

## **Daikwon Han, Ph.D.**

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### **EDUCATION**

Ph.D. GIS and Spatial and Environmental Epidemiology. University at Buffalo.  
M.A. GIS/Geography, Seoul National University.  
Diploma, NCI summer curriculum in cancer prevention, National Cancer Institute, NIH

### **PROFESSIONAL EXPERIENCE**

Associate Professor, Department of Epidemiology & Biostatistics, Texas A&M School of Public Health.

Joint Associate Professor, Department of Geography, Texas A&M University

Affiliated Faculty, Interdisciplinary Faculty of Toxicology, Texas A&M University; Center for Atmospheric Chemistry and the Environment, Texas A&M University; Affiliated Faculty, Department of Social and Preventive Medicine, School of Public Health, University at Buffalo.

Assistant Professor of GIS, Institute for Regional Analysis and Public Policy (IRAPP), Morehead State University, 2005-2008

Research Assistant Professor, Department of Social and Preventive Medicine, University at Buffalo; Postdoctoral Research Fellow, DOD-US Army Congressionally Directed Medical Research Programs (CDMRP)-Breast Cancer Research Program (BCRP), 2003-2005

Research Associate, National Center for Geographic Information and Analysis (NCGIA), SUNY-Buffalo, 2000-2002; Research Associate/GIS Specialist, Department of Social and Preventive Medicine, University at Buffalo. 2001-2002.

### **Research and Teaching Interest**

Spatial Epidemiology, Health GIS & Spatial Analysis Methods, Environmental Health/Exposure Science, Environmental Justice & Health Disparities, Healthcare Access, Population Studies/Spatial Demography.

Research highlight: I have authored and coauthored numerous research articles which have been published in the leading epidemiology and public health journals (see below publication sections with over 50 peer-reviewed journal papers and other publications). Also I have served as PI/co-PI on multiple multidisciplinary projects across closely-related disciplines, including public health, social, and environmental sciences.

Teaching highlight: Over fifteen years of teaching experience. Taught diverse topical and methods courses in epidemiology and public health sciences, including Epidemiology Method, Spatial Epidemiology, GIS for Health Science, and Environmental Epidemiology.

Numerous presentations and invited lectures, including six professional public health workshops organized and presented, and numerous guest lectures (See below presentation sections – selected from nearly 100 presentations at national and international conferences).

Graduate faculty of Texas A&M University since 2009; Academic advisors for over 100 graduate students at Texas A&M Health Sciences Center; Dissertation committee members for over 20 students in public health and other social & environmental sciences.

## **My Research Profile**

ORCID: [0000-0001-7509-015X](https://orcid.org/0000-0001-7509-015X)

Google Scholar: <https://scholar.google.com/citations?user=FGpOidwAAAAJ&hl=en&oi=ao>

## **PUBLICATION**

### **Refereed Journal Papers**

1. Rogerson, PA. Han, D. The Effects of Migration on the Detection of Geographic Differences in Disease Risk. *Social Science and Medicine* 2002, 55:1817-1828.
2. Bonner, MR. Han, D. Nie, J. Rogerson, PA. Vena, JE. Freudenhiem, JL. Positional Accuracy of Geocoded Addresses in Epidemiologic Research. *Epidemiology* 2003, 14:408-412.
3. Han, D. Rogerson, PA. Nie, J. Bonner, MR. Vena, JE. Muti, P. Trevisan, M. Edge, S. Freudenheim, JL. Geographic Clustering of Residence in Early Life and Subsequent Risk of Breast Cancer. *Cancer Causes and Control* 2004, 15:921-929.
4. Han, D. Carrow, SS. Rogerson, PA. Munschauer, FE. Geographical Variation of Cerebrovascular Disease in New York State: The Correlation with Income. *International Journal of Health Geographics* 2005, 4:25, pages 1-9.
5. Han, D. Rogerson, PA. Bonner, MR. Nie, J. Vena, JE. Muti, P. Trevisan, M. Freudenheim, JL. Assessing Spatio-Temporal Variability of Risk Surfaces using Residential History Data in a Case Control Study of Breast Cancer. *International Journal of Health Geographics* 2005, 4:9, pages 1-10.
6. Bonner, MR. Nie, J. Han, D. Rogerson, PA. Vena, JE. Muti, P. Trevisan, M. Edge, S. Freudenheim, JL. Environmental Tobacco Smoke Exposure in Early Life and the Risk of Breast Cancer. *Cancer Causes and Control* 2005, 16:683-689.
7. Bonner, MR. Han, D. Nie, J. Rogerson, PA. Vena, JE. Muti, P. Trevisan, M. Edge, S. Freudenheim, JL. Breast Cancer Risk and Exposure in Early Life to Polycyclic Aromatic Hydrocarbons Using Total Suspended Particulates as a Proxy Measure. *Cancer Epidemiology, Biomarkers and Prevention* 2005, 14:53-60.
8. Han, D. Nie, J. Bonner, MR. McCann, S. Muti, P. Trevisan, M. Ramirez, F. Vito, D. Freudenheim, JL. Lifetime Adult Weight Gain, Central Adiposity, and the Risk of Pre- and Postmenopausal Breast Cancer in the Western New York Exposure and Breast Cancer (WEB) Study. *International Journal of Cancer* 2006, 119(12):2731-37.

