honors and Awards

- Outstanding Graduate 1985 (Highest Honors), by Peking University and numerous awards during undergraduate and graduate study at Peking University (1981-1988).
- Second place of the National Best Books on Environmental Knowledge, Beijing, China. Book title: "A Treasure Box of Environmental Knowledge," 1990.
- First place of the National Hongyu (Rainbow and Rain) Cup Contest of Poetry and Words in Beijing, China. Winning poem title: "Memory Serenade" 1992.

- Second place, Contest of Student Paper Session, 39th Anniversary Conference of Air & Waste Management Association, Mid-Atlantic States Section, Atlantic City, NJ. Paper title: "Indoor AIR chemistry: ozone, aldehydes, and organic acids in residential air," 1993.
- Distinguished Lectureship Award (for presenting a short course on Indoor Air Pollution and Exposure Assessment), presented by College of Environmental Sciences and Engineering, Nan Kai University, Tianjin, China, 2002.
- For contributing to the award of the Nobel Peace Prize for 2007 to IPCC, presented by the Intergovernmental Panel on Climate Change (IPCC), 2007.
- Honorary Member of Delta Omega, the honorary society for graduate studies in public health, 2008.
- Excellence in Research Award for 2007-2008 by the Foundation of University of Medicine and Dentistry of New Jersey, 2008.
- Excellence in Teaching Award for 2008-2009 by the Foundation of University of Medicine and Dentistry of New Jersey, 2009.
- Inducted to the Stuart D. Cook Master Educators' Guild, University of Medicine and Dentistry of New Jersey, 2009.
- Jerome J. Wesolowski Award, the highest award of the International Society of Exposure Science (ISES), to recognize sustained and outstanding contributions to the knowledge and practice of human exposure assessment, 2012.
- Distinguished Alumni Award, by the Graduate School-New Brunswick, Rutgers University, for outstanding achievement in the Physical and Mathematical Sciences, 2013.
- Dennis M. Fenton Graduate Student Alumni Award, presented by the Cook Community Alumni Association, Rutgers University, 2013.
- Fellow of American Association for the Advancement of Science (AAAS), 2013.
- Otto Mønsted Visiting Professor, Department of Civil Engineering, The Technical University of Denmark. August -October, 2021.

## **II. EMPLOYMENT HISTORY**

### Academic Appointments (in chronological order)

- Fellow (Research Associate), Program on Environment, the East-West Center, Hawaii, 1994-1995.
- Assistant Professor, Department of Environmental and Community Medicine, the University of Medicine and Dentistry of New Jersey (merged into Rutgers University in c.a. 2012), Robert Wood Johnson Medical School, 1995-2001.
- Member, Exposure Measurement and Assessment Division, Environmental and Occupational Health Sciences Institute (EOHSI), Rutgers University, 1995-2010.
- Lecturer, TH Huxley School of Environment, Earth Science and Engineering, Imperial College London, 2000-2001.
- Adjunct Research Professor, China National Environmental Monitoring Center, 2000-2004.
- Associate Professor, Department of Environmental and Occupational Health, School of Public Health – University of Medicine and Dentistry of New Jersey (now Rutgers University), 2001-2006.
- Faculty Member, Joint Graduate Program in Toxicology of UMDNJ and Rutgers University, 2005-2010.
- Graduate Faculty, Department of Environmental Sciences, Rutgers University, 1996-2010.
- Member, the Cancer Institute of New Jersey, 2002- 2010.
- Faculty member, the Graduate School of Biomedical Sciences at University of Medicine and Dentistry of New Jersey, 1996-2010.

- Guest Professor, College of Environmental Sciences and Engineering, Peking University, 2004-2007, 2014-present.
- Professor (with tenure) of Environmental and Occupational Health, School of Public Health – University of Medicine and Dentistry of New Jersey (now Rutgers University), 2006-2010.
- Adjunct Professor, Department Environmental and Occupational Health, School of Public Health, Rutgers University, 2010-2015.
- Professor (with tenure), Department of Preventive Medicine, Keck School of Medicine, the University of Southern California, 2010-2013.
- Professor of Global and Environmental Health, the Nicholas School of the Environment, Duke University, 2013- present.
- Professor, Duke Global Health Institute, Duke University, 2013-present.
- Member, University Program on Environmental Health (Integrated Toxicology and Environmental Health), Duke University, 2013-present.
- Research Professor, Duke Kunshan University (China), 2014-present.
- Member, Duke Cancer Institute, Duke University, 2015-present.
- Nanshan Guest Professor, Guangzhou Institute of Respiratory Health, Guangzhou Medical University, 2017- 2020.
- Otto Mønsted Visiting Professor, Department of Civil Engineering, The Technical University of Denmark. August -October, 2021.

#### **Administrative Appointments** (in chronological order)

- Director, International Environmental Health Center, Environmental and Occupational Health Sciences Institute, Rutgers University, 2001- 2004.
- Acting Chair and Chair, Department of Environmental and Occupational Health, the School of Public Health, University of Medicine and Dentistry of New Jersey (now Rutgers University), 2006-2010.
- Associate Dean for the Piscataway/New Brunswick Campus, Associate Dean for Global Public Health, the School of Public Health, University of Medicine and Dentistry of New Jersey, 2008-2010.
- Chair, Executive Committee for the Piscataway/New Brunswick Campus, School of Public Health, University of Medicine and Dentistry of New Jersey, 2008 – 2010.
- Director, Regional Ozone Sino-US Collaborative Research Center, Duke Kunshan University, 2015-present.
- Chair, China Faculty Council, Duke University, 2016-2018.
- Chair, Faculty Council, Duke Kunshan University, 1015-2018.
- Chair, Ecotoxicity and Environmental Health Program, Nicholas School of the Environment, Duke University, 2018-present.

#### **Professional/Service Appointments** (in chronological order)

- Councilor (Academic), International Society of Exposure Analysis, 2004 -2007
- Member of the New Jersey Clean Air Council, advisory body for the State of New Jersey, appointed by the governor of New Jersey, 2005-2010.
- Member of the Environmental Health Sciences Review Committee of the National Institute of Environmental Health Sciences (NIEHS), which has primary responsibility for reviewing applications for P30 Centers, institutional training grants, career awards, and other specialized program applications, 2011 – 2015.
- Member of the Environmental Protection Agency (EPA) Clean Air Scientific Advisory Committee (CASAC) Oxides of Nitrogen (NOx) Primary National Ambient Air Quality Standards (NAAQS) Panel, which will review and provide technical advice and policy assessments for NOx. 2013 – 2017.

- Member of the Special Scientific Committee on Unconventional Oil and Gas Development, Health Effects Institute. 2014 – 2015.
- Member of the North Carolina Oil and Gas Commission, appointed by Governor of North Carolina, 2018-present.

#### Other Appointments (in chronological order)

- Research and Teaching Assistant, Department of Technical Physics, Peking University, Beijing, China, 1985-1988.
- Consultant, Environmental Protection Office of Peking University, Beijing, China, 1987-1989.
- Executive Director of Management Training Program, Stone Company, Beijing, China, 1988-1989.
- Air Pollution Analyst, Gibbs & Hill, Inc., NY 1990-1990
- Research Assistant, Environmental and Occupational Health Sciences Institute, Rutgers University 1989-1994.

### III. TEACHING HISTORY

#### Courses Taught at Duke University and Duke Kunshan University

- *Air Pollution: from Sources to Health Effects (ENVIRON 642)*, graduate level, spring 2014
- *Air Quality I: Sources, Fate and Transport of Pollutants (ENVIRON 603)*, spring 2016
- *Air Quality: Human Exposure and Health Effects (ENVIRON 604)*, spring 2016, fall 2016, fall 2017, fall 2018, fall 2019, fall 2020.
- *Air Quality: Management (ENVIRON 603)*, fall 2020.
- *Environmental Exposure Analysis (ENVIRON 780)*, Graduate level (co-teaching with Heather Stapleton), fall 2014, fall 2015, fall 2017, fall 2019.
- *Introduction to Global Health*, in Global Health Certificate Program jointly offered by Duke University (DGHI) and Peking University Health Sciences Center, Summer 2013, Summer 2015, Summer 2016.
- *Global Environmental Health Problems: Principles and Case Studies (ENVIRON 581)*, spring 2017, spring 2018, spring 2019, spring 2020, spring 2021.
- *Ecotoxicology and Environmental Health Program Seminars (ENVIRON 898, 75 min weekly)*, fall 2019, spring 2020, fall 2020, Spring 2021.
- *Research Independent Study (ENVIRON 393-71)*. Rui Liu (Fall 2014, Spring 2015), William Liakos III (spring 2015, fall 2015), Gopi Neppala (fall 2015, spring 2016, fall 2016), Stella Wang (spring 2017), Rafae Alam (fall 2018, spring 2019), Phoebe Kiburi (fall 2019)

#### Guest Lectured at Duke University

- *Health Education for 2<sup>nd</sup> Year Medical Students*, fall 2013
- *Environmental Health (ENV537)*, Graduate/undergraduate, spring 2014, spring 2015, spring 2016, spring 2017, spring 2019.
- *Environmental Toxicology and Chemistry (ENV360)*, Undergraduate, spring 2014, spring 2015, spring 2016, spring 2017, spring 2018, spring 2019
- *Global Health Challenges (GH570)*, graduate, fall 2013, fall 2014, fall 2015, fall 2016
- *China GATE-Energy and Environment*, Executive Training Program, Spring 2014

#### Courses Taught at Rutgers University

- *Indoor Air Quality, Graduate level elective*, fall 2002, fall 2005, fall 2008
- *Introduction to Environmental Health*, Graduate Level Core Course, spring 2002, spring 2003, spring 2005, spring 2007, Fall 2007, fall 2008

- *Environmental Exposure Measurement and Assessment*, Graduate Level Core Course, fall 1996, fall 1998, fall 2001, fall 2003, fall 2005, fall 2007
- *Atmospheric Chemistry*, graduate level course, spring 1998, spring 2000
- *Air Pollution, part of Fundamental Concepts of Environmental Sciences (II)*, Graduate level. Spring 1998, spring 1999

#### **Guest Lectured at Rutgers University and University of Southern California**

- *Environmental Risk Assessment*, Graduate level, Rutgers/UMDNJ
- *Principles of Air Pollution*, Undergraduate level, Rutgers University
- *Air Sampling and Analysis*, Undergraduate level, Rutgers University
- *Environmental Fate and Transport*, Graduate/undergraduate levels, Rutgers University
- *Environmental and Occupational Toxicology*, Graduate level, Rutgers University
- *Introduction of Global Public Health*, Graduate level, Rutgers University
- *Case Studies in Global Health*, Undergraduate level, 2011, 2012, University of Southern California (USC)
- *Environmental Health: The Growing Impact of Air Pollution on Health*, Undergraduate level Intro to Global Health) 2010, 2011, 2012, and 2013, at USC
- *The Use of Biomarkers in Exposure Assessment*, Graduate level, 2012, USC
- *Exposure Assessment in Environmental Epidemiology*, Graduate level, 2006-2009, Rutgers/UMDNJ and in 2012, 2013, USC
- *Exposure Assessment in Environmental Toxicology*, Graduate level, 2006-2009, Rutgers/UMDNJ and 2012, 2013, USC

## **IV. MENTORING**

### **Rutgers University (1995-2014)**

#### Faculty Mentor for

- David Rich, ScD, Assistant Profesor, 2007-2009.
- Derak Shindell, Assitant Professor, 2008-2010.

