

Curriculum Vitae

NAME Inkyu Han, PhD, MPH
TITLE Assistant Professor
OFFICE Department of Epidemiology, Human Genetics, and Environmental Sciences
University of Texas Health Science Center (UTHealth) School of Public Health
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RESEARCH EXPERIENCE AND INTEREST

- *Environmental education and justice in disadvantaged communities*
- *Community based participatory research*
- *Characterization of personal, indoor, and outdoor exposure to air pollutants*
- *Biomarkers of exposure and dose in human*
- *Maternal and children's health in underserved populations*
- *Chemical and non-chemical (physical, biological and psychosocial) stressors*

EDUCATION

1997 **BS, Environmental Sciences**, Hankuk University of Foreign Studies, Korea
1999 **MPH, Environmental Health** (Environmental Chemistry),
Seoul National University School of Public Health, Korea
2008 **PhD, Environmental and Occupational Health**
Rutgers, The State University of New Jersey School of Public Health,
Piscataway, NJ

POSTDOCTORAL TRAINING

2008-2011 **Environmental Health Sciences**, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

ACADEMIC APPOINTMENT

2012- **Assistant Professor**
UTHealth School of Public Health, Houston, Texas
2012-2013 **Associate Program Director of the Industrial Hygiene Program**
Southwest Center for Occupational and Environmental Health (SWCOEH)
2014- **Director of Interdisciplinary Coordination, SWCOEH**
2000-2002 **Lecturer**
Department of Environmental Health, Wonju National College, Korea
2000-2001 **Lecturer**
Department of Environmental Sciences, Hankuk University of Foreign Studies,
Korea
1998- 2000 **Special Researcher**
Seoul National University School of Public Health Institute, Korea

GRANTS**Active**

Kresge Foundation/Air Alliance Houston Han (PI) 4/1/2016 – 4/30/2019

Title: Characterization of Particulate Air Pollution in a Community near the Port of Houston

With the scheduled completion of the Panama Canal Expansion Project by 2016, the Port of Houston (POH) is undertaking infrastructure improvements (e.g., bridge, railroad, tunnels and deeper harbor) to ensure the accommodation of large vessels and increased cargo volumes. The objective of the study to assess community exposure related to diesel-powered truck traffic and shipping activities by measuring black (elemental) carbon (commonly used as a surrogate for DPM) and trace elements in PM_{2.5}. The impact of expansion of POH on environmental quality in disadvantaged community is evaluated.

Role: Principal Investigator

CDC/NIOSH T42OH008421 Symanski (PI) 7/1/2015 – 6/30/2020

Title: Southwest Center for Occupational and Environmental Health

The purpose of the SWCOEH is to respond to the critical need for well-trained occupational and environmental health specialists by providing graduate-level academic and research training and continuing education in the occupational health disciplines, with an underlying foundation of a state-of -the-art research program.

Role: Co-Investigator

NIH/NIEHS R01ES023563 Symanski(PI) 8/1/2014 - 6/30/2019

Title: Sustainable Solutions to Metal Air Pollution in Disadvantaged Neighborhoods

This project uses a community-based participatory approach to 1) Conduct formative research; 2) Develop an intervention; and 3) Evaluate intervention effects regarding possible health related exposures from metal recycling.

Role: Co-Investigator

Submitted

NIEHS R01 Han/Whitworth(PI) 3/1/2019 – 2/28/2023

Title: Stressors and Fetal Growth Among African-Americans (SaGA): the Role of the Environmental Riskscape

This cohort study will enroll black women attending a Medicaid-serving prenatal clinic in Houston, Texas to examine associations between chemical and non-chemical stressors on serial ultrasound measures of fetal growth. We will consider the environmental riskscape to inform potentially complex interactions between prenatal metal exposures, community- and individual-level stressors, and fetal growth among this vulnerable population

Role: Principal Investigator

NIEHS R01 Han/Whitworth (PIs) 3/1/2019 – 3/31/2024

Title: Study of Cleaners in San Antonio: Immunologic and Inflammatory Responses to Total Volatile Organic Compound (VOC) Exposure

Individuals working as domestic cleaners, particularly in South Texas, are overwhelmingly Hispanic or Latina women and subject to numerous environmental and occupational hazards, including exposure to potentially toxic chemicals in cleaning agents. We will build on an existing academic-community partnership to recruit 100 Hispanic women working as domestic cleaners in San Antonio TX to assess personal exposure to ambient volatile organic compounds (VOCs), characterize determinants of exposure at work and at home, and explore associations between personal VOC exposure and biomarkers of inflammation and oxidative stress.