9. Rogerson, PA. Sinha, G. Han, D. Recent Changes in the Spatial Pattern of Prostate Cancer in the United States. *American Journal of Preventive Medicine* 2006, 30:S50-59.
10. Nie, J. Beyea, J. Bonner, MR. Han, D. Vena, J. Rogerson, P. Vito, D. Muti, P. Trevisan, M. Freudenheim, JL. Exposure to traffic emissions throughout life and risk of breast cancer: the Western New York Exposures and Breast Cancer (WEB) study. *Cancer Causes and Controls* 2007, 18:947-55.
11. Huang, B. Dignan, M. Han, D. Johnson O. Does Distance Matter? Distance to mammography facilities and stage at diagnosis of breast cancer in Kentucky. *Journal of Rural Health* 2009, 25: 366-371.
12. Sharkey J. Horel, S, Han, D. Huber, JC. Association between Neighborhood Need and Spatial Access to Food Stores and Fast Food Restaurants in Neighborhoods of Colonias. *International Journal of Health Geographics* 2009, 8:9. Pages 1-11.
13. Jaworowicz Jr DJ. Nie, J. Bonner, MR. Han, D. Vito, D. Hutson A, Potischman N, Trevisan, M. Muti, P. Freudenheim, JL. Agreement between Self-reported Birth Weight and Birth Certificate Weights. *Journal of Developmental Origins of Health and Disease* 2010, 1: 106-113.
14. Han, D. and Hwang S. On the Use of Spatially Referenced Health and Environment Data. *Journal of Environmental Health Sciences* 2011, 37: 1-11. In Korean.
15. Han, D. Bonner, MR. Nie, J. Rudra, C. Freudenheim, JL. Using Birth Certificate Data to Reconstruct and Validate Self-reported Birth Address in a Study of Breast Cancer and the Environment. *Annals of Epidemiology* 2011, 21: 710-713.
16. Park, S. and Han, D. Reviews in Medical Geography: Spatial Epidemiology of Vector-Borne Diseases. *Journal of the Korean Geographical Society* 2012, 47: 677-699. In Korean.
17. Han, D. and Gorman, D. Alcohol Availability and Violence. *Oxford Bibliographies Online: Public Health* 2013. DOI: 10.1093/obo/9780199756797-0114.
18. Han, D. Bonner, MR. Nie, J. Freudenheim, JL. Assessing Bias Associated with Geocoding of Historical Residence in Epidemiology Research. *Geospatial Health* 2013, 7:355-360.
19. Han, D. and Gorman, D. Evaluating the Effects of the Introduction of Off-Sale Alcohol Outlets on Violent Crime. *Alcohol and Alcoholism* 2013, 48:370-374.
20. Han, D. Lee, K. Kim, J. Bennett, D. Cassady , D. Hertz-Picciotto, I. Development of Time-Location Weighted Spatial Measures using Global Positioning System (GPS) Data. *Environmental Health and Toxicology* 2013, 28:e2013005, pages 1-8.
21. Han, D. Nie, J. Bonner, MR. Marian, C. Shields, P. Ambrosone, C. Trevisan, M. Edge, S. Freudenheim, JL. Clustering of Place of Birth for Women with Breast Cancer: Differences by Tumor Subtype. *Cancer Causes and Control* 2013, 24:587-594.