#### Postdoc Mentor for

- Zhipeng Bai, Ph.D., 1997-2000.
- Lin Zhang, Ph.D., 1998-2001.
- In-Kyu Han, Ph.D., 2008-2008.
- Ananya Roy, Sc.D., 2009-2011.

#### PhD Advisor for:

- Thomas Wainman, 1996-1999, Ph.D. in Environmental Sciences 1995-1999. (Co-Chair with Paul Lioy) Dissertation title: "Use of a two-tiered dynamic chamber to investigate indoor air chemistry."
- Zhengmin Qian, 1997-2002 Rutgers University and UMDNJ-Robert Wood Johnson Medical School, Joint Ph.D. Program in Exposure Assessment. Dissertation title: "Assessing air pollution exposure and health effects on children's respiratory health in four Chinese cities."
- Daniel Reyner, 2001-2004 UMDNJ- School of Public Health, DrPH in Public Health, 1999-2004. Dissertation title: "Effects of exposure to paternal environmental tobacco smoke, respiratory disease requiring hospitalization, and breast-feeding during infancy on lung functioning".
- Weili Liu, 2001-2006, Ph.D., Program in Exposure Assessment, 2000 -2006. Dissertation title: "Characteristics of indoor, outdoor, and personal exposure to carbonyl compounds".

- Kunning Zhu, 2002-2006, Ph.D. in Program in Exposure Assessment (Co-chair of thesis committee with Paul J. Lioy). Dissertation title: "Evaluation and comparison of continuous PM2.5 monitors in measurements of ambient aerosol, fresh diesel exhaust aerosol, and fresh secondary organic aerosol".
- Stella Tsai, 2000-2007, Ph.D. in Public Health. Dissertation title: "Outdoor aeroallergens, air pollutants, and daily asthma hospitalization in two urban areas of New Jersey".
- Jason Harrington, 2002-2007, PhD in Program in Exposure Assessment. Dissertation title: "Development and evaluation of airborne carbonyl measurement methods".
- In-Kyu (Paul) Han, 2002-2008, Ph.D. in Public Health. Dissertation Title: "Urinary 1-Hydroxypyrene in Nonsmokers: A Biomarker for Coke Smoke Exposure and General Urban PAH Exposure"
- Alyaa Farouk Abdel Fattah Ibrahim, 2010, Faculty of Nursing, Alexandria University, Egypt, degree of Doctor of Community health Nursing. Dissertation title: "the relation between indoor air pollution and child health in Abis rural area in Alexandria". (Served as co-Advisor and hosted Alyaa as visiting student scholar at UMDNJ from 2008 to 2010)
- Chizoba Nwankwo, 2007-2010, Ph.D. in Public Health. Dissertation title: "Sex differences in response to acute diesel exhaust exposure."
- Jicheng Gong, 2006-2011, Ph.D. in Program in Exposure Assessment, Dissertation title: "Development and application of exhaled breath biomarkers for studying health effects of air pollution."
- Brent Altemos, 2008-2014, Rutgers University School of Public Health, PhD in Public Health, Dissertation title: "Air Pollution Source Apportionment Before, During, and After the 2008 Beijing Olympics and Association of Sources to Aldehydes and Biomarkers of Blood Coagulation, Pulmonary and Systemic Inflammation, and Oxidative Stress in Healthy Young Adults".

PhD Committee Member for:

- Linda Bonanno, 2000.
- Sheng-Wei Wang, 1998.
- Pei-Yu Tsai, 2000.
- Nares Chuersuwana, 2001.
- Ho-Jin Lim, 2001.
- Qingyu Meng, 2004.
- Paromita Hore, 2004.
- Jaymin Kawn, 2005.
- Gary Garetano, 2005.
- Chang Ho Yu, 2005.
- Diann Blanset, 2006.
- Steven Spayd, 2009.
- Margaret Lumia, 2007.
- Maria Trabaris, 2008.
- Marija Borjan, 2009.
- Susan Huyck, 2010.

Masters Theses Advisor for

- Tara Proetta, MSc, 2000.
- Glenn Pulliam, MPH, 2008
- Mary Pauline De La Cruz, MPH, 2009
- Michael Carr, MPH, 2010
- Ian Pracher, MPH, 2010

- Jessica Small, MPH, 2010

Staff Supervisor for

- Tseng-Heng Li, Research Assistant, 1995-1996.
- Cheng-Wei Fan, Research Assistant, 1996-1998.
- Yuching Yang, Research Assistant, UMDNJ, 1999-2000.
- Zhi-hua (Tina) Fan, Ph.D., Research Associate, 1998-2000.
- Chen Zhang, Senior Lab Technician, 1997-2006.
- Robert Harrington, Senior Lab Technician, 1999-2005.
- Lin Zhang, Ph.D. Research Teaching Specialist, 2001-2013.
- Jean Tong, M.S. Research Teaching Specialist, 2005-2011.

**University of Southern California (2010-2013)**

Postdoc Mentor for:

- Jicheng Gong, PhD., 2012-2013.

Masters Theses Advisor for

- Lily Fu, MPH, 2011
- Athena Foong, MS, 2013

Visiting Scholar Mentor for

- Huixin Wu, Kunming Medical University, Yunnan Province, China, 2011-2012.

Staff Supervisor for

- Henock Solomon, M.P.H, Project Specialist, 2011- 2014.
- Yan Chang, PhD, Senior Research Associate, 2011- 2014.
- Wantiang Lin, MSc, Data Analyst, 2012-2013.
- Vikram Paranjpe, Research Assistant, 2011-2013.
- Sanika Gadkari, Research Assistant, 2012-2013.
- Charlene Nguyen, Research Assistant, 2012-2013.

**Duke Kunshan University (2015-present)**

Faculty Mentor for

- John Ji, ScD. Assistant Professor, 2016-present.

Postdoc Mentor for:

- Jake Chung: 2015-2016
- Yanbo Teng: 2016- 2019
- Zhenchun Yang: 2020-present

Masters Theses or Projects Advisor for

- Erik Yan, MSc, 2020
- Wenhao Qi, MSc, 2021.

Staff Supervisor for

- Yuqiao Song, MS, Research and Administrative Assistant, 2017- 2018.
- Hailong Han, BS, Sr. Lab Technician, 2018-present.

**Duke University (2013-present)**

Faculty Mentor (co-mentor) for

- William Pan, DrPH, Assistant Professor, 2014-2018.
- Liping Feng, MD, Assistant Professor, 2015- present (primary mentor on NIH K01 grant).

Postdocs mentored

- Jicheng Gong: 2013 –2016
- Minquan Li: 2015-2017
- Yan Lin: 2019-

PhD Advisor for:

- Drew Day: PhD in Environmental Science, Integrated Toxicology and Environmental Health Program, 2013-2017. Title of Dissertation: “The Effects of Ozone Exposure on Cardiovascular Pathophysiology”
- Xiaoxing Cui: PhD in Environmental Science, Integrated Toxicology and Environmental Health Program, 2013-2018. Title of Dissertation: “The Health Impact of Indoor Air Filtration in Healthy Adults and Asthmatic Children”
- Linchen He: PhD in Environment, 2016-2020. Title of Dissertation: “The role of melatonin in pathophysiologic responses to air pollution exposure”
- Xiangtian Wang, PhD in Environment, 2019-present
- Yihui Ge, PhD in Environment, 2020-present

PhD Committee Member for:

- Danielle Botelho, 2015 (External, Rutgers University student)
- Karoline Johnson, 2018
- Stephanie Hammel, 2019
- Heidi Vreeland, 2019

Undergraduate Senior Thesis Advisor for

- Rui Wang, 2015
- Gopi Neppala, 2017
- Stella Wang, 2018
- Rafea Alam, 2019

Masters Theses or Projects Advisor for

- Chen Liu (MSc in Global Health), 2014-2015
- Pejia Yan (MEM), 2016- 2018
- Gina Daniel (MEM), 2016-2018
- Sun Yan (MEM), 2018-2020
- Yang Wang (MEM), 2018-2020
- Bridget Rogers (MScGH), 2018-2020

Visiting Scholar Mentor for

- Yalin Chen, Rizhao City Environmental Sciences Research Institute, China, 2013-2014
- Huijuan Li, PhD, Xuzhou Institute of Technology, China, 2014-2015
- Nan Zhang, PhD student, Tsinghua University, 2014-2015
- Xiaoli Duan, PhD, Chinese Research Academy of Environmental Sciences, Beijing, 2014-2015
- Yongjie Wei, PhD, Chinese Research Academy of Environmental Sciences, Beijing, 2014-2015



- Shunyan Shan, PhD, Nankai University, 2015-2016
- Zongshuang Wang, PhD, Environmental Standards Institute, Beijing, 2016-2017
- Hui Wu, PhD, China Medical University, Shenyang, China, 2016-2017
- Jianbang Xiang, PhD student, Tsinghua University, 2016-2017.
- Qijun Wang, PhD, South China University of technology, 2017-2018.
- Jinpu Jia, East China Normal University, 2017-2018.
- Shanshan Shi, PhD, Nanjing University, 2017-2018.
- Beibei Hu, PhD, Tianjin Normal University, 11/2017- 11/2018.
- Xing Li, MD, Guangdong Provincial Institute of Public Health, 9/2018-9/2019.
- Wu Chen, PhD student, Peking University, 12/2018-6/2019
- Jian Qin, PhD, School of Public Health, Guangxi Medical University, 3/2019-2/2020
- Shuyuan Chu, Internal Medicine, Affiliated Hospital of Guilin Medical University, Guangxi, 6/2019-6/2020
- Xiaoli Wang, PhD, Tianjin University of Technology, Tianjin, 6/2019-3/2020
- Xiaoyin Sun, PhD, Qufu Normal University, Rizhou, Shandong, 8/2019-1/2020.
- Ruifen Shan, PhD, Qufu Normal University, Rizhou, Shandong, 8/2019-1/2020.
- Hui Huang, PhD, Zhengzhou University, Henan Province, 9/2019-9/2020.
- Xiaodong Liu, PhD, Guangzhou Medical University, 2/2020-

#### Staff Supervisor for

- Marlyn Duarte, MS, Data Analyst II, 2014-2016.
- Hailong Han, BS, Laboratory Technician, 2015-2016.
- Rui Wang, BS, Laboratory Technician, 2015-2015.
- Xing (Lucy) Liu, PhD, Research Scientist, 2016-2019.