Role: Principal Investigator

NIEHS P30 Walker/Symanski 8/1/2018 – 7/31/2023

Title: Center for Precision Environmental Health

We will promote environmental health science research at the intersection of genetics and epigenetics, environmental health, and data science to understand individual determinants of disease risk, and translate these research advances in precision environmental health to populations and communities

Role: Co-Investigator

Completed

CDC / NIOSH R01OH010648 Delclos(PI) 8/1/2014 – 6/30/2018

Title: Asthma in Texas Healthcare Professionals II

The purpose of the study is to repeat our assessment of asthma prevalence and associated risk factors among Texas healthcare workers (HCW) (nurses, physicians, respiratory therapists and occupational therapists) from 2003. The specific aims are to: (1) to estimate the prevalence rate of asthma risk factors and work-related asthma (WRA) in healthcare settings and compare these to rates obtained in the 2003 survey; (2) to measure associations between occupational exposures and WRA among Texas HCW and compare them to those obtained in 2003; and (3) to measure various indicators of socioeconomic impact of asthma in healthcare workers, comparing them among persons with WRA, non-work-related asthma in nonasthmatics.

Role: Co-Investigator

UT Health Science Center PRIME Whitworth(PI) 6/1/2015 – 5/31/2016

Title: Feasibility of Assessing Biomarkers of Exposure to Volatile Organic Compounds (VOCs) and Fetal Growth among Women Attending a UTHealth Prenatal Clinic

The project is to analyze levels of benzene, toluene, ethylbenzene, xylenes and other compounds to examine the magnitude and variability of VOC exposure among pregnant women an UTHealth prenatal clinic serving primarily Medicaid patients

Role: Co-Investigator

CDC/NIOSH T42OH008421 Symanski (PI) 7/1/2010 – 6/30/2015

Title: Southwest Center for Occupational and Environmental Health

The purpose of the SWCOEH is to respond to the critical need for well-trained occupational and environmental health specialists by providing graduate-level academic and research training and continuing education in the occupational health disciplines, with an underlying foundation of a state-of -the-art research program.

Role: Co-Investigator

SWCOEH Pilot Grant**Han (PI)****7/1/2012-6/30/2013**Title: Development of Analytical Method and Validation of Personal Samplers for Alkylanilines

The purpose of the study was to examine exposure to and biomarkers of airborne alkylanilines (AA), compounds known to be related to the development of bladder cancer. We assessed the robustness of the sampling equipment under field conditions, (2) determined the number of sampling hours (between 4 and 12 hours) needed to collect a measurable sample of the target compounds, and; (3) examined day-to-day variations in concentration at sites which present higher and lower concentrations of the target compounds.

Role: Principal Investigator**NIEHS5P30ES007784-15****Johnson (PI)****4/30/2012-3/31/2013**Title: Effects of Heat and Air Pollutants on Childhood Asthma in an Urban Community

The purpose of study was to examine the combined effects of ozone and PM_{2.5} on exacerbation of asthma in middle school children. We also evaluated potential environmental modifying factors such as indoor air quality, characteristics of house, and demographic factors.

Role: Co-Investigator**EPA STAR RD 83241701****Breyse/Geyh (PI) 10/1/2005-9/30/2011**Title: Johns Hopkins PM Research Center: Project 2- PM Characterization and Exposure Assessment

The goal of the study was to map the risks posed by particulate matter (PM) exposure across the United States. The Center's researchers identified those areas in the United States where PM exposure posed greater and lesser estimated risks to human health, collected and characterized particles in these locations, and assessed their toxicity in a battery of assays relevant to pulmonary and cardiovascular outcomes.