22. Han, D. Gorman, D. Exploring Spatial Associations between On-Sale Alcohol Availability, Neighborhood Population Characteristics and Violence Crime in a Geographically Isolated City. *Journal of Addiction*. 2013, Volume 2013, <http://dx.doi.org/10.1155/2013/356152>, pages 1-6.
23. Setien, M. Han, D. Carrillo Zuniga G, Mier N, Lucio R, Treviño L. Does Injury Prevention Education Initiate Household Changes in a Spanish-Speaking Minority Population? *Journal of Community Health*. 2014, 39: 167-172.
24. Park, S. Navratil, S. Gregory, A. Bauer, A. Srinath, I. Szonyi, B. Nightingale, K. Anciso, J. Jun, M. Han, D. Ivanek, R. Farm management, environment and weather factors jointly affect the probability of spinach contamination with generic *Escherichia coli* at the pre-harvest level. *Applied and Environmental Microbiology*. 2014, 80: 2504-2515.
25. Park, E. Hopke, P. Oh, M. Symanski, E. Han, D. Spiegelman, C. Assessment of source specific health effects associated with an unknown number of major sources of multiple air pollutants: A unified Bayesian approach. *Biostatistics*. 2014, 15: 484-97.
26. Han, D. Gorman, D. Socio-Spatial Patterning of Off-Sale and On-Sale Alcohol Outlets in a Texas City. *Drug and Alcohol Review*. 2014, 33: 152-160.
27. Carrillo G, Han D, Lucio R, Seol Y, Chong-Menard B, Smith K. Impacting Environmental and Public Health through the Use of Dual Targeted and Tailored Asthma Educational Interventions. *J Environ Public Health*. 2015:476173. Pages 1-7.
28. Park, S. Navratil, S. Gregory, A. Bauer, A. Srinath, I. Szonyi, B. Nightingale, K. Anciso, J. Jun, M. Han, D. Lawhon S. Ivanek, R. Count of generic *Escherichia coli* on spinach at the preharvest level determined by the interplay of ambient temperature, precipitation, farm management and environmental factors. *Applied and Environmental Microbiology*. 2015, 81:2635–2650.
29. Ro, Y. Hwang, S. Shin, S. Han, D. Kang, S. Song, K. Cho, S. Presumed Regional Incidence Rate of Out of Hospital Cardiac Arrest in Korea. *Journal of Korean Medical Science* 2015, 30: 1396-1404.
30. Park E, Symanski E, Han D, Spiegelman C. Part 2. Development of Enhanced Statistical Methods for Assessing Health Effects Associated with an Unknown Number of Major Sources of Multiple Air Pollutants. *Res Rep Health Eff Inst*. 2015 Jun; pages 51-113. PubMed PMID: 26333239.
31. Han, D. Shipp. E. Gorman, D. Evaluating the Effects of the Introduction of Off-Sale Alcohol Outlets on Motor Vehicle Crashes: A Time Series Analysis. *International Journal of Injury Control and Safety Promotion*. 2015, 22: 320-327.
32. Ha, H, Rogerson, P. Olson, J. Han, D. Bian, L. Shao, W. Analysis of Pollution Hazard Intensity: A Spatial Epidemiology Case Study of Soil Pb Contamination. *International Journal of Environmental Research and Public Health* 2016, 13, 915; doi: 10.3390 / ijerph13090915.
33. Trueblood A. Shipp E. Han D. Ross J. Cizmas, L. Pesticide-Related Hospitalizations in Children in Texas, 2004-2013. *Public Health Reports* 2016, 131:588-596.

34. Xu X, Hu H, Ha S, Han D. Smartphone-Assisted Spatial Data Collection Improves Geographic Information Quality: Pilot Study Using a Birth Records Dataset. *Geospatial Health* 2016, 11, 342-348.
35. Trueblood A, Forrester M, Han D, Shipp E, Cizmas, L. Pesticide-Related Poison Center Exposures in Children in Texas, 2000-2013. *Clinical Toxicology* 2016, 54:852-856.
36. Gorman, D. Ponicki, W. Zheng, Q. Han, D. Grunewald, P. Violent Crime Redistribution in a City following a Substantial Increase in the Number of Off-Sale Alcohol Outlets: A Bayesian Analysis. *Drug and Alcohol Review* 2018, 37(3):348-355.
37. Callahan, C. Bonner, MR. Nie, J. Han, D. Shields, P. Ambrosone, C. Edge, S. Trevisan, M. Freudenheim, JL. Exposures to measures of ambient air pollution throughout life and methylation of tumor suppressor genes in breast tumor tissue. *Environmental Research* 2018, 161:418-424.
38. Trueblood A, Han D, Shipp E, Cizmas, L. Exploring Demographic and Environmental Factors Related to Unintentional Pesticide Poisonings in Children and Adolescents in Texas. *Environmental Health and Toxicology* 2018. 33(2): Article ID: e2018008, 8 pages.
39. Yi, H, Kreuter, U, Han, D. Güneralp, B. Social segregation of ecosystem services delivery in the San Antonio region, Texas, through 2050. *Science of the Total Environment* 2019.
40. Khan I. Arsalan M, Mehdi M. Kazmi J. Seong J. Han, D. Assessment of Asthma-prone Environment in Karachi, Pakistan using GIS Modeling. *Journal of the Pakistan Medical Association* 2020.
41. Adepoju O, Han D, Chae M, Smith K, Gilbert L, Choudhury S, Woodard L. Health Disparities and Climate Change: The Intersection of Three Disaster Events on Vulnerable Communities in Houston, Texas. *International Journal of Environmental Research and Public Health*. 2021; 19(1):35.
42. Adepoju O. Chae M. Woodard L. Smith K. Herrera L. Han D. Howard D. Dobbins J. Ory M. Correlates of Social Isolation among Minority Older Adults During the COVID-19 Pandemic. *Frontiers in Public Health Vol 9*. 2021.
43. Pallathadka, A. Chang, H. Han, D. What explains COVID-19 vaccine hesitancy?: A SETS approach. *Environmental Research Health*, 2022.
44. Adepoju O. Herrera L. Chae M. Han D. Optimizing Disaster Preparedness Planning for Minority Older Adults: One Size Does Not Fit All. *International Journal of Environmental Research and Public Health*, 2022.
45. Roh T. Knappett P. Han D. Ludewig G. Kelly K. Wang K. Weyer P. Characterization of arsenic and atrazine contaminations in drinking water in Iowa: a public health concern. *International Journal of Environmental Research and Public Health*. 2023.