## V. SERVICE

### Rutgers University (1995-2013)

- Member of the School-wide Curriculum Committee, UMDNJ-School of Public Health, 2009 – 2010.
- Member of the Appointment and Promotions Committee, UMDNJ-School of Public Health, 2009 – 2010.
- Chair, the Piscataway/New Brunswick Campus Executive Committee, UMDNJ-School of Public Health, 2008- 2010.
- Member of the Dean’s Council, UMDNJ-School of Public Health, 2008- 2010.
- Member of the Faculty Search Committee for Department of Environmental Sciences, School of Environmental and Biological Sciences, Rutgers University, 2008 – 2009.
- Member of the *ad hoc* Search Committee for Dean, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, 2007- 2008.
- Member and Discipline Coordinator, Doctoral Committee, School of Public Health, University of Medicine and Dentistry of New Jersey, 2001 – present.
- Member, Graduate Admissions Committee, Department of Environmental Sciences, Rutgers University 1997 – 2005.
- Member, Seminar Committee, Environmental and Occupational Health Sciences Institute (EOHSI) and National Institute of Environmental Health Sciences Center of Excellence at EOHSI, 1997 – 2004.

### University of Southern California (2010-2013)

- Member of the Executive Committee, Southern California Environmental Health Sciences Center, University of Southern California, 2011-2013.
- Representative of Institute of Global Health, USC Global Conference 2010 and 2012.

#### Duke University (2013- present)

- Member of Faculty Search Committee, Department of Civil and Environmental Engineering, Duke University, 2013.
- Member of the Search Committee for Faculty Hire in the area of environmental science and policy, Duke Kunshan University, 2013.
- Chair of the Review Committee for William Pan's reappointment evaluation, Nicholas School of the Environment, Duke University, 2013.
- Member of the Duke University Global Priorities Committee (GPC), the Committee is an advisory body to the Vice President and Vice Provost for Global Strategy and Programs and the Provost. It is charged with reviewing and refining Duke's global strategy and assessing university and academic programs and activities operating globally, both when they are being created and in monitoring ongoing performance, 2015-present.
- Member, the Academic Council, Duke University, 2017- 2019.
- Member (2015-2016) and Chair (2016-2018) of the China Faculty Council, appointed by Duke Provost. The Council is charged to advise the Provost and the Associate Vice Provost and Director of the Duke Kunshan University Program Office on program development opportunities in China, including for Duke Kunshan University (DKU), 2015-2018.
- Member of Duke Kunshan Hiring Central Committee, this committee vets for quality and /or any other issues arising from the main search committees in departments at Duke Kunshan University, 10/2015-present.
- Chair of the Review Committee for William Pan's Tenure Promotion evaluation, Nicholas School of the Environment, Duke University, 2016.
- Member, Search Committee for Director of Duke Global Health Institute, 2017.
- Co-Chair, DGHI Appointments and Promotion Committee, 2018 -2020.
- Chair, Ecotoxicology and Environmental Health Program, Nicholas School of the Environment. 2019-present.
- Member, Faculty Review Committee for Heather Stapleton's promotion from associate to full professor, 2019.

#### Duke Kunshan University (2014- present)

- Chair of the Duke Kunshan Faculty Council, 2015-2018.
- Lead of Environmental Health Program of the Global Health Research Center, Duke Kunshan University. 2014-present
- Director of Regional Ozone Sino-US Collaborative Center (ROSUC), Duke Kunshan University. 2015- 2020.
- Committee Member for faculty cluster hire for the Environment Program at Duke Kunshan University, 2016-2017.
- Co-Chair for faculty cluster hire for the Global Health Program at DKU, 2016-2019.

#### Professional Organizations and Governmental Agencies (1995-present)

- Research Workshop, sponsored by US National Institute of Environmental Health Sciences (NIEHS), University of Kebangsaan Malaysia, University of Putra Malaysia, Environmental & Occupational Health Science Institute, NJ, and University of Pittsburgh, PA, 01/2001–05/2001

- Program Co-Chair, International Topical Meeting on Environmental Reliability and Risk Studies, Seoul National University, Seoul, South Korea, Sponsored by US National Science Foundation and co-sponsored by Rutgers University, Seoul National University, and UMDNJ , 02/05-02/05
- Conference Chair, of the Annual Conference of International Society of Exposure Analysis (ISEA) held in October 17-21, 2004 in Philadelphia, USA. 2002-2004
- Member of the International Advisory Committee for the 10<sup>th</sup> International Healthy Building Conference in 2012 (HB2012), which is the official conference of the International Society of Indoor Air Quality and Climate (ISIAQ) and will take place in Brisbane, Australia, from 8-12 July 2012. 03/2011-07/2012.
- Member of the Review Panel (Search Committee) for Title-42, Director of Human Exposure and Atmospheric Sciences Division, National Exposure Research Laboratory, U.S. Environmental Protection Agency. 2011.
- Member of the World Health Organization (WHO) Working Group charged to Develop Indoor Air Quality Guidelines – Household Fuel Combustion. 2011-2012 (meeting held in New Delhi, India 04/24/12-04/26/12).
- Member of 13<sup>th</sup> International Conference on Indoor Air Quality and Climate (Held in Hong Kong, July 7-12<sup>th</sup>, China)
- Center for Environmental NanoScience Risk EPA Grantees Meeting (Held in Columbia, SC September 9-10<sup>th</sup>)
- Member of Special Scientific Committee Meeting on Unconventional Oil and Gas Development (held in Pittsburgh, PA September 8-9<sup>th</sup>, 2014).
- Member of the 4<sup>th</sup> International Autism Research Diagnosis & Development Shanghai (held in Fudan University October 1-2<sup>nd</sup>, 2014, China)
- Member of Environment and Respiratory Diseases Forum (held in Guangzhou November 7-8<sup>th</sup>, 2014, China).
- Member of Planning Committee and Workshop Coordinator for the Southeast Asian Environmental Health Research Workshop, sponsored by US National Institute of Environmental Health Sciences (NIEHS), University of Kebangsaan Malaysia, University of Putra Malaysia, Environmental & Occupational Health Science Institute, NJ, and University of Pittsburgh, PA, 01/01–05/01.
- Conference Chair, of the Annual Conference of International Society of Exposure Analysis (ISEA) held in October 17-21, 2004 in Philadelphia, USA. 2002-2004.
- Program Co-Chair, International Topical Meeting on Environmental Reliability and Risk Studies, Seoul National University, Seoul, South Korea, Sponsored by US National Science Foundation and co-sponsored by Rutgers University, Seoul National University, and UMDNJ, 02/05.
- Panel member, NIH and EPA workshop on “Reducing the cardiopulmonary impact of particulate matter air pollution in high risk populations”, May 29-30, 2019, NHLBI, Bethesda, MA.

### Editorial Activities

- Associate Editor (Editorial Board Member), Journal of Exposure Science and Environmental Epidemiology, 2007 – 2015.
- Associate Editor, Air Quality, Atmosphere & Health, 2010 – 2020.
- Associate Editor, Indoor Air, 2012 – present.
- Guest Editor, Journal of Thoracic Disease, 2014-2015.
- Editorial Board Member, Journal of Thoracic Diseases, 2015-present.
- Air Pollution Section Director/Editor, Journal of Thoracic Diseases, 2017-present.
- Editorial Board Member, Environmental Science & Ecotechnology, 2019-present.

### Journal Reviewer for

- Analytical Chemistry
- American Industrial Hygienist Association Journal
- American Journal of Respiratory and Critical Care Medicine
- Atmospheric Environment
- Chemosphere
- Energy for Sustainable Development
- Environmental Health Perspectives
- Environmental Science & Technology
- Epidemiology
- Indoor Air
- International Journal of Environmental Analytical Chemistry
- Journal of Air & Waste Management Association
- Journal of Exposure Analysis and Environmental Epidemiology
- Journal of Hazardous Materials
- Occupational and Environmental Medicine
- International Journal of COPD
- The Science of Total Environment
- Thorax
- Journal of American Medical Association (JAMA)
- PLOS One
- Environmental Pollution
- Journal of Sports Medicine

#### Grant Reviewer for

- Peer reviewer of the STAR Research Grants for National Center for Environmental Research and Quality Assurance, US Environmental Protection Agency. EPA Category and Sorting Code: Airborne Particulate Matter Health Effects, 8/99-9/99.
- Site-visit team member for Engineering Research Center (ERC), National Science Foundation (NSF), participated in the site review of a proposed ERC for *Atmospheric Monitoring and Sensor Engineering* at the University of Illinois at Urbana-Champaign, 2/26-27, 1998.
- Reviewer of IPCC Draft Document “Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories”. (IPCC: Intergovernmental Panel on Climate Change), 12/99–2/00.
- Peer reviewer of the STAR Research Grants for National Center for Environmental Research and Quality Assurance, US Environmental Protection Agency. EPA Category and Sorting Code: Airborne Particulate Matter Health Effects: Cardiovascular mechanisms 2002-STAR-G1, 06/02 – 07/02.
- Member, the Grant Review Panel for Particulate Matter Research Centers of US Environmental Protection Agency, Washington, DC, 01/25-27, 2005.
- Ad Hoc Member, the Center for Scientific Review Special Emphasis Panel, National Cancer Institute (NCI-NIH), EPIC Study Section, Washington, DC, 04/03/3-4, 2005.
- Ad Hoc Member, the NIEHS P30 Center Site Visit to the University of Southern California (NIEHS-National Institute of Environmental Health Sciences-NIH), 04/27-29, 2005.
- Ad Hoc Member, the Center for Scientific Review Special Emphasis Panel, National Cancer Institute (NCI-NIH), EPIC Study Section, Washington, DC, 06/23-24, 2005.
- Ad Hoc Member, the Center for Scientific Review Special Emphasis Panel, National Cancer Institute (NCI-NIH), Epidemiology of Cancer (EPIC) Study Section, Bethesda, Maryland, 03/02-03, 2006.