Role: Investigator**PUBLICATIONS****Published/ Accepted**

1. WH Yang, YL Kho, **IK Han**, CM Lee, MS Zong, MH Chung. 2000. Use of Nitrogen Dioxide as Exposure Marker of Passive Smoking for Non-smoking Service Workers at Restaurants. *Journal of Environmental and Sanitary Engineering*. 15.
2. DH Jung, I Cho, **IK Han**, MH Chung. 2002. Effects of TiO₂ on treatment of organic compounds in wastewater. *Korean Society of Environmental Sanitation*. 13(4). 455-461.
3. Z Fan, C Wescheler, **IK Han**, J Zhang. 2005. Co-formation of second aerosol particles. *Atmospheric Environment*. 39(28). 5171-5182.
4. J McCreanor, P Cullinan, M Nieuwenhuijsen, J Stewart-Evans, E Malliarou, L Jarup, R Harrington, **IK Han**, P Ohman-Strickland, KF Chung, J Zhang. 2007. Respiratory Effects of Real-Life Diesel Traffic in Persons with Asthma. *New England Journal of Medicine*. 357(23):2348-2358. PMID: 18057337 [PubMed - indexed for MEDLINE]
5. J Zhang, **IK Han**, L Zhang, W Crain. 2008. Hazardous Chemicals in Synthetic Turf Materials and Their Bio-accessibility in Digestive Fluids. *Journal of Exposure Science and Environmental Epidemiology*. 18:600-607.
6. **IK Han**, X Duan, L Zhang, H Yang, G Rhoads, F Wei, J Zhang. 2008. 1-Hydroxypyrene concentrations in first morning voids and 24-hour composite urine: Intra- and inter-person

- comparisons. *Journal of Exposure Science and Environmental Epidemiology*. 18: 477-485. PMID: 18059422 [PubMed - indexed for MEDLINE]
7. J Zhang, JE McCreanor, P Cullinan, KF Chung, P Ohman-Strickland, **IK Han**, L Jarup, M Nieuwenhuijsen. 2009. Health effect of real-world exposure to diesel exhaust in persons with asthma. *Research Report Health Effects Institute*. 138: 5-109.
 8. Y Wei, **IK Han**, M Shao, M Hu, J Zhang, X Tang. 2009. PM_{2.5} Constituents and oxidative DNA damage in humans. *Environmental Science and Technology*. 43(13): 4757-4762. PMID: 19673262 [PubMed - indexed for MEDLINE]
 9. Y Wei, **IK Han**, M Shao, M Hu, J Zhang, X Tang. 2010. Personal exposure to particulate PAHs and anthraquinone and oxidative DNA damages in human. *Chemosphere*. 65(81): 1280-1285. PMID: 2086974 [PubMed - indexed for MEDLINE]
 10. **I Han**, JP Ramos-Bonilla, AM Rule, JN Mihalic, PN Breysse, AS Geyh. 2011. Comparison of spatial and temporal variations in p-PAH, BC, and p-PAH/BC ratio in six US counties, *Atmospheric Environment*. 45(12): 7644-7652.
 11. **I Han**, JN Mihalic, AM Rule, JP Ramos-Bonilla, RD Peng, AS Geyh, PN Breysse. 2012. Assessment of Heterogeneity of Metal Composition of Fine Particulate Matter Collected From Eight US Counties using Principal Component. *Journal of Air & Waste Management Association*. 62(7): 773-782. PMID: 22866579 [PubMed - indexed for MEDLINE]
 12. S Datta, AM Rule, JN Mihalic, SN Chillrud, BC Bostick, JP Ramos-Bonilla, **I Han**, LM Polyak, AS Geyh, PN Breysse. 2012. Use of X-ray Absorption Spectroscopy to Speciate Manganese in Airborne Particulate Matter from Five Counties Across the United States. *Environmental Science and Technology*. 46(6): 3101-3109. PMID: 22309075 [PubMed - indexed for MEDLINE]
 13. J Shim, R Rao, K Beebe, L Neckers, **I Han**, R Nahta, J Liu. 2012. Selective inhibition of Her2-positivie breast cancer cells by the HIV protease inhibitor nelfinavir through Hsp90. *Journal of National Cancer Institute*. 104(20): 1576-1590. PMID: 23042933
 14. **I Han**, JS Lee, SM Eo. 2014. Measurement of monocyclic aromatic amines in an urban air. *Environment and Pollution*. 3(3): 14-20.
 15. A Dickerson, MH Rahbar, **I Han**, AV Bakian, DA Bilder, RA Harrington, S Pettygrove, M Durkin, RS Kirby, MS Wingate, LH Tian, WM Zahorodny, DA Pearson, LA Moye, J Baio. 2015. Autism Spectrum Disorder Prevalence and Proximity to Industrial Facilities. *Science of the Total Environment*. 536: 245-251. PMID: 26218563.
 16. J Hardos, LW Whitehead, **I Han**, DK Ott, DK Waller. 2016. Depression prevalence and exposure to organophosphate esters in aircraft maintenance workers. *Aerospace Medicine and Human Performance*, 87(7): 712-717.
 17. A Dickerson, MH Rahbar, A Bakian, D Bilder, R Harrington, S Pettygrove, M Durkin, R Kirby, **I Han**, L Moye, D Pearson, M Wingate, W Zahorodny. 2016. Autism Spectrum Disorder prevalence and associations with air concentrations of lead, mercury, and arsenic. *Environmental Monitoring and Assessment*. 188(7): 407. doi: 10.1007/s10661-016-5405-1
 18. **I Han**, E Symanski, TH Stock. 2017. Feasibility of Low-cost Portable Particle Monitors for Measurement of Fine and Coarse Particulate Matter in Urban Ambient Air. *Journal of Air & Waste Management Association*. 67(3):330-340. doi: 1080/10962247.2016.1241195.
 19. **I Han**, Y Guo, M Afshar, TH Stock, E Symanski. 2017. Comparison of trace elements in size-fractionated particles in a low socioeconomic status (SES) community and a high SES