### **Book chapter & other publications**

46. Han, D. and Rogerson, PA. Application of a GIS-Based Statistical Method to Assess Spatio-Temporal Changes in Breast Cancer Clustering in the Northeastern United States. In *Geographic*

*Information Systems and Health Applications*. Khan, OA (ed), 2003 Hershey, PA: Idea Group Publishing, 114-138.

47. Han, D. GIS and Environmental Health. Korea Ministry of Environment WebZine: Aug. 2011. V 32; 3-5.
48. Han, D. Place Effects on Health: Integrating Built, Social, and Physical Environment into Public Health Research; In *Healthy Cities and Places*. Kim, T. 2012, pages 174-195. In Korean. KRIHS press.
49. Dahlke, D. Han, D. Healthcare Apps with Maps: A Review of Current Apps and Emerging Trends. *GIS in Public Health Proceedings 2013*,URISA. pages 1-25.
50. Kim, H. Han, D. Network Analysis Methods, In *Network, Space, and Society*. Huh, W. et al. 2015, pages 29-46, In Korean. SNU Press.

### **Published Abstracts (Peer-Reviewed)**

Roh, T. Han, D. Wang, T. Knappett, P. Tracy, J. Estimating the Occurrence of Arsenic in Residential Drinking Water and Population with Potential High Arsenic Exposure in Texas. International Society for Environmental Epidemiology 2021.

Adepoju O. Woodard L. Smith K. Herrera L. Han D. Howard D. The impact of family and community supports on social isolation among minority older adults during the COVID-19 pandemic. American Public Health Association 2021.

Shah. N. N. T. Hasan1. Han, D. Roh, T. Trends in Arsenic Exposure among the US population: Findings from the National Health and Nutritional Examinations Survey. International Society for Environmental Epidemiology 2021.

Adepoju, O. Howard, D. Smith, K. Herrera L. Han, D. Woodard, L. Correlates of Social Isolation Among Minority Older Adults During the COVID-19 Pandemic. GSA 2021.

Roh, T. Han, D. Johnson, N. The Association of Exposure to Arsenic from Drinking Water with COVID-19 Infection and Mortality in Texas. Society of Toxicology 2020.

Roh, T. Steinmaus, C. Ludewig, G. Han, D. Global public health threat from arsenic in drinking water: current epidemiological evidence and future direction. Geological Society of America 2020.

Marcantonio, F. Datta, S. Cizmas, L. Han, D. Determining Environmental Exposure Routes for Elevated Levels of Blood Lead in Kansas Children. GSA 2019.

Du, Y. Morrissey, M. Ohsfeldt, R. Han, D. Behaviors of the Issuers in the Individual Health Insurance Marketplace under the Affordable Care Act - A Study on Texas and Florida. ASHEcon 2018.

Marcantonio, F. Datta, S. Cizmas, L. Han, D. Tracking the source of contaminant lead in children's blood as a means for environmental remediation. AGU 2018.

Du, Y. Morrissey, M. Ohsfeldt, R. Han, D. Dabney, A. Regional Disease Incidence in Pricing Private Health Insurance Premium: A Study of Florida Health Insurance Market under the Affordable Care Act. American Public Health Association 2017.

Poh, K. Jun, M. Han, D. Bueno, R. Reyna, M. Debboun, M. Hamer, G. Effects of prior temperature and precipitation on West Nile Virus infection in *Culex quinquefasciatus* Say in Harris County, Texas. Entomological Society of America 2017.

Callahan, C. Bonner, MR. Shields, P. Ambrosone, C. Han, D. Nie, J. Edge, S. Trevisan, M. Freudenheim, JL. Early life exposure to air pollution and promoter methylation in breast tumors in the Western New York Exposures and Breast Cancer Study. *Proc. the American Association for Cancer Research* 2015.

Gorman, D. Han, D. Diffusion of Violent Crime within a City following the Introduction of a Large Number of Off-premise Outlets. *Society for the Study of Addictions* 2014.

Han, D. and Gorman, D. Evaluating the Effects of the Introduction of Off-Sale Alcohol Outlets on Violent Crime. *American Journal of Epidemiology* 2013.

Han, D. Gorman, D. Spatial clustering of alcohol outlets after the policy change. *Proc. of the GIS and Public Health Conference* 2013.

Gorman, D. Han, D. Socio-Spatial Patterning of Alcohol Outlets after the Introduction of Off-Sale Premises in Lubbock, Texas. *Proc. of the Alcohol Policy Conference* 2013

Gorman, D. Han, D. Zheng, Q. Gruenewald, P. An Agent-Based Model of Alcohol Availability and Violence. *Proc. of the American Academy of Health Behavior Conference* 2013.

Han, D. Bonner, MR. Nie, J. Freudenheim, JL. Assessing Bias Associated with Geocoding of Historical Residence in Epidemiology Research. *American Journal of Epidemiology* 2012.