- Member of the expert panel drafting IARC Monographs on the Evaluation of Carcinogenic Risks to Humans Volume 95: Indoor air pollution from heating and cooking: coal, biomass, cooking oils and fumes. Lyon, France. (IARC: International Agency for Research on Cancer, World Health Organization), 10/10-17, 2006.
- Member, National Institute of Environmental Health Sciences Special Emphasis Panel (ZES1 TN-E(FG)), Genetics, Air Pollution, and Respiratory Effects. Durham, North Carolina, 12/15, 2006.
- Member of the Scientific Review Committee, P01 Application on Genetic Role in Health Effects of Air Pollution, National Institute of Environmental Health Sciences – NIH. Durham, North Carolina, 12/15, 2006.
- Member of Review Panel, Fellowship – Toxicology, STAR grants, US Environmental Protection Agency. Washington DC, 2/15-16, 2007.
- Member of the “CDC Grants for Public Health Research Dissertation” Special Emphasis Panel, Atlanta, Georgia, 7/25-26, 2007.
- External Reviewer for Thrasher Research Fund, 2007.
- External Reviewer for the Research Council of Norway, 2007.
- Member of the US Environmental Protection Agency’s Peer Review Panel for Fellowship: Environmental Decision-making Research, Washington DC, 1/29-2/1, 2008.
- Member of the US Environmental Protection Agency’s Peer Review Panel for Graduate Fellowships: Public Health Sciences and Human Health Risk Assessment, Washington DC, 3/6-3/7, 2008.
- Member of the Environmental Exposures Working Group for the PhenX project – under the NIH Gene-Environment Interaction Initiative, 12/2008 – 5/2009.
- Member of the National Institute of Environmental Health Sciences Special Emphasis Panel (RFA-ES-11-006). Deepwater Horizon Disaster Consortia: Health Impacts and Community Resiliency (U19). Research Triangle Park, NC, 4/6-8, 2011.
- Member of the National Institute of Environmental Health Sciences Special Emphasis Panel (ZES1 LKB-D D). Development to Independence Review Meeting. Research Triangle Park, NC, 11/10, 2011.
- External Reviewer for the Natural Sciences and Engineering Research Council (NSERC) and the Canadian Institutes of Health Research (CIHR). 2011.
- Member of the AAAS Research Competitiveness Program in the review of proposals submitted for funding through the King Abdulaziz City for Science and Technology (KACST). 2012.
- Member of the National Institute of Health Sciences Review Panel for Infectious Disease, Reproductive Health, and Asthma/Pulmonary Conditions (IRAP) study section. San Francisco, CA, 02/16-17, 2012.
- Member of the National Institute of Environmental Health Sciences Review Committee for the Review of NIEHS P30 Center Grant Applications, EHS (P3). Research Triangle Park, NC, 08/22-23, 2012.
- Member of the National Institute of Environmental Health Science Review Committee for the Review of T32 Training Grants and R25 Grant Applications. Research Triangle Park, NC, 9/15, 2012.
- Member of the National Institute of Environmental Health Science Review Committee for the Review of NIEHS P30 Center Grant Applications. Research Triangle Park, NC, 07/24-26, 2013.
- Member of the Environmental Health Sciences Review Committee and Special Reviewers. Research Triangle Park, August 14-15, 2014.
- Member of the Environmental Protection Agency Peer Review Committee for Air Pollution Monitoring for Communities –K1 (panel 2). Washington, DC January 8-9, 2015.
- Ad Hoc Member of NIH IRAP study section, meeting February 11-12, 2016, Washington, DC.
- Ad Hoc Member of NIH NAME study section, meeting October 6-7, 2016, Washington, DC
- Ad Hoc Member of NIOSH (CDC) World Trade Center Health Program Research Cooperative Agreements Review, April 11-12, 2018. Atlanta, GA.
- Numerous mail and telephone reviews for NIH grants, 2015 - present

- Member of Review Panel, Health Effects Institute, RFA 18-1, "Assessing improved air quality and health from national, regional, and local air quality actions". June 26, 2019.
- Member of NIH IRAP study section, review meeting in Seattle, WA, Feb 26-28, 2020.
- Member of NIEHS grants review meetings, Pregnancy as a Vulnerable Period in Women's Health, Zoom meeting, March 31-April 2, 2020.
- Member of the Strategic Priority Fund for Clean Air Networks Expert Panel, by UK Research and Innovation, Natural Environment Research Council, Zoom meeting June 3-4, 2020.
- Member of the R35 (RIVER) review panel, ZES1LWJ-D, for NIEHS, November 12, 2020. Zoom meeting.
- Member of the NIH IRAP study section, review meeting via Zoom, July 8 and July 9, 2021.
- Member of the NIEHS Time Sensitive R21 review panel, review via Zoom, Aug 12, 2021.

### Community Service

- Member of the Steering Committee of the New Jersey Comparative Risk Project, New Jersey Department of Environmental Protection, Trenton, New Jersey, 01/00-08/02.
- Mentor of American Chemical Society's Seed Program to sponsor summer research for high school students, 2002.
- Guest speaker to the Science and Math Awareness Program, Piscataway High School, 1998-2003.
- Mentor for Liberty Science Center Partnership Summer Research Program for high school students, 1997-2010.

## **VI: PROFESSIONAL ACTIVITIES**

### Professional Society Memberships (past and current)

- International Society for Environmental Epidemiology
- International Society of Exposure Science
- American Association for the Advancement of Science
- International Society of Indoor Air Quality and Climate
- American Chemical Society
- Air and Waste Management Association
- American Public Health Association
- American Industrial Hygiene Association

### Invited Guest Lectures and Keynote Speeches

1. December 9, 1993, Department of Environmental Health, Harvard University School of Public Health, Boston, MA, presented a seminar entitled "Indoor air chemistry: ozone, nitrogen dioxide, aldehydes, and organic acids."
2. February 22, 1994, the John B. Pierce Laboratory and Yale University, School of Medicine, New Haven, Connecticut, presented a seminar entitled "Ozone, nitrogen dioxide, aldehydes, and organic acids in residential air."
3. September 7, 1994, Department of Public Health Sciences, School of Public Health, University of Hawaii at Manoa, Honolulu, Hawaii, presented a lecture entitled "Air pollution: an overview."
4. August 24, 1994, Institute for Techno-Economics and Energy System Analysis, Tsinghua University, Beijing, China, presented a seminar entitled "Energy, greenhouse gas emissions, and health impacts from small-scale combustion devices"

5. November 1, 1994, Institute of Environmental Health & Engineering, Chinese Academy of Preventive Medicine, Beijing, China, presented a seminar entitled "Indoor air pollution and human exposures."
6. April 28-30, 1999, Presented at the IPCC's Expert Group Meeting on Greenhouse Gases Emission Inventories – Energy Sector, in Prague, Czech Republic (IPCC: Intergovernmental Panel on Climate Change).
7. May 5, 1999, Oregon Graduate Institute of Science and Technology, Beaverton, Oregon, presented a seminar entitled "Air pollution: from sources to health effects."
8. April 28-30, 1999, presented at the IPCC's Expert Group Meeting on Greenhouse Gases Emission Inventories – Energy Sector, in Prague, Czech Republic (IPCC: Intergovernmental Panel on Climate Change).
9. March 27, 2000, Imperial College of Science, Technology, and Medicine, London, UK, presented a seminar entitled "Exposure assessment: for what and how?"
10. May 4, 2000, Washington DC. USA. at the Workshop entitled Global Consultation on Health Impacts of Indoor Air Pollution and Household Energy in Developing Countries: Setting the Agenda for Action, sponsored by the US Agency for International Development and the World Health Organization. Presentation title: "Indoor air pollution and respiratory health effects in four Chinese cities".
11. June 27, 2000, US EPA, Research Triangle Park, North Carolina, at the Workshop on Combining Environmental Fate and Air Quality Modeling, sponsored by the Reactivity Research Working Group, Subgroup 3 on Atmospheric Availability and Environmental Fate, Chemical Manufacturers Association. Presentation title: "Environmental fate of indoor VOC emissions"
12. October 17, 2000, School of Public Health, University of Medicine and Dentistry of New Jersey, Piscataway, New Jersey, presented a seminar entitled "Exposure assessment in environmental health studies: framework and examples."
13. November 21, 2000, Department of Epidemiology and Public Health, Imperial College of Science, Technology, and Medicine, London, UK, presented a seminar entitled "Effects of air pollution on respiratory health of children and adults in four Chinese cities".
14. November 27, 2000, School of Public Health, Columbia University, New York, New York, presented a seminar entitled "Exposure assessment in environmental health studies: framework and examples."
15. May 10, 2001, International Flavors & Fragrances (IFF-US), Hazlet, New Jersey, presented a seminar entitled "Fate of indoor volatile organic compounds."
16. August 28- 30, 2001, presented keynote lectures at the '2000 International Conference on Indoor Air Quality (organized by State Environmental Protection Administration of China), Beijing, China. Two presentations entitled "Indoor air pollution: sources, commonly identified compounds and factors determining their concentrations" and "Indoor air pollution: a global overview of health effects and risk management', respectively.
17. February 4, 2002, presented at International Center for Indoor Environment and Energy, Technical University of Denmark, Copenhagen, Denmark. "Outdoor and indoor air pollution in four Chinese cities: concentrations, sources, and health effects"
18. November 3, 2002, presented lecture entitled: "Indoor air pollutant mixture: understanding its chemistry and health implications" at a Special Symposium "Advances in Environmental Health: Combining Laboratory and Community Approaches" at ACOH 2002, 17th Asia Conference on Occupational Health, Taipei, Taiwan.
19. May 4, 2003, presented at Annual Conference of Health Effects Institute, Boulder, CO. The title of presentation: "The Four Chinese Cities Study of Air Pollution Health Effects."
20. June 30, 2003, presented at Lovelace Respiratory Research Institute, Albuquerque, New Mexico. The title of the seminar: "Air pollution health effects in children and adults living in four Chinese cities".