community in Houston, TX. *Environmental Monitoring and Assessment*. 189(2): 67.
doi:10.1007/s10661-017-5780-2

20. KW Whitworth, **I Han**, M Afshar, Y Mei, PD Berens, SV Sharma, ES Symanski, E. 2017. Accessing Disadvantaged Pregnant Women in Houston, Texas, and Characterizing Biomarkers of Metal Exposure: A Feasibility Study. *International Journal of Environmental Research and Public Health*. 145(5). 474. doi:10.3390/ijerph14050474.

21. A Rammah, KW Whitworth, **I Han**, W Chan, M Jimenez, E Symanski. 2018. A Mixed-Methods Study to Examine the Role of Psychosocial Stress and Air Pollution on Hypertension in Mexican-origin Hispanics. *Journal of Racial and Ethnic Health Disparities*.
<https://doi.org/10.1007/s40615-018-0490-1>.

22. **I Han**, L Samarneh, E Symanski, TH Stock. 2018. Impact of Transient Noise and Air Pollution Affected by Truck and Train Traffic in Underserved Communities. *Transportation and Research D*. 63:706-717.

Under Review

23. **I Han**, KW Whitworth, X Zhang, M Afshar, PD Bernes, E Symanski. 2018. Characterization of urinary concentrations of heavy metals among socioeconomically disadvantaged black pregnant women. *Biomarkers*. Revision submitted.

24. A Rammah, KW Whitworth, **I Han**, W Chan, E Symanski. 2018. Cumulative exposure to ozone and risk of stillbirth in a non-attainment urban region. *American Journal of Epidemiology*. Under Review.