B Huang; TJ Gal; D Han; H Wallace; B Shelton; T Tucker; M Dignan. Travel Distance and Pattern of Care for Laryngeal Cancer in Kentucky. *Proc. the American Association for Cancer Research* 2011.

Park E, Symanski E, Han, D. Spiegelman C. "Developing Statistical Methods to Assess Health Effects of Multiple Air Pollutants" Proceedings of the Health Effects Institute Conference, 2011.

Han, D. Sharkey J. Horel, S "Spatial Disparities in Potential Access to Food Environments in Rural Texas" *Epidemiology* 2010.

Park E, Symanski E, Han, D. Spiegelman C. "Development of Enhanced Statistical Models for Assessing Health Effects Associated with an Unknown Number of Major Sources of Multiple Air Pollutants" Proceedings of the Health Effects Institute Conference, 2010.

Han, D. J. Kim, K Lee, D. Bennett, B. Ritz, D Cassady, I Hertz-Picciotto "Spatial Analysis of Human Time Location Data: Development of Exposure Weighted Standard Deviation Ellipses (EW-SDE)" *Epidemiology* 2008, 19(6):S123.

Han, D. Huang, B, Dignan, M. Spatial Analysis of Breast Cancer Disparities in Kentucky. *Proceedings of the Cancer Health Disparities* 2007: 60.

Han, D. Freudenheim, JL. Bonner, MR. Nie, J. Vito, D. Using Birth Certificate Data to Reconstruct and Validate Self-reported Birth Address in a Study of Breast Cancer and Environment. *American Journal of Epidemiology* 2006, 159(11):S13.

Han, D. Freudenheim, JL. Nie, J. Bonner, MR Muti, P. Trevisan, M. Vito, D. Edge, S. Luyegu, K. Shields, P. Geographic Differences in Breast Cancer Cases and Controls by Genetic and Biological Characteristics: Explaining Clustering of Breast Cancer at Place of Birth. *Proc. Amer Assoc Cancer Res* 2005, 46: 3214.

Bonner, MR. Freudenheim, JL. Han, D. Nie, J. Lan, Q. Rogerson, PA. Vena, JE. Edge, S. Shields, P. Glutathione-S-transferase M1 (GSTM1), Total Suspended Particulate Exposure and Breast Cancer. *Proc. Amer Assoc Cancer Res* 2005, 46: 2183.

Nie, J. Beyea, J. Bonner, MR. Han, D. Vena, J. Rogerson, P. Vito, D. Muti, P. Trevisan, M. Freudenheim, JL. Traffic Polycyclic Aromatic Hydrocarbons Genetic Susceptibility and Risk of Breast Cancer. *Pediatric Research* 2005, 58: 1025.

Han, D. Rogerson, PA. Bonner, MR. Nie, J. Vena, JE. Freudenheim, JL. Assessing the Variability of Risk Surfaces using Residential History Data in a Case Control Study of Breast Cancer. *Epidemiology* 2004, 15(4):S208.

Han, D. Muti, P. Trevisan, M. Nie, J. Vito, D. Edge, S. Freudenheim, JL. Effects of Lifetime Weight Gain on Breast Cancer Risk. *American Journal of Epidemiology* 2004, 159(11):S13.

Han, D. Bonner, MR Nie, J. Rogerson, PA. Vena, JE. Muti, P. Trevisan, M. Freudenheim, JL. Clustering of Lifetime Residence and Breast Cancer Risk in Western New York. *American Journal of Epidemiology* 2003, 157(11): S29.

Nie, J. Bonner, MR. Han, D. LaFalce, J. Vito, D. Vena, JE. Freudenheim, JL. Residential Proximity to Chemical or Primary Metal Industry and the Risk of Breast Cancer in Western New York. *American Journal of Epidemiology* 2003, 157(11): S24.

Han, D. Nie, J. Bonner, MR. Vito, D. Freudenheim, JL. Environmental Exposures Associated with Lifetime Residential History: A GIS-based Clustering Analysis of Breast Cancer. *American Journal of Epidemiology* 2002, 155(11): S102.

Rogerson, PA. Yamada, I. Han, D. Quick Detection of Spatial and Temporal Clusters of Disease. *Epidemiology* 2002, 13(4): 294.

Bonner, MR. Han, D. Nie, J. Freudenheim, JL. Vena, JE. Residential Proximity at Birth to Industrial Sites and Subsequent Risk of Breast Cancer. *Annals of Epidemiology* 2002, 12(7): 508.

Nie, J. Bonner, MR. Han, D. Freudenheim, JL. Validation of TIGER to Geocode Addresses for Epidemiologic Research, *American Journal of Epidemiology* 2001.

Rogerson, PA. Han, D. The Effects of Migration on the Detection of Disease Clusters. *Epidemiology* 2000.



## GRANTS & CONTRACTS

2003-2005. "Integrating Geographic Information Systems into Breast Cancer Epidemiologic Research" Department of Defense CDMRP-BCRP, Role: PI.

2007-2008. "Spatial Analysis of Breast Cancer and Access to Health Care Services in Kentucky" KAS. Role: PI.