21. April 22, 2004, presented at Chinese Academy of Meteorological Sciences, Beijing, China. The title of the lecture: "Exposure Analysis in Environmental Health Studies: Framework and Examples".
22. June 16, 2005, presented an after-dinner keynote address at the 2005 Annual meeting of American Industrial Hygiene Association – New Jersey Section, Basking Ridge, New Jersey. The title of the presentation: "Diesel Exhausts in A Street Canyon: Air Pollution Characteristics and Health Effects in Asthmatic Patients".
23. September 8, 2005, presented a plenary talk at Indoor Air 2005, September 4-9, Beijing, China. The title of the presentation: "Indoor air pollution from household fuel combustion in China: A review".
24. November 8-10, 2005, Beijing, China, participated in and presented a keynote address at the International Workshop on Environmental Pollution and Human Health, organized by Chinese Academy of Engineering. The title of the presentation: "Environmental Health Research in the New Biology Era: Challenges and Opportunities".
25. November 16-18, 2005, Beijing, China, participated in the second Beijing Forum and served as panelist in the sub-group of Public Health and the Building of Harmonious Society.
26. February 28, 2006, New Brunswick, New Jersey, presented a keynote address at a meeting of Academy of Certified Hazardous Material Managers – NJ Chapter. The title of the presentation: "Diesel Exhausts in A Street Canyon: Air Pollution Characteristics and Health Effects in Asthmatic Patient".
27. April 6, 2006, New Brunswick, New Jersey, presented at Air & Waste Management Association –MASS Specialty Conference entitled Emerging Environmental Issues and Polices. The title of the presentation: "Exposure to Nano-particles".
28. April 17, 2007, plenary presentation at Health Effects Institute's Annual Conference in Chicago, IL: "Health effects of real-life exposure to diesel exhaust in a London Street".
29. July 9-10, 2007, Seoul National University, Seoul, Korea, attended and presented at US-Korea Workshop: Understanding Bioenvironmental Complexity – Trends and Perspectives on Bioenvironmental Complexity Studies in Environmental Health Sciences, sponsored by US National Science Foundation and Korea Science and Engineering Foundation.
30. February 19, 2008, National Health and Environmental Effects Laboratory, US Environmental Protection Agency, presented a seminar entitled: "Acute Exposure to Diesel Exhaust: Respiratory Effects and Exposure Biomarkers".
31. March 4, 2008, New Jersey Technical Council Conference on Nanotechnology – Identifying Hazards and Evaluating Risks, Piscataway, NJ, presented a lecture entitled "Nano-particle Health Effects: Hypothesized Biological Mechanisms and Supporting Evidence".
32. March 18, 2008, American Academy of Allergy, Asthma, and Immunology Annual Meeting, Philadelphia, PA, presented an invited lecture (followed by a panel discussion) entitled "Nano-toxicology: Implications in Asthma".
33. April 14, 2008, American Occupational Health Conference (Sponsored by American College of Occupational and Environmental Medicine), New York, NY, presented a lecture entitled "Health Effects of Air Pollution: Evidence from Real-world Studies".
34. April 22, 2008, the First Global Health Symposium sponsored by College of Public Health, The University of Georgia, Athens, GA, presented a keynote address entitled "Health Effects of Air Pollution: from London to Beijing".
35. October 23, 2008, Duke Global Health Institute and Nicolas School of the Environment, Duke University, Durham, North Carolina, presented a seminar entitled: "Air Pollution: Contribution to the Global Burden of Diseases and Biological Mechanisms".



36. November 7, 2008, the 4th Regional Air Quality Management Conference, sponsored by US EPA and Chinese Administration of Environmental protection, Beijing, China, presented an invited talk: "Does Air Pollution Reduction during the Beijing Olympics Improve Cardio-respiratory Health?"
37. November 10, 2008, The University of Hong Kong, presented a seminar to the Public Health Research Center and Medical & Health Research Network: "Exploring Mechanisms of Air Pollution Health Effects: from London to Beijing".
38. November 13, 2008, Better Air Quality Conference, Bangkok, Thailand, presented a sub-plenary talk entitled "Lessons Learned from the Beijing Olympics" and panel discussion on Air Quality - Impacts on Vulnerable Populations: Health Effects, Exposure, and Climate Change.
39. January 22, 2009, University of Southern California, Los Angeles, California, presented a seminar at the Southern California Environmental Health Sciences Center, entitled "Exploring Mechanisms of Air Pollution Health Effects: from London to Piscataway to Beijing".
40. April 9, 2009, University of Southern California, Los Angeles, California, presented a seminar at the Southern California Environmental Health Sciences Center, entitled "Exposure Science in Global Environmental Health Studies".
41. May 12, 2009, Woodrow Wilson International Center for Scholars, Washington, DC, presented at the China Forum on "Does Air Pollution Reduction during the Olympics Improve Cardio-respiratory Health?"
42. July 17, 2009, presented at Informational Briefing on Air Pollution in and around Schools, in conjunction with the Congressional Children's Environmental Health Caucus lead by Rush Holt (D-NJ) and Frank LoBiondo (R-NJ). Title of presentation: "Air Pollution Health Effects: Old and New Evidence in urban Residents".
43. October 9, 2009, presented at University of California-Irvine's Conference "Towards a Sustainable 21th Century: Stopping the Pollution of the Planet", Irvine, California. Title of presentation: "The Olympic Effect: Improvements in Cardio-Respiratory Health in Beijing".
44. October 29, 2009, presented at National Kaohseing First University of Science and Technology, Kaohseing, Taiwan. Title of presentation: "Air Pollution Health Effects and Biological Mechanisms".
45. October 30, 2009, presented at National Taiwan University, Taipei, Taiwan. Title of presentation: "Air Pollution Health Effects and Biological Mechanisms".
46. October 31, 2009, presented at University of Southern California's Global Conference, Taipei Taiwan. Title of presentation: "Air Pollution in Asia and Health Impact of the Beijing Olympics".
47. February 5, 2010, presented at the University at Buffalo School of Public Health, Buffalo, NY. Title of presentation: "Health Effects of Air Pollution: from London to Piscataway to Beijing".
48. April 14, 2010, presented at the New Jersey Clean Air Council's 2010 Public Hearing, Trenton, New Jersey. Title of presentation: "History of Air Pollution and New Jersey's Perspectives".
49. April 27, 2010, led a panel discussion on "The Changing Nature of Health Problems [of China]", cosponsored by the China Center for Health Development Studies, The Lancet, and China Medical Board, in Beijing, China.
50. April 28, 2010, presented at the Chinese Research Academy of Environmental Sciences, Beijing, China. Title of presentation: "Adverse Cardiopulmonary Effects of Air Pollution: Epidemiologic Evidence and Biological Mechanisms".
51. May 13, 2010, presented a plenary lecture at the Air & Waste Management Association International Specialty Conference: Leapfrogging Opportunities for Air Quality Improvement, Xi'an, China. Title of the lecture: "Global Health Impact of Air Pollution: Epidemiological Evidence and Biological Mechanisms".
52. April 12, 2011, presented at the Southern California Environmental Health Sciences Center, Los Angeles, CA. Title of seminar: "Assessing Health Effects of Engineered Nanomaterials Using Multidisciplinary Approaches".

53. September 29, 2011, presented for the University of Southern California AirPollBrain (APB) group, Los Angeles, CA. Title of seminar: "Environmental and Engineered Nanoparticles: Linking Physicochemical".
54. October 15, 2011, presented at University of Southern California's Global Conference, Hong Kong, China. Title of presentation: "Old and New Environmental Threats – Potential Risks Associated with Engineered Nanomaterials".
55. October 18, 2012, presented at the inter-academy workshop addressing the challenges of black carbon in Russia organized at the request of the Department of State, the U.S. National Academy of Sciences, in collaboration with the Russian Academy of Sciences, Moscow, Russia. Title of presentation: "Black Carbon: The Most Accurate Indicator for Health Effects of Combustion-Generated Particles".
56. March 1, 2013, presented Distinguished Alumni Award Lecture at School of Environmental and Biological Sciences, Rutgers University. Title of presentation: "Improving Air Quality and Health: A Legacy of the Beijing Olympics?"
57. March 19, 2013, presented at MRC-HPA Centre for Environment and Health, Imperial College London and King's College London, UK. "How Does Air Pollution Affect Health? Finding Answers from London to Beijing and Beyond"
58. April 15, 2013, presented at Health Effects Institute 2013 Annual Conference, San Francisco, CA. Title of presentation: "Improving Air Quality and Health: A Legacy of the Beijing Olympics?"
59. September 16, 2013, presented at National Environmental Health Sciences Institute, Research Triangle Park, NC. Title of presentation: "Exploring Air Pollution Health Effects and Mechanisms Using Quasi-Experimental Approaches".
60. October 31, 2013, presented at the global health workshop of the Association of Pacific Rim Universities (APRU), Zhejiang University, Hongzhou, China. Title of presentation: "Air Quality Improvements during the Beijing Olympics: What Can We Learn?"
61. November 6, 2013, presented at Environmental Toxicology Program, University of California at Riverside. Title of presentation: "Analytical Chemistry Based Bio-Monitoring in Studies of Air Pollution Exposure and Health Effects".
62. November 20, 2013, presented at Chinese Research Academy of Environmental Sciences, Beijing, China. Title of presentation: "Air Quality Improvements During the Beijing Olympics: What Can We Learn?"
63. January 7, 2014, presented at North Carolina State University, Raleigh, NC. Title of presentation: "Exploring How Respirable Particles Affect Health: From Real-World Observations to Laboratory Experiments".
64. April 1, 2014, presented at Workshop on Health Effects of Fine Particles from Vehicle Emissions, Washington DC. Title of presentation: "Ultrafine Particles and PM2.5 in Relation to Cardiorespiratory Effects and Pathophysiologic Pathways".
65. October 11, 2014, presented at Dean's Seminars on Urbanization, Trinity College of Art and Sciences, Duke University, Durham, NC. Title of presentation: "Global Health Impact of Urban Air Pollution".
66. November 1-2, 2014, presented at the 4th International Autism Forum, Fudan University, Shanghai, China. Title of presentation: "Biomarkers of Air Pollution Exposure and Pathophysiologic Pathways".
67. November 20, 2014, presented at the panel discussion at the United Nations Cookstove Future Summit, New York City. Title of panel discussion: "Clean Cooking: The Burden, the Imperative, and the Progress".
68. December 8-10, 2014, presented at the expert workshop on Health and Wellbeing in the Changing Urban Environment: A Systems Analysis Approach, Xiamen, China. Title of presentation: "Acute Health Effects of Urban Traffic: Observations from London and Beijing".