AWARDS AND HONORS

1997-1999	Fellowship by Seoul National University Foundation
1999	The Best Master Thesis Award by Seoul National University
2001	Travel Award by the International Society of Exposure Science 2001 Conference
2005	Emily and Leon Goldstein Award for Excellence in Research by UMDNJ
2005	The Best Ph.D. Student Research Award by UMDNJ
2006	The Best Ph.D. Student Research Award by UMDNJ
2012	Career Development Award by MD Anderson Cancer Center for Research on Environmental Disease

SERVICE ON UNIVERSITY COMMITTEES AND COMMUNITIES

2012- Present	Chemical Safety Committee, UTHealth at Houston
2013- Present	Environmental and Occupational Health Admission Committee
2014- 2015	SWCOEH Faculty Search Committee
2014- 2015	Chair, EOHS Doctoral Preliminary Exam Committee
2014- Present	Chemistry coach for Houston high school teachers
2016- Present	Scientific advisory committee for Air Alliance Houston

PROFESSIONAL SOCIETIES

International Society of Exposure Science
Air and Waste Management Association
American Association for Aerosol Research
Citizen Science Association

EDITORIAL ACTIVITIES

Reviewer for:

Atmospheric Environment
Atmospheric Research
Environmental Health and Perspectives
Environmental Science and Technology
Indoor Air
Journal of Air and Waste Management Association
Journal of Environmental Monitoring
Journal of Occupational and Environmental Hygiene
Science of the Total Environment

INVITED LECTURES

- February 24, 2005 International Topical Meeting on Environmental Reliability and Risk Studies, Seoul National University, Korea, Sponsored by US National Science Foundation and co-sponsored by Rutgers University, Seoul National University and UMDNJ, presented a lecture entitled "Characterization of Diesel Exhaust Particles in an Urban Street Canyons."
- October 5, 2010 Seoul National University Environmental Health Seminar, Seoul, Korea, presented an invited lecture entitled "Physical and Chemical Characterization of Ambient Particles across the United States"
- October 21, 2011 University of Texas School of Public Health Environmental Health Seminar, Houston, TX, presented an invited lecture entitled "Estimation of Combustion Source Contribution in Six US Counties using a PAH/BC Ratio"
- November 4, 2013 Texas A&M University Environmental Toxicology Seminar, College Station, TX, presented an invited lecture entitled "Air Quality and Health: Location, Location, Location."
- May 25, 2014 Seoul National University Graduate School of Public Health, Seoul, Korea, presented an invited lecture entitled with "Air quality in Houston with newly implemented National Ambient Air Quality Standards."
- May 27, 2014 Hankuk University of Foreign Studies Environmental Science Seminar, Korea, presented an invited lecture entitled with "Exposure to traffic related air pollutants and oxidative stress response"
- December 1, 2016 University of Texas Arlington, Arlington, TX, presented an invited lecture entitled with "Characterization of airborne trace elements in a vulnerable community in Houston."

April 10, 2018 University of Utah, Salt Lake City, UT, presented an invited seminar entitled with "Biomarkers of exposure, dose, and oxidative stress in urban vulnerable populations."

TEACHING

Hankuk University of Foreign Studies, Korea

2000 Lead Instructor, Introduction to Environmental Sciences
2001 Lead Instructor, Environmental Organic Chemistry

Wonju National College, Korea

2000-2002 Lead Instructor, Environmental Sanitation

Rutgers, The State University of New Jersey School of Public Health

2003 Guest Lecturer, Principles of Environmental Health (1 lecture)

Johns Hopkins Bloomberg School of Public Health

2009-2010 Guest Lecturer, Industrial Hygiene (4 lectures)

UTHealth School of Public Health

2012 - Current Guest Lecturer, Air and Environment (1 lecture)
2012 - Current Guest Lecturer, Environmental Microbiology (1 lecture)
2013 Guest Lecturer, Environmental Sampling and Analysis (3 lectures)
2013 - Current Co Instructor, Overview of Environmental Health (3 credits)
2013 - 2017 Sole Instructor, Contemporary Issues in Environmental and Occupational Health (2 credits)
2014 - Current Sole Instructor, Environmental Sampling and Analysis (4 credits)
2015- Current Guest Lecturer, Global Environmental Health (1 lecture)
2016- Current Guest Lecturer, Environmental Epidemiology (1 lecture)