2009-2010. "Behavioral and Environmental Influence on Obesity: Rural Context & Race/Ethnicity" NIH. Role: Epidemiologist.

2010. "Novel H1N1 Pandemic Influenza Physician/Healthcare Professional Assessment" Texas DHHS. Role: Epidemiologist.

2011. "Pandemic Influenza Physician/ Healthcare Professional Assessment: Follow-up Study" Texas DHHS. Role: Epidemiologist.

2011-2014. "Development of Enhanced Statistical Methods for Assessment of Health Effects Associated with an Unknown Number of Major Sources of Multiple Air Pollutants" HEI/EPA. Role: Epidemiologist and geospatial methods expert.

2011-2012. "Rural Town Walkability: Measuring the Effects of the Built Environment" NIH. Role: Epidemiologist.

2011-2014. "Development and Validation of Agent-Based Models of Alcohol-Related Violence" NIH. Role: Epidemiologist and geospatial methods expert.

2012-2013. "H-RAMP: Hazed Risk Assessment and Mitigation Plans" Texas DHHS. Role: Epidemiologist.

2012-2013. "Region 6/5S Hazard Risk Assessment" Texas DHHS. Role: Epidemiologist.

2013-2015. "Making Healthy Places: Developing Guidelines for Building Healthier Cities" NRC/KRIHS. Role: PI.

2015-2017 "Community-Based Pediatric Asthma Education and Intervention Program" Knapp community care foundation. Role: Epidemiologist.

2016-2017 "Building a Generation of Cyber GIScientists in the Context of Outbreak Surveillance, Prediction, and Management" NSF. Role: Epidemiologist.

2016-2017 "Mixed-Methods Approaches of GIS and Community Survey of Neighborhood Social Environment to Understand Social Support and Self-management Behaviors among African Americans with Type-2 Diabetes" TAMU Pesca, Role: Co-PI.

2017-2019 "Tracking the source of contaminant lead in children's blood as a means for environmental remediation" TAMU-Children's Mercy Hospital Collaborative Grant. Role: Epidemiologist.

2020-2021 “Social Vulnerability, Mobility, and COVID-19 Spatial Mortality Patterns” NSF-Converge Public Health and Social Science Research Award. Role: Epidemiologist.

2020-2021 “Impact of Drinking Water Contaminants on Cancer Rates” TAMU T3. Role: Epidemiologist.

2020-2021 “Disaster Planning, Preparedness, Response, and Recovery among the Minority Aging Population in Houston, Texas from the Effects of Pandemics. Wal-Mart Foundation Community Development Grant. Role: Co-PI.

2021-2022 “Cancer Prevention Through Identification and Reduction of Arsenic Exposure from Private Wells in Rural Texas” Houston Methodist Cancer Center Community Outreach Grant. Role: Epidemiologist.

2022-2024 “Assessment of Burden of Arsenic Exposure from Drinking Water in Texas Border Communities.” Methodist Healthcare Ministries. Role: Epidemiologist.

## **RECENT PRESENTATION AND INVITED TALKS**

\* Selected from over 100 presentations

“GIS and Spatial Epidemiology for Public Health” CNU Dept. of Preventive Medicine, July 2016.

“GIS and Public Health” Texas A&M GIS Day, Panel Presenter and Discussant, Nov. 2015.

“Making Healthy Seoul: Developing Guidelines for Building Healthy Seoul”, Seoul Institute, July 2015.

“Spatial Epidemiology: Opportunities and Challenges” Spatial epidemiology and ecology working group, Epidemiology Society of Korea. July, 2015.

“GIS and Public Health” Texas A&M GEOSAT proposal workshop, Sep. 2014.

“Spatial Epidemiology for Environmental Health Research” Texas A&M Toxicology Seminar Series, 2014.

“Making Healthy Places: Developing Guidelines for Building Healthier Cities”, KRIHS, Ministry of Land, Infrastructure and Transport, 2014.

“Place Effects on Health: Integrating Built, Social, and Physical Environment into Public Health Research”, Korea Environmental Institute, Ministry of Environment, 2014.

“Spatial Epidemiology: Opportunities and Challenges” Seoul National University School of Environmental Science, 2014.

“Spatial Epidemiology: Opportunities and Challenges” Texas A&M Department of Geography Colloquium, 2014.

“Making Healthy Places: Incorporating Place Effects into Public Health Research” Asia-Pacific Conference on Public Health, 2014.

“Spatial clustering of alcohol outlets after the policy change” *GIS and Public Health* 2013.

“Integrating GIS and Spatial Methods into Epidemiologic Research” Texas A&M Department of Statistics Colloquium, 2013.

“Evaluating the Effects of the Introduction of Off-Sale Alcohol Outlets on Violent Crime” *Annual Meeting of the Society for Epidemiologic Research* 2013.

“Exploring Local Associations between On-Sale Alcohol Availability, Neighborhood Population Characteristics and Violence Crime in a Geographically Isolated City” *Annual Meeting of the Association of American Geographers*. 2013.