69. December 16, 2014, presented at Noncommunicable Diseases and Cookstoves Workshop, Washington DC. Title of presentation: "Indicators and Biomarkers of Cardiorespiratory Risk Factors In Relation to Air Quality Improvement During the Beijing Olympics".
70. February 5, 2015, presented at NIEHS Inflammation Faculty Webcast on Emerging Biomarkers of Inflammation, Durham, NC. Title of presentation: "The Utility of Inflammation Biomarkers in Studies of Air Pollution Health Effects".
71. Feb 12, 2015, presented at University of Colorado School of Public Health, Denver, CO. Title of presentation: "Using natural Experiments to Study Health Effects of Air Pollution: from London to Beijing".
72. May 19, 2015, presented at Johns Hopkins University School of Public Health, Environmental Health Seminar Series. Title of presentation: "Air pollution and exposure science".
73. November 6, 2015, presented at Asia Pacific Regional IMFAR: Shanghai 2015, title of presentation: "Air Pollution and Autism, is there a causal link?"
74. December 2, 2015, presented at University of Rochester School of Medicine and Dentistry, title of presentation: "Air Pollution in China: What can be done to reduce health impact?"
75. December 10, 2015, presented at Nanoscience Initiative final meeting in London on behalf of the RAMNUC Center, title of presentation: "A Nano-Ceria Fuel Additive: Impact on Emissions and Toxicity of Diesel Exhaust Particles".
76. March 1, 2016, presented at the Duke Pulmonary Research Conference, title of presentation: "Air Pollution, the Lung, and the Body: Finding Connections using Real-World Exposures".
77. May 17-18, 2016, presented and attended the Indo-US Workshop on Combating Air Pollution in North India, New Delhi, India. The program is sponsored by the US Department of State via US Embassy in India. Title of presentation: "Urban Air Pollution in China: What Can Be Done to Reduce the Health Impact?"
78. August 15, 2016, presented at Environmental Protection Bureau and Environmental Protection Research Institute of Rizhao City, Shandong Province, "What China can Learn from Air Pollution History?"
79. August 16, 2016, presented at the Ministry of Environmental Protection, Beijing, China. "Exposure science: Current State of Science and New Opportunities"
80. January 12-15, 2017, presented and attended Symposium on Health and the Environment in Emerging Markets, Green Templeton College, University of Oxford, UK.
81. March 3, 2017, presented at Department of preventive Medicine, University of Southern California. "Reducing indoor Concentrations of Respirable Particles: Will the Body Respond?"
82. May 4, 2017, presented at Current Approaches to exposure Assessment in Environmental Health Sciences Symposium, University of Rochester. "Biomarkers of Source-specific Air Pollution Exposure"
83. July 13, 2017, presented at Zhengzhou University, Henan Province, China. "Ozone Pollution and Control Challenges"
84. July 21, 2017, presented at Zhoushan Hospital, Zhejiang Province, China. "Air Pollution and Lung Cancer: How Much Do We Know?"
85. September 18, 2017, presented at Duke International Development Center for a Chinese Academy of Sciences delegation. "The Intersection of Health and the Environment: The Strategic Role of Innovation"
86. September 28, 2017, presented at Qingpu Environmental Monitoring Station. "Why and How to control Ozone Pollution?"
87. October 31, 2017, presented at College of Environmental Sciences and Engineering, Peking University, Beijing. "Purifying Indoor Air for Better Health in Chinese Cities: Does it Work?"
88. November 3, 2017, presented at Duke International Development Center for a Guangdong Academy of Sciences delegation. "Health Impacts of Nanomaterials"

89. June 6, 2018, presented and served as a panelist at the Global Environmental Health Day at NIEHS of NIH, RTP, North Carolina. "Using Natural Experiments in Global Health Research"
90. July 17, 2018, presented at Beijing University of Science and Technology, Beijing, China. "Health Impacts of Indoor Air Filtration Interventions in Healthy Adults and Asthmatic Children"
91. July 23, 2018, presented at the Institute of Earth Environment, Chinese Academy of Sciences, Xi'an, China. "Lessons Learned from and Challenges Facing Controlling Tropospheric Ozone"
92. October 29, 2018, presented at Guangzhou Medical University Institute of Respiratory Health, Guangzhou, China. "Indoor Air Filtration as A Preventive Method for Respiratory Illness"
93. December 10, 2018, presented at Southern China University of Science and Technology, Guangzhou, China. "Introduction to Environmental Health: Climate Change as An Example"
94. December 11, 2018, presented at Guangdong Provincial Center for Disease Control, Guangzhou, China. "Exposure Biology of Air pollution"
95. January 12, 2019, presented at Peking University Center of the Environment and Health, Beijing, China. "Melatonin: A Potential Air Pollution Effects Confounder or Modifier?"
96. March 21, 2019, presented at North Carolina Chapter of the Air and Waste Management Association meeting, RTP, NC. "Air Pollution and Birth Weight: Epidemiology and Biology"
97. June 1, 2019, presented at Campion Fund Workshop on Air Pollution Harms Reproductive Health, Salt Lake City, UT. "Impact of Gestational Month Specific Exposures to Air Pollution on Birth Weight."
98. July 29, 2019, presented at Chinese Research Academy of Environmental Sciences, Beijing, China. "Scientific basis for revising the ozone standards in the US."
99. July 30, 2019, presented at University of Science and Technology of Beijing, Beijing, China. "Air pollution linked to low birth weight: critical exposure time and biological mechanisms."
100. August 10, 2019, presented at China Cough Forum, Nanchang, China. "Eosinophilic airway inflammation induced by air pollution". August 17, 2019, presented at the Symposium on Advancement of Respiratory Diseases Diagnosis and Treatment. Title: "Air pollution, inflammation, lung and beyond".
101. August 22, 2019, presented at Peking University, College of Environmental Sciences and Engineering. "Environmental health sciences: reflections and perspectives".
102. September 10, 2019, presented at 2019 NanoEHS Webinar series sponsored by the National Nanotechnology Coordination Office, Alexandria, VA. "Potential respiratory effects of engineered nanomaterials in relation to physiochemical properties".
103. October 1-2, 2019, served as a panel and presented at the US-China Environment and Sustainability Forum at the University of Michigan, Ann Arbor, Michigan. "Precision medicine and environmental health".
104. October 19, 2019, presented a plenary talk at the ISEE-ISES Asia 2019 Conference, Taegu, Korea. "Integrating exposure science, epidemiology, and biomedical sciences towards personalized health management".
105. October 24, 2019, presented a plenary talk at Healthy Building 2019 Conference in Changsha, Hunan Province, China. "The role of healthy building in combating urban air pollution".
106. November 8, 2019, presented a keynote talk at the 3<sup>rd</sup> International Cough Conference in Guangzhou, Guangdong Province, China. "Improving indoor environment for better respiratory health: part of precision medicine?"
107. September 21, 2020, plenary presentation at the 2020 Annual Conference of the International Society of Exposure Sciences, Virtual Conference. "The role of exposure science in precision environmental health".
108. September 24, 2021, Department of Civil Engineering and Center for Indoor Environment and Energy. "Journey of chasing particles"

109. October 1, 2021, Department of Chemistry and Department of Public Health, Aarhus University, Aarhus, Denmark. "Health effects of low-level ozone exposure: further challenges to ozone control."
110. October 5, 2021, National Center for the Working Environment, Copenhagen, Denmark. "Nitrated polycyclic aromatic hydrocarbons: Biomonitoring for exposures and biological effects."
111. November 17, 2021, Department of Population and Public Health Sciences, University of Southern California, Los Angeles, CA. "Ozone versus ozone reaction products: which is more responsible for cardiorespiratory health effects?"

## VII. GRANTS

(listed in chronological order)

### Research Grants

1. ***Investigation of Acid Aerosol Exposures in Metropolitan Settings: EOHSI Component (Microenvironmental Assessment)***  
 CR#822050                  Harvard University under EPA Cooperative Agreement  
 Role: Co-PI                  Project period: 11/95-10/96      Grant amount: \$45,000  
 Percent effort: 10%
2. ***Reports of Pilot Study Results and Interim Full-scale Study Results Regarding Health Effects of Outdoor and Indoor Air Pollution in Four Chinese Cities***  
 CR#822050                  US Environmental Protection Agency  
 Role: PI                          Project period: 9/96-12/97      Grant amount: \$33,554  
 Percent effort: 20%
3. ***NHEXAS - Comprehensive Population Based Study of Human Exposure to Contaminants in Multiple Media***  
 CR#822050                  Research Triangle Institute subcontract under EPA Cooperative Agreement  
 Role: Co-I                      Project period: 99/93-9/98      Grant amount: \$964,002  
 Percent effort: 20%
4. ***Greenhouse Gases from Small Scale Combustion Devices in Developing Countries, East-West Center***  
 CR#820243                  under EPA Cooperative Agreement  
 Role: PI                          Project period: 10/95-5/99      Grant amount: \$141,043  
 Percent effort: 30%
5. ***Lead-Based Paint Hazard Control in Priority Housing: New Jersey Assessment of Cleaning Techniques***  
 NJLHR0023-97                  US Department of Housing and Urban Development (HUD)  
 Role: Co-I                      Project period: 09/97-03/00      Grant amount: \$852,816  
 Percent effort: 15%
6. ***Exposure Analyses for Toms River, N.J.: Current Conditions and Historical Reconstruction***  
 NJLHR0023-97                  N.J. Department of Health and Human Services  
 Role: Co-I                      Project period: 05/98-04/00      Grant amount: \$453,720  
 Percent effort: 10%
7. ***Contributions of Outdoor Sources to Indoor Concentrations and Personal Exposures to Air Toxics,***  
 The Mickey Leland National Urban Air Toxics Research Center  
 Role: Co-I                      Project period: 12/97-11/00      Grant amount: \$1,476,260  
 Percent effort: 15%
8. ***Development of A Passive Sampler to Measure Exposures to Airborne Carbonyl Compounds,***  
 Health Effects Institute (HEI)  
 Role: PI                          Project period: 1/99-11/00      Grant amount: \$58,150

Percent effort: 10%

**9. *Effects of Exposure to Automobile Exhaust on Acrolein and Crotonaldehyde-derived DNA Adducts in Human Lymphocyte DNA***

Subcontract from American Health Foundation under Health Effects Institute Research Agreement #98-2

Role: Co-I                      Project period: 1/00-6/01                      Grant amount: \$46,297

Percent effort: 15%

**10. *Effect of CRA Loans for Lead Abatement***

CDC

Role: Co-I                      Project period: 9/98-9/01                      Grant amount: \$291,933

Percent effort: 20%

**11. *Southdown Quarry Exposure Study***

NJ Department of Environmental Protection #SR00-066

Role: Co- PI                      Project period: 9/00-9/01                      Grant amount: \$521,981

Percent effort: 20%

**12. *Personal and Microenvironmental Measurements of Human Exposures to Multiple Aldehydes in Three Distinct Urban Areas***

Health Effects Institute (HEI)

Role: PI                              Project period: 6/98-2/02                      Grant amount: \$769,190

Percent effort: 30%

**13. *Effects of Exposure to Particulate Matter on Respiratory Health in Four Chinese Cities***

US EPA

Role: PI                              Project period: 8/98-7/02                      Grant amount: \$302,787

Percent effort: 30%

**14. *Health Effects of Exposures to VOCs, Ozone and Stress***

NIOSH

Role: Co-I                      Project period: 10/99-9/02                      Grant amount: \$1,311,431

Percent effort: 15%

**15. *Hazardous Air Pollutant Mixtures: Measuring and Modeling Complex Exposure***

R82792801                      Subcontract from University of Minnesota under EPA Star Grant amount: \$142, 331

Role: PI                              Project Period: 1/00-12/02

Percent effort: 15%

**16. *Improvement of the PAKS- DNSH Method for the Collection and Analysis of Acrolein and Other Carbonyls***

US Environmental Protection Agency

Role: PI                              Project period: 09/02-08/03                      Grant amount: \$86,979

Percent effort: 20%

**17. *Preparation for Follow-up Study of Changes in Respiratory Health, in Relation to Changes in Outdoor Air Pollution Concentrations and Indoor Air Pollution Sources, in Four Chinese Cities***

US Environmental Protection Agency.