STUDENT MENTORING

Current

Amal Rammah	PhD	2014- Present	Role: Dissertation Committee
Tsai-Shu Chu	PhD	2016- Present	Role: Advisor/ Dissertation Committee Chair
Temitope Oluwadairo	PhD	2016- Present	Role: Advisor/ Dissertation Committee Chair

Graduates

Aisha Dickerson	PhD	2012- 2014	Role: Dissertation Committee
Jennifer Hardos	PhD	2013- 2015	Role: Dissertation Committee
Jenil Patel	PhD	2015-2018	Role: Dissertation Committee
Payel Acharya	MPH	2014- 2015	Role: Thesis advisor
Angela Sung	MPH	2014- 2016	Role: Advisor
Justin Lopez	MPH	2014- 2016	Role: Thesis advisor
Parinta Sah	MPH	2015- 2016	Role: Thesis committee
Bradon Blair	MPH	2013- 2016	Role: Advisor
Joshua Lew	MPH	2015- 2017	Role: Advisor

Jordan Gowen	MPH	2016- 2018	Role: Advisor
Shelby Bohannon	MPH	2016- 2018	Role: Advisor
Haoming Jian	MPH	2016- 2018	Role: Advisor

PRESENTATIONS

1. Han, I.K., Park, C.K., Chung, M., and Zhang, J. Measurement of PM10 and Particle-Phase PAHs from Anthropogenic Sources in Korea. International Society and Exposure Analysis and Environmental Epidemiology, Vancouver, BC, Canada, August 11-15, 2002.
2. Han, I.K., Park, C.K., Chung, M., and Zhang, J. Emissions of Particle Phase PAHs from Anthropogenic Sources in Korea. American Public Health Association 130th APHA Annual Conference, November 9-14, 2002.
3. Fan, Z., Han, I.K., Weschler, C., Zhang, C., and Zhang, J. Hydrogen Peroxides and Ultra-fine Particles Resulting from the Reactions of O₃ with Mixtures of Volatile Organic Compounds (VOC) under Simulated Indoor Conditions. International Society of Exposure Analysis- 13th Annual ISEA conference, Piemonte, Italy, September 21-25, 2003.
4. Zhang, J., Wei, F., Zhang, L., Yang, H., Duan, X., Liu, W., Han, I.K., and Rhoads, G. Can Urinary Metabolites Predict Exposures to Pyrene, B[a]P, and other PAHs? International Society of Exposure Analysis- 13th Annual ISEA conference, Piemonte, Italy, September 21-25, 2003.
5. Han, I.K., Zhang, J., Wei, F., Zhang, L., Yang, H., Duan, X., Liu, W., and Rhoads, G. Relationships between hydroxylated metabolites in urine and pyrene/benzo[a]pyrene exposure. International Society of Exposure Analysis- 14th Annual ISEA conference, Philadelphia, PA, October 17-21, 2004.
6. Han, I.K., Zhang, J., Zhang, L., Harrington, R. Impact of Diesel Powered Vehicles on Ambient Air in a London Street, International Topical Meeting on Environmental Reliability and Risk Studies. Seoul, Korea, February 20-22, 2005.
7. McCreanor, J. Stewart-Evans, J., Han, I.K., Harrington, R., Malliarou, E., Zhang, J., Nieuwenhuijsen, M., Cullinan, P., Chung, F., Ohman-Strickland, P., Jarup, L., and Svartengren, M. Health Effects of Diesel Exhaust in Asthmatic Patients: A Real-World Study in a London Street. Health Effects Institute 2005 Annual Conference, Baltimore, MD, April 17-19, 2005.
8. Han, I.K., Zhang, J. Zhang, L., McCreanor, J.E., Cullinan, P., Ohman-Strickland, P., Harrington, R., and Nieuwenhuijsen. Diesel exhaust and biomarkers in London, U.K., UMDNJ-SPH Research Day, Piscataway, NJ, April 15, 2005.
9. Han, I.K., Zhang, J., Zhang, L., McCreanor, J.E., Nieuwenhuijsen, M., Cullinan, P., Chung, F., Ohman-Strickland, P., Stewart-Evans, J., Harrington, R., and Malliarou, E. Can 1-hydroxypyrene be an Indicator of Short-term Exposure to Vehicular Diesel Exhaust? International Society of Exposure Analysis-15th Annual ISEA conference, Tucson, AZ, October 30-November 3, 2005.
10. McCreanor, J., Zhang, J., Cullinan, P., Nieuwenhuijsen, M.J., Chung, F., Ohman-Strickland, P., Stewart-Evans, J., Malliarou, E., Han, I.K., Svartengren, M., and Jarup, L. Short-term Exposure to Diesel Exhaust Worsens Asthma: Evidence from A Real-World Study. Health Effects Institute 2006 Annual Conference, San Francisco, CA, April 9-11, 2006.
11. Han, I.K. Stewart-Evans, J., Malliarou, E., McCreanor, J., Svartengren, M., Ohman-Strickland, P., Jarup, L., Cullinan, P., Chung, F., Zhang, J., and Nieuwenhuijsen, M. J. Short-