“Early Life Exposures and Breast Cancer Risk” KSEA West Gulf Coast BioMedical Symposium, Texas Medical Center, Houston, TX. Nov, 2012.

“GIS and Public Health” Texas A&M GIS Day, Panel Presenter and Discussant, Nov. 2012.

“Geocoding of Residence History in Epidemiology Research: Assessment and Implications” *Annual Meeting of the Association of American Geographers*. New York, NY 2012

“GIS and Spatial Epidemiology for Public Health Research and Practices” Environmental Health Research Division, National Institute of Environmental Research, Korea Ministry of Environment. 2011.

“GIS, Medical Geography, and Spatial Epidemiology” Dept. of Planning, University of Seoul, 2011.

“Spatial Disparities in Potential Access to Food Environments in Rural Texas” *Joint Meeting of the International Society of Environmental Epidemiology (ISEE) and International Society of Exposure Science (ISEA)* 2010.

“GIS and Spatial Analysis Methods for Air Pollution Epidemiology” Seoul Research Institute of Public Health and Environment, Seoul Metropolitan Government. 2010.

“GIS and Rural Environmental Health” *International Conference on Healthy City and Environmental Health* 2009.

“Exploring the Use of GPS-collected Data in Environmental Health Studies” *Annual Meeting of the Association of American Geographers*. Las Vegas, NV. 2009

“GIS-based spatial analysis of lifetime environmental exposures and breast cancer risk” *National Environmental Public Health Conference*. Atlanta, GA. 2008.

“GIS and Spatial Analysis for Cancer Research” Prevention Research Center Seminar Series, University of Kentucky School of Medicine, 2007.

## **Workshops Organized & Presented**

“Health GIS” one-day short course. SNU Dept. of geography and Institute for Regional Studies. July 2014.

“GIS and cancer surveillance” short course. Division of Cancer Registration and Surveillance National Cancer Control, National Cancer Center of Korea, August 2011.

“Spatial Epidemiology for Public Health Research and Practices” Mini-Symposium. Hosted by Korea University College of Medicine and School of Public Health. July 2011.

“GIS in Public Health” two-day short course. Texas A&M School of Rural Public Health, College Station, TX. June 2009.

“GIS for Public Health Research and Practices” one-day workshop. SNU School of Public Health, October 2010.

“GIS Workshop: Fundamental concepts and applications” MSU, April 2006.

## **PORFESSIONAL ACTIVITIES**

Associate Editor, *CDC Preventing Chronic Disease (PCD) Journal*; Associate Editor, *Environmental Health and Toxicology*.

Editorial Board, *The Professional Geographer*, 2019-2022; Editorial Board, *Journal of Environmental Health Sciences*.

Advisory Committee Member, Texas Cancer Registry (TCR). 2016-2022.

Scientific Program Committee, International Society of Environmental Epidemiology (ISEE) & International Society of Exposure Science (ISES) Joint Conference; 2010, 2013. Scientific Program Committee, GIS in Public Health Conference, Urban and Regional Information Science Association (URISA); 2011, 2013; Program Committee, Health GIS - International Workshop on the Use of GIS in Public Health, 2012. Planning Committee - Innovative Methods and Statistics theme. SPR 2016-2017.

Chair, “Spatial Epidemiology” session at International Environmental Epidemiology conference 2010; “Health service” session at GIS and Public Health conference 2013; “Disease surveillance” session at GIS and Public Health conference 2011; “Women’s Health” session at AAG 2007.

Diploma, NCI summer curriculum in cancer prevention: “Principles and Practice of Cancer Prevention and Control.” National Cancer Institute, National Institutes of Health, Rockville, MD. July 7-August 1, 2003.

Certificate of completion, Agent-based modeling track, NIH-sponsored Systems Science and Health workshop, Columbia University, NY. June, 2011.

TAMU ESRI Development Center (EDC), Director of School of Public Health; Texas A&M GIScience and Technology center (GeoSAT), core faculty member representing TAMHSC-SPH.

Committees at SPH;

Texas A&M SPH Distance Education 2008-2010

Texas A&M SPH Student Affairs Committee 2010-2013

Texas A&M SPH Doctoral Committee 2014-2015

Texas A&M SPH Curriculum Committee 2015-2018

Texas A&M SPH APT Committee 2014-2015

Texas A&M SPH public health studies faculty search committee, 2014-2015; Epidemiology Faculty Search Committee, 2009-2010, 2012-2013, 2014-2015, 2017-2018; Biostatistics Faculty Search Committee, 2014-2015

## **Review/Commentary**

Manuscript reviewer, since 2002;

*American Journal of Preventive Medicine* – recognized as a top reviewer, 2016

*American Journal of Public Health*

*International Journal of Cancer*

*Environmental Research*

*Social Science and Medicine*

*Health and Place*

*Geospatial Health*

*Spatio and Spatio-Temporal Epidemiology*

*Professional Geographers*

*British Medical Journal Open*

*International Journal of Health Geographies*

*Journal of Urban Health*

*Journal of Environmental Health*

*Public Health*

*Journal of Environmental Health Science*

*International Journal of Healthcare Technology and Management*

*Environmental Health and Toxicology*

*GeoJournal*

*Alcohol and Alcoholism*

*Asian Nursing Journal*

*Scientific Report*

*Women's Health*

*Scientific World Journal*

*Korean Journal of Geography*

*Applied Spatial Analysis*

Abstract reviewer;