Role: PI                              Project period: 5/02-9/03                      Grant amount: \$63,500

Percent effort: 15%

**18. *Support for Carbonyls Analysis of the EPA Tampa Asthmatic Children Study, Research Triangle Institute.***

US Environmental Protection Agency

Role: PI                              Project period: 8/02-6/04                      Grant amount: \$49,000

Percent effort: 10%

**19. Urban Hot Spot Mobile Source Exposure and Chemical Characterization.**

Subcontract from Johns Hopkins University via US EPA

Role: PI Project period: 8/02-7/04 Grant amount: \$16,080

Percent effort: 5%

**20. Comparison of Continuous Ambient PM monitors. State of New Jersey Department of Environmental Protection.**

State of New Jersey Department of Environmental Protection

Role: Co-I Project period: 6/03 –12/04 Grant amount: \$54,460

Percent effort: 5%

**21. Effect of Point Source Emissions on School Absenteeism in Three Communities in Warren County, NJ, with High Pediatric Asthma Rates**

ATSDR

Role: Co-I Project period: 9/02-8/05 Grant amount: \$367,154

Percent effort: 5%

**22. Validation of PAH Biomarkers for Quantifying Cancer Risk.**

National Cancer Institute (NIH-NCI)

Role: PI Project period: 10/01-8/05 Grant amount: \$639,982

Percent effort: 30%

**23. Health Effects of Diesel Exhaust in Asthmatics: A Real-World Study in a London Street.**

Health Effects Institute

Role: PI Percent effort: 25% Project period: 10/02-06/06 Grant amount: \$745,383

Percent effort: 25%

**24. Field Validation of Modified PAKS-DNSH Method for the Collection and Analysis of Acrolein and Other Carbonyls**

US Environmental Protection Agency

Role: PI Project period: 05/05-04/09 Grant amount: \$94,721

Percent effort: 20%

**25. Personal and Ambient Exposures to Air Toxics in Camden**

Health Effects Institute (HEI)

Role: Co-I Project Period: 12/03 – 11/06 Grant amount: \$864,437

Percent effort: 10%

**26. The effects of Diesel Exhaust and Stress on the Acute Phase Response and Symptoms in the Chemically Intolerant**

US Department of Defense

Role: Co-I Project period: 8/03 – 12/06 Grant amount: \$1,523,062

Percent effort: 15%

**27. Controlled Human Exposure-Response Study to Environmental Levels of Hydrogen Sulfide.**

American Petroleum Institute and other Partners

Role: Co-I Project period: 1/01-3/07 Grant amount: \$980,000

Percent effort: 15%

**28. Support for Carbonyls Analysis of the EPA's Detroit Exposure and Aerosol Research Study (DEARS)**

Subcontract from Research Triangle Institute

Role: PI Project period: 5/04-6/07 Grant amount: ~ \$476,000

Percent effort: 10%

**29. Diabetic Susceptibility to the Procoagulant Effects of Air Pollution**

Environmental and Occupational Health Sciences Institute (through a pilot project of NIEHS Center grant to the institute)

Role: Co-I                      Project period: 4/06-12/07                      Grant amount: \$20,000  
Percent effort: 5%

**30. Relation between Airborne Pollen Concentrations and Daily Cardiovascular Hospital Admissions**

Environmental and Occupational Health Sciences Institute (through a pilot project of NIEHS Center grant to the institute)

Role: Co-I                      Project period: 07/07 -06/08                      Grant amount: \$20,000  
Percent effort: 5%

**31. Cardiovascular Effects of Fresh Particles in Genetically Susceptible Subjects**

US Environmental Protection Agency

Role: Co-I                      Project period: 10/04 –09/08                      Grant amount: \$1,521,398  
Percent effort: 15%

**32. Assessment of Health Risk Associated with Synthetic Turf**

Gifts from private donors via the Foundation of UMDNJ.

Role: PI                      Project period: 02/08/12/08                      Grant amount: \$12,000  
Percent effort: 5%

**33. Validation of Diesel Exhaust Biomarkers**

R832097                      US EPA STAR grant

Role: PI                      Project period: 05/05-04/09                      Grant amount: \$572,497  
Percent effort: 25%

**34. Triggering of Myocardial Infarction by Ambient Fine Particles and Fine Particulate Components**

R832097                      American Heart Association

Role: Co-I                      Project period: 07/07 -06/10                      Grant amount: \$195,000  
Percent effort: 5%

**35. Molecular and Physiological Responses to Drastic Changes in PM Concentration and Composition**

4760-RFPA05-3/07-3/07-2                      Health Effects Institute

Role: PI                      Project period: 07/07-12/10                      Grant amount: \$610,670  
Percent effort: 20%

**36. Diesel Exhaust Particle Effects on Human Immunity to Mycobacterium tuberculosis**

1R21ES016928                      NIEHS – NIH

Role: Co-I                      Project period: 9/08 - 8/11                      Grant amount: \$429,000  
Percent effort: 5%

**37. Response to Drastic Changes in Air Pollution: Reversibility and Susceptibility**

5R01ES015864                      NIEHS (NIH)

Role: PI                      Project period: 1/08- 11/12                      Grant amount: \$1,178,867  
Percent effort: 15%

**38. Impact of Air Pollution Reductions during the Beijing Olympics on Pre-term Birth Rates and Birth Weight**

1R01ES019165-01                      NIEHS (NIH)

Role: MPI                      Project period: 08/10-03/14                      Grant amount: \$1,019,988  
Percent effort: 10% - 15%

**39. Biological Response to Air Quality Change in Beijing Pre-, Mid- and Post-Olympics**

1R01ES018846-01A1                      NIEHS (sub-award from State University of New York at Buffalo)



Role: Co-I and sub PI      Project period: 12/10-12/13      Grant amount: ~\$491,323  
 Percent effort: 5%

**40. Ambient Exposures to Diesel Traffic Particles and Exacerbation of Cardiovascular and Chronic Pulmonary Obstructive Disease: Mechanistic Explanations for Epidemiological Observations**

British Heart Association

Role: Co-I      Project period: 05/12-4/14      Grant amount: GBP 1,200,000  
 Percent effort: 3% (in-kind)

**41. Risk Assessment for Manufactured Nanoparticles Used in Consumer Products (RAMNUC)**

RD83469301      US Environmental Protection Agency and UK National Environmental Research Council

Role: PI/PD      Project period: 07/10-06/15      Grant amount: \$4,000,000  
 Percent effort: 20%

**42. Respiratory Effects of Silver and Carbon Nanoparticles (RESAC)**

U19ES007048-05      National Institute of Environmental Health Science (NIEHS)

Role: PI/ PD      Project period: 09/10-08/15      Grant amount: ~ \$5,000,000  
 Percent effort: 20%

**43. Use of Exhaled Breaths Condensates to Assess Human Exposures and Response to Air Pollution**

5P30ES007048-16      National Institute of Environmental Health Science (NIEHS)

Role: Co-I      Project period: 04/11-03/16      Grant amount: \$8,900,765  
 Percent effort: 5% (In-Kind)

**44. Air Pollution Particle Effects on Human Antimycobacterial Immunity**

R01ES0203821      US National Institute of Environmental Health Science (NIEHS)

Role: Co-I      Project period: 07/11-09/16      Grant amount: \$3,558,069  
 Percent effort: 10%

**45. Prenatal Tobacco Smoke, Genetic and Epigenetic Changes, and Respiratory Health**

1R01ES022216      National Institute of Environmental Health Science (NIEHS)

Role: Co-I      Project period: 09/13-08/18      Grant amount: \$2,439,475 (Zhang \$101,000)  
 Percent effort: 5%

**46. Prospective Evaluation of Air Pollution, Cognition and Autism from Birth Onward**

1R01ES023780      US National Institute of Environmental Health Science (NIEHS)

Role: Co-I      Project period: 07/14-04/18      Grant amount: \$3,000,000 (Zhang \$200, 000)  
 Percent effort: 5%-10%

**47. Health Assessment and Control Mechanisms for PM<sub>2.5</sub> and Co-pollutants in the Built Environment**

This study is to evaluate the effectiveness of several indoor air filtration technologies in reducing indoor fine particle concentrations and in improving health outcomes of adult occupants.

National Natural Science Foundation of China (sub to Duke Kunshan)

Role: Co-PI and sub PI      Project period: 10/14-12/19      Grant: \$500,000 (Zhang portion \$200,000)  
 Percent effort: 5% (in kind)

**48. Effects of Air Pollution on Cardiopulmonary Disease in Urban and Peri-urban Residents in Beijing (AIRLESS)**

This study is to examine cardiopulmonary and cardio metabolic effects of air pollution in urban and rural residents of the Beijing area and to elucidate biological mechanisms and disease susceptibility.

National Natural Science Foundation of China (sub to Duke Kunshan)

Role: Co-I and sub PI      Project period: 06/16-05/21      \$833,000 (Zhang portion \$84,000)  
 Percent effort: 5% (in kind)

**49. The Combined Influence of Outdoor and Indoor Pollutants on Acute Respiratory Response of School Children in China**

The main objective of this study is to determine the influence of indoor air pollutant exposure on the health of school children in China.

Underwriters Laboratory (UL)

Role: Co-I                      Project Period: 07/2015-06/201818    Grant amount: \$1,177,000

Percent effort: 10%

**50. Environmental Influences on Child Health Outcome Coordination Center**

This coordination center will establish the required infrastructure to coordinate the multiple levels of membership in the ECHO community. This infrastructure will focus on methods of learning valuable information about environmental exposures through aggregation of massive amounts of data from Pediatric ECHO Cohorts.

1U2COD023375

NIH

Role: Co-I                      09/2016-08/2023

Grant amount: \$50,000,000

Percent effort: 15%

**51. Potential Pathophysiologic Mechanisms Linking Air Pollution Exposure in Pregnant Women to Reduced Birth Weight**

This study is to determine whether air pollution exposure impacts systemic inflammation and oxidative stress in the mother, placenta, and fetus; determine whether air pollution exposure impacts placental development, vascularization, and related imprinted genes; determine whether air pollution exposure impacts metabolic deficiency; and explore whether these mechanisms mediate the association between air pollution and birth weight.

1R01ES027495

NIEHS (NIH)

Role: MPI                      Project period: 09/2017-06/2022

Grant: \$2,490,000 (Zhang portion ~\$1,670,000)

Percent effort: 15%

**52. The effect of household air pollution on the health outcomes of infants in Botswana**

This study is to assess potential links between early-life exposure to household air pollution from biomass cooking and respiratory health of infants via systemic inflammation.