term Exposure to Diesel Exhaust Worsens Asthma. UMDNJ-SPH Research Day, Piscataway, NJ, April 11, 2006.

12. Han, I.K., Duan, X., Yang, H., Zhang, L., Ohman-Strickland, P., Wei, F., Rhoads, G., and Zhang, J. Seasonal and Inter-Personal Variability of 1-Hydroxypyrene in Urine. ISEE-ISEA 2008 Joint Conference, Pasadena, CA, October 12-16, 2008.
13. Han, I.K., Groopman, J.D., Kensler, T., Geyh, A.S. Development and validation of GC/MS method for simultaneous quantification of alkylanilines in air. International Society of Exposure Sciences. Minneapolis, MN, November 2 -5, 2009.
14. Geyh, A.S., Mihalic, J.N., Han, I.K., Ramos-Bonilla, J.P., Rule, A.M., Polyak, L.M., Breyse, P.N. Difference In Characteristics of Fine Ambient Particles Collected From Cities Across the United States. International Society of Exposure Sciences. Minneapolis, MN, November 2 -5, 2009.
15. Polyak, L.M., Rule, A.M., Kesavan, J.S., Geyh, A.S., Mihalic, J.N., Han, I.K., Ramos-Bonilla, J.P., Breyse, P.N. Side-by-Side Comparison of Two Ultrafine Particle Counters Measuring Ambient Particulate Matter. International Society of Exposure Sciences. Minneapolis, MN, November 2 -5, 2009.
16. Mihalic, J.N., Han, I.K., Ramos-Bonilla, J.P., Rule, A.M., Polyak, L.M., Breyse, P.N., Geyh, A.S. Differences in Characteristics of Fine Ambient PM Collected from Cities Across the U.S. Winter Conference on Plasma Spectrochemistry, Fort Myers, FL, January 3-9 2010.
17. Rule, A.M., Geyh, A.S., Mihalic, J.N., Ramos-Bonilla, J.P., Han, I.K., Polyak, L.M., Breyse, P.N. Using a Scanning Mobility Particle Sizer (SMPS) to evaluate Seasonal and Regional Differences in Ultrafine PM in Four Counties Across the continental USA. American Association for Aerosol Research Specialty Conference. San Diego, CA. March 22-26, 2010.
18. Han, I.K., Ramos-Bonilla, J.P., Rule, A.M., Mihalic, J.N., Polyak, L.M., Breyse, P.N., Geyh, A.S. The spatial and temporal relationship between ambient black carbon and PAH in four U.S. counties. American Association for Aerosol Research Specialty Conference. San Diego, CA. March 22-26, 2010.
19. Ross, J., Rule, A.M., Geyh, A.S., Mihalic, J.N., Ramos-Bonilla, J.P., Han, I.K., Polyak, L.M., Breyse, P.N., Chillrud, S.N. Platinum group elements in size-segregated samples of ambient airborne particulate matter from U.S. cities. American Association for Aerosol Research Specialty Conference. San Diego, CA. March 22-26, 2010.
20. Datta, S., Rule, A.M., Chillrud, S.N., Mihalic, J.N., Ramos-Bonilla, J.P., Han, I.K., Polyak, L.M., Breyse, P.N., Geyh, A.S. Use of near-edge- X-ray Absorption Spectroscopy to Speciate Manganese in Airborne Particulate Matter from Six Cities in Continental USA. American Association for Aerosol Research Specialty Conference. San Diego, CA. March 22-26, 2010.
21. Han, I., Mihalic, J.N., Ramos-Bonilla, J.P., Rule, A.M., Polyak, L.M., Peng, R.D., Breyse, P.N., Geyh, A.S. Defining heterogeneity of ambient fine particles collected from eight US counties using principal component analysis. American Association for Aerosol Research Annual Conference. Portland, OR. October 25-29, 2010.
22. Han, I., Park, C.G., Lee, J.S., Eo, S.M., Chae, Y.Z., Geyh, A.S., Seasonal variations of volatile organic compounds and gas phase PAHs in Seoul, Korea. American Association for Aerosol Research Annual Conference, Orlando, FL. October 3-7, 2011.