*Congress of Epidemiology –Spatial Epidemiology session*

*APHA Meeting - Applied Public Health Statistics program*

*International Society of Environmental Epidemiology Meeting*

*Society for Epidemiologic Research Meeting*

*CDC National Cancer Conference, CDC Health Datapalooza Conference*

Other Review & Commentary Activities;

Book Reviewer, *GIS for the Urban Environment*. ESRI Press. 2009

Grant Reviewer, National Science Foundation, Human-Environment and Geographical Sciences Program, 2021. Grant Reviewer, National Science Foundation, Geography and Spatial Sciences Program, 2012.

Reviewer and Judge, St. Luke's Episcopal Health Charities Community Health Research Award 2012. Reviewer, Certified in Public Health (CPH) Exam-Epidemiology 2016.

Han, D. Expert Commentary, "Breast cancer and weight control" Family Circle 2007; "Adult weight gain and breast cancer risk" MAMM Magazine: women, cancer and community, 2006.

Han, D. Expert Commentary, "Association of Gain and Loss of Weight before and after Menopause with Risk of Postmenopausal Breast Cancer in the Iowa Women's Health Study." Cancer Epidemiology, Biomarkers & Prevention, March 2005; 14:656-661. Breastlink 2006.

### **Dissertation/Thesis Committee**

PhD Dissertation Committee "Modeling climate-induced health dynamics in tropical Africa" Texas A&M Department of Geography. Completed 2012.

PhD Dissertation Committee "Epidemiological investigation of risk factors for microbial contamination in produce at the preharvest level" Texas A&M Department of Veterinary Medicine. Completed 2013.

PhD Dissertation Committee "Too Young for This: Opportunities and Challenges in Cancer Survivorship Among Adolescent and Young Adults" Texas A&M Department of Community Health. Completed 2014.

PhD Dissertation Committee "Understanding Childhood Residential Exposures and Health Disparities in Texas with a Focus on Pesticide Exposures" Texas A&M Department of Environmental Health and Epidemiology. Completed 2016.

PhD Dissertation Committee "An Area-based Healthcare Analyses of Cervical Cancer Screening and Treatment Strategies: A Case Study of the New Mexico HPV Outcomes, Practice Effectiveness, and Surveillance Program" Texas A&M Department of Geography. Completed 2017.

PhD Dissertation Committee, "Stuck in the Middle: A Mixed-Methods Study Examining the Role of Specific Health Knowledge and Perceived Risk in the African American Type 2 Diabetes Mellitus Health Disparity" Texas A&M Department of Health and Kinesiology. Completed 2017.

PhD Dissertation Committee, "Epidemiology of Salmonella in Feral Pig" Texas A&M Department of Veterinary Medicine. Completed 2018.

PhD Dissertation Committee, "Regional Disease Incidence in Pricing Private Health Insurance Premium" Texas A&M Department of Health Policy. Completed 2018.

PhD Dissertation Committee, "Epidemiology of West Nile Virus" Texas A&M Department of Entomology. Completed 2019.

PhD Dissertation Committee “Disinfection Byproduct Formation in Synthetic Drinking Water: Effects of Ferrate and Nanoparticles” Texas A&M Department of Environmental Health and Epidemiology. Completed 2019.

PhD Dissertation Committee, “Human Health Impacts of Low-Level Chronic Exposure to Cyanotoxins via Drinking Water: Connections between Water Policies, Affluence, and Public Health” Texas A&M Department of Wildlife and Fisheries Sciences. Completed 2019.

MS Thesis “Measurement errors in a case-control study” Texas A&M Department of Statistics. Completed 2009.

MS Thesis “Exposure to traffic-related air pollution among pregnant woman in South Texas: validation of 1-Nitropyrene metabolites as exposure biomarkers” Texas A&M Department of Environmental Health. Completed 2016.

### **Professional Membership**

International Society for Environmental Epidemiology (ISEE)

Society for Epidemiologic Research (SER)

Associations of American Geographers (AAG)

Urban and Regional Information Science Association (URISA)

### **HONORS/AWARDS**

Best Review Certificate, American Journal of Preventive Medicine, 2016

Emerging Scholar Travel Award, 2<sup>nd</sup> ISSE-EAC regional conference, 2008.

Teaching & Learning Grant, MSU Center for Teaching and Learning 2006.

Scholarship, 2006 SPACE GIS Teaching Method Workshop, 2005 Harvard School of Public Health Workshop, 2003 CSISS Research Method Workshop

AAG Nystrom Dissertation Competition Finalist, 2004

Outstanding Research Award, UCGIS 2001 Summer Assembly.

TerraSeer Research Contest Winner, 2001.