Thrasher Research Fund

Role: co-PI                      Project period: 09/2018-8/2020

Grant: \$25,000

Percent effort: 3% (in-kind)

**53. Clarifying the role of tobacco retail outlets on maternal smoking during pregnancy and child secondhand smoke exposure**

The purpose of this proposed study is to examine, in a southeastern US county, the extent to which TRO density and proximity is related to biomarkers of smoke exposure (cotinine) in 1000 women and 400 children. In addition, the study will model the degree to which theoretical policy changes regulating TROs impact exposure to carcinogenic tobacco smoke and related health-care costs.

R01CA239595

NCI (NIH)

Role: Co-I                      Project period: 05/2019-04/2023

Grant: \$1,922, 079 (Zhang portion: ~\$150k)

Percent effort: 3%-5%

**54. Trimester-Specific Variation in Air Quality and Risk for Autism Spectrum Disorder: A Natural Experiment**

This project will evaluate the association of prenatal air pollution exposure with ASD, assessed both as a categorical diagnosis and as a continuous trait, in a population-based sample, leveraging the improvements in air quality surrounding the time of the 2008 Beijing Olympics.

1R01ES030414

NIEHS (awarded to Johns Hopkins University)

Role: MPI and sub PI

Project period: 07/2019-06/2025 Grant: \$2,801,141 (Zhang portion: ~\$1,200k)

Percent effort: 2%-20%

**55. *Impact of Preconception and Onward Exposures to Air Pollution on Growth Trajectories of Infants and Children***

This study will examine critical time windows of air pollution exposure, from preconception to prenatal and postnatal, that affect birth weight and body growth trajectories during the first 2 years of life. Both outcomes are predictors of childhood obesity.

1R01ES029945 NIEHS (NIH)

Role: MPI (contact PI) Project period: 09/2019-05/2023 Grant: \$1,992,871

Percent effort: 16%

**56. *Detection of Hemoglobin Adducts of Nitrated Polycyclic Aromatic Hydrocarbons (nitro-PAHs)***

This study will assess the performance of a newly developed analytical chemistry method in Dr. Zhang's lab as exposure biomarkers for nitro-PAHs. Banked blood samples are provided by collaborators from National Cancer Institute of USA.

Research contract NCI (NIH)

Role: PI Project period: 09/2021-09/2022. Contract: \$24,500

Percent effort: 3%

**Training and Conference Grants**

**57. *Supporting the 2004 Annual Conference of International Society of Exposure Analysis.***

US Environmental Protection Agency

Role: PI Project period: 9/04-12/04 Grant amount: \$59,400

Percent effort: 5%

**58. *Conference - International Society of Exposure Analysis***

National Institute of Health (NIEHS and NCI)

Role: PI Project period: 7/04-6/05 Grant amount: \$12,500

Percent effort: 2%

**59. *Thai Fogarty ITREOH Center (at Rutgers)***

1D43TW007849 Fogarty International Center/ NIEHS/ CDC

Role: Co-PI Project period: 05/07-12/12 Grant amount: \$706,250

Percent effort: 5% (in-kind)

**60. *Training Grant in Genomics Analysis and Interpretation (at USC)***

2 T32 GM 67546-0 National Institute of Environmental Health Sciences (NIEHS)-NIH

Role: Co-I Project period: 07/12-06/17 Grant amount: \$222,674

(left to USC in 2013)

**61. *Environmental and Respiratory Health Across the Lifespan in Mongolia (at USC)***

1D43TW 00988-01A1 National Institute of Environmental Health Sciences (NIEHS) and Fogarty International Center-NIH

Role: Co-PI Project period: 07/12- 06/17 Grant amount: \$1,250,000

(Left project to USC in 2013)

**62. *Integrated Toxicology and Environmental Health Program (at Duke)***

T32 NIEHS

Role: Co-I Project period: 07/18- 06/23 Grant amount:

## VIII. PUBLICATIONS

H-index =62, as of 8/12/2019, total number of citation =12,636, based on Google Scholar.

### Peer Reviewed Articles

1. **Zhang J**, He QC and Lioy PJ. Characteristics of Aldehydes - Concentrations, Sources, and Exposures for Indoor and Outdoor Residential Microenvironments. *Environmental Science & Technology* 28(1):146-152, 1994.  
(Cited 245 times as of 8/12/19)
2. **Zhang J** and Lioy PJ. Ozone in Residential Air - Concentrations, I/O Ratios, Indoor Chemistry, and Exposures. *Indoor Air*. 4(2):95-105, 1994.  
(Cited 82 times as of 8/12/19).
3. **Zhang J**, Wilson WE and Lioy PJ. Sources of Organic Acids in Indoor Air - a Field-Study. *Journal of Exposure Analysis and Environmental Epidemiology* 4(1):25-47, 1994.  
(Cited 39 times as of 8/12/19)
4. **Zhang J**, Wilson WE and Lioy PJ. Indoor Air Chemistry - Formation of Organic Acids and Aldehydes. *Environmental Science & Technology* 28(11):1975-1982, 1994.  
(Cited 78 times as of 8/12/19)
5. **Zhang J** and Smith KR. Hydrocarbon emissions and health risks from cookstoves in developing countries. *Journal of Exposure Analysis and Environmental Epidemiology* 6(2):147-161, 1996.  
(Cited 112 times as of 8/12/19)
6. Hibbert R, Bai Z, Navia J, Kammen DM and **Zhang J**. High lead exposures resulting from pottery production in a village in Michoacan State, Mexico. *J Expo Anal Environ Epidemiol* 9(4):343-51, 1999.  
(Cited 28 times as of 8/12/19)
7. Lioy PJ, Wainman T, **Zhang J** and Goldsmith S. Typical household vacuum cleaners: The collection efficiency and emissions characteristics for fine particles. *Journal of the Air & Waste Management Association* 49(2):200-206, 1999.  
(Cited 66 times as of 8/12/19)
8. Wei F, Teng E, Wu G, Hu W, Wilson WE, Chapman RS, Pau JC and **Zhang J**. Ambient concentrations and elemental compositions of PM<sub>10</sub> and PM<sub>2.5</sub> in four Chinese cities. *Environmental Science & Technology* 33(23):4188-4193, 1999.  
(Cited 220 times as of 8/12/19)
9. **Zhang J**, Qian Z, Kong L, Zhou L, Yan L, and Chapman RS. Effects of Air Pollution on Respiratory Health of Adults in Three Chinese Cities. *Journal of Environmental Health*, 55(6): 373-381, 1999.  
(Cited 58 times as of 8/12/19)
10. **Zhang J**, Smith KR, Uma R, Ma Y, Kishore VVN, Lata K, Khalil MAK, Rasmussen RA and Thorneloe ST. Carbon monoxide from cookstoves in developing countries: 1. Emission factors. *Chemosphere - Global Change Science* 1(1-3):353-366, 1999.  
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11. **Zhang J**, Smith KR, Uma R, Ma Y, Kishore VVN, Lata K, Khalil MAK, Rasmussen RA and Thorneloe ST. Carbon monoxide from cookstoves in developing countries: 2. Exposure potentials. *Chemosphere - Global Change Science* 1(1-3):367-375, 1999.  
(Cited 51 times as of 8/12/19)

12. **Zhang J** and Smith KR. Emissions of carbonyl compounds from various cookstoves in China. *Environmental Science & Technology* 33(14):2311-2320, 1999.  
(Cited 200 times as of 8/12/19)
13. Qian Z, Chapman RS, Tian Q, Chen Y, Liyo PJ and **Zhang J**. Effects of air pollution on children's respiratory health in three Chinese cities. *Arch Environ Health*. 55(2):126-133, 2000.  
(Cited 63 times as of 8/12/19)
14. Smith KR, Uma R, Kishore VVN, **Zhang J**, Joshi V and Khalil MAK. Greenhouse Implications of Household Stoves: An Analysis for India. *Annual Review of Energy and the Environment*. 25(1):741-763, 2000.  
(Cited 348 times as of 8/12/19)
15. **Zhang J**, Smith KR, Ma Y, Ye S, Jiang F, Qi W, Liu P, Khalil MAK, Rasmussen RA and Thorneloe SA. Greenhouse gases and other airborne pollutants from household stoves in China: a database for emission factors. *Atmospheric Environment* 34(26):4537-4549, 2000.(Cited 486 times as of 8/12/19)
16. **Zhang J**, Zhang L, Fan Z and Ilacqua V. Development of the Personal Aldehydes and Ketones Sampler Based upon DNSH Derivatization on Solid Sorbent. *Environmental Science & Technology*. 34(12):2601-2607, 2000.  
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17. Wainman T, **Zhang J**, Weschler C, and Liyo PJ. Ozone and limonene in indoor air: a source of submicron particle exposure. *Environmental Health Perspectives*. 108 (12): 1139-1145, 2000.  
(Cited 295 times 9/22/21)
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(Cited 15 times 8/3/18)
19. Hu W, Wei F, Teng E, Wu G, **Zhang J**, and Chapman RS. The impact of air pollution on respiratory health of children and their parents. *China Environmental Science*. 20(5): 425-428, 2000.  
(Cited 4 time 8/12/19)
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(Cited 5 times 8/12/19)
21. Wei F, Hu W, Wu G, Teng E, Zhang J, Chapman RS. Analysis of relation between air pollution and children's lung function indices. *China Environmental Science*, 21(5): 385-389, 2001.  
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24. **Zhang J**, Ge S, and Bai Z. Boiler briquette coal versus raw coal: Part II--Energy, greenhouse gas, and air quality implications. *J Air Waste Manag Assoc*. 51(4):534-41, 2001.  
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27. Purvis KL, Jumba IO, Wandiga S, **Zhang J**, and Kammen DM. Worker exposure and health risks from volatile organic compounds utilized in the paint manufacturing industry of Kenya. *Appl Occup Environ Hyg*. 16(11):1035-42, 2001.  
(Cited 11 times as of 8/12/19)
28. Qian Z, **Zhang J**, Wei F, Wilson WE, and Chapman RS. Long-term ambient air pollution levels in four Chinese cities: inter-city and intra-city concentration gradients for epidemiological studies. *J Expo Anal Environ Epidemiol*. 11(5):341-351, 2001.  
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29. Wainman T, Weschler CJ, Liroy PJ, and **Zhang J**. Effects of surface type and relative humidity on the production and concentration of nitrous acid in a model indoor environment. *Environmental Science & Technology*. 35(11):2200-2206, 2001.  
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34. **Zhang J**, Hu W, Wei F, Wu G, Korn LR and Chapman RS. Children's respiratory morbidity prevalence in relation to air pollution in four Chinese cities. *Environ Health Perspect*. 110(9):961-7, 2002.  
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(Cited 81 times as of 8/12/19)
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