23. Pollack, L., Mihalic, J.N., Prabhu, R., Agarwala, A., McGlothan, J., Stansfield, K., Han, I., Guilarte, T., Geyh, A., Impact of Mn exposure on cognitive function in a Murine model. International Society of Exposure Science, Baltimore, MD. October 23-27, 2011.
24. Han, I., Mihalic, J.N., Rule, A.M., Lee, J., Eo, S., Groopman, J.D., Geyh, A.S., Breysse, P.N., Validation of analytical and field sampling methods for personal air exposure to monocyclic aromatic amines. International Society of Exposure Science, Baltimore, MD. October 23-27, 2011.
25. Rule, A.M., Geyh, A.S., Mihalic, J.N., Ramos-Bonilla, J.P., Han, I., Polyak, L.M., Breysse, P.N., Using a Scanning Mobility Particle Sizer (SMPS) to evaluate temporal and regional differences in ultrafine PM in four counties across the continental US. International Society of Exposure Science, Baltimore, MD. October 23-27, 2011.
26. Han, I., Rule, A.M., Mihalic, J.N., Ramos-Bonilla, J.P., Polyak, L.M., Geyh, A.S., Breysse, P.N., Use of Aerodynamic Particle Sizer to compare spatial and temporal variations in coarse PM mass in four US counties. International Society of Exposure Science, Baltimore, MD. October 23-27, 2011.
27. Rule, A.M., Polyak, L.M., Geyh, A.S., Mihalic, J.N., Ramos-Bonilla, J.P., Han, I., Breysse, P.N., Side by side comparison of two ultrafine particle counter used to estimate the effective density of an urban aerosol. International Society of Exposure Science, Baltimore, MD. October 23-27, 2011.
28. Han, I., Stock, T.H., De Los Reyes, J. M., Delclos, G.L., Associations between personal exposure to temperature and ambient temperature in middle-school children with asthma. International Society of Exposure Science, Seattle, WA. October 28- November 1, 2012.
29. Han, I., Guo, Y., Characterization of Size-Segregated Particulate Matter in Houston TX. American Association for Aerosol Research, Portland, OR, September 30 – October 4, 2013.
30. Han, I., Guo, Y., Afshar, M. Land Use Patterns and Size-Resolved Polycyclic Aromatic Hydrocarbons in an Urban Air. The Geological Society of America, Denver, CO, October 27-30, 2014
31. Han, I., Measurement of Monocyclic Aromatic Amines in an Urban Air. American Chemical Society National Meeting, Dallas, TX, March 16-20, 2014.
32. Guo, Y., Afshar, M., Han, I. Intra-urban Spatial and Temporal Comparison of Fine and Quasi-Ultrafine Particles in Houston, TX. International Conference on Environmental Science and Technology, Houston, TX, June 9 -13, 2014.
33. Han, I., Guo, Y., Afshar, M. Particle size distributions of trace elements in a community near industrial and traffic sources. American Chemical Society National Meeting, Boston, MA, August 16-20, 2015.
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