

**Harvard Medical School
Curriculum Vitae**

Date Prepared: September 30, 2026

Name: Hui Hu

Office Address: Channing Division of Network Medicine
Brigham and Women's Hospital
399 Revolution Drive 9E58.04
Somerville, MA 02145

Home Address: 302 W Main Street, Hopkinton, MA 01748

Work Phone: 617-525-4231

Work Email: hui.hu@channing.harvard.edu

Work FAX: 617-525-2578

Place of Birth: Shanghai, China

Education

2012	BS	Nursing	Fudan University, Shanghai, China
2016	PhD	Epidemiology (Advisors: Xiaohui Xu, Linda B. Cottler)	University of Florida, Gainesville, FL
2025	MCIT	Computer and Information Technology	University of Pennsylvania, Philadelphia, PA

Faculty Academic Appointments

08/16-05/18	Research Assistant Scientist	Epidemiology	University of Florida College of Public Health and Health Professions & College of Medicine, Gainesville, FL
05/18-09/21	Assistant Professor	Epidemiology	University of Florida College of Public Health and Health Professions & College of Medicine
09/21-01/22	Member of the Faculty	Medicine	Harvard Medical School (HMS), Boston, MA
09/21-03/23	Courtesy Assistant Professor (no voting privilege)	Epidemiology	University of Florida College of Public Health and Health Professions & College of Medicine

02/22-	Assistant Professor Medicine	Harvard Medical School
--------	------------------------------	------------------------

Appointments at Hospitals/Affiliated Institutions

09/21-	Associate Epidemiologist	Network Medicine	Brigham and Women's Hospital (BWH), Boston, MA
--------	--------------------------	------------------	--

Major Administrative Leadership Positions

Local

2017	Course Director, Measurement in Epidemiology and Outcomes Research	Department of Epidemiology, University of Florida
2017-2021	Course Director, Critical Skills in Data Manipulation for Population Science	Department of Epidemiology, University of Florida
2018-2021	Course Director, Spatial Epidemiology	Department of Epidemiology, University of Florida

Committee Service

Local

2016-2017	Fundraising Committee	Department of Epidemiology, University of Florida
2016-2021	Curriculum Committee	Department of Epidemiology, University of Florida
2020-2021	Awards Committee	Department of Epidemiology, University of Florida
2021	Recruitment Committee	Department of Epidemiology, University of Florida

Professional Societies

2013-present	Society for Epidemiologic Research	
2014-present	International Society for Environmental Epidemiology	
2014-present	National Association of Chronic Disease Directors	
2017-present	American Heart Association	
	2017-present	Member, Council on Epidemiology and Prevention

Grant Review Activities

2019-2021	Precision Health Initiative Pilot Grant	University of Florida Clinical and Translational Science Institute <i>Ad hoc</i> Member
2020	Career Development Award Clinical-Population Sciences	American Heart Association <i>Ad hoc</i> Member
2020	Infectious Diseases, Reproductive Health, Asthma and Pulmonary Conditions Study Section (IRAP)	National Institutes of Health <i>Ad hoc</i> Member
2021	Special Emphasis Panel/Scientific Review Group 2021/05 ZES1 ARL-D (R0) 2	National Institutes of Health <i>Ad hoc</i> Member
2021	Career Development Award Population Sciences	American Heart Association <i>Ad hoc</i> Member
2021	Social Sciences and Population Studies Study Section A (SSPA)	National Institutes of Health <i>Ad hoc</i> Member
2022	Career Development Award Population Sciences	American Heart Association <i>Ad hoc</i> Member
2022	Request for Proposal to “Test the Impact of Social Determinants on Health Risks and Outcomes”	American Heart Association <i>Ad hoc</i> Member
2022	Special Emphasis Panel/Scientific Review Group 2022/10 ZES1 VSM-D (RV) 1	National Institutes of Health <i>Ad hoc</i> Member
2022	Analytics and Statistics for Population Research Panel B (ASPB)	National Institutes of Health <i>Ad hoc</i> Member
2022	Discovery and Innovation Grant	University of Wisconsin – Milwaukee <i>Ad hoc</i> Member
2023	Special Emphasis Panel/Scientific Review Group 2023/01 ZES1 QL-W (R2) 1	National Institutes of Health <i>Ad hoc</i> Member
2023	Career Development Award Population Sciences	American Heart Association <i>Ad hoc</i> Member
2023	Special Emphasis Panel/Scientific Review Group 2023/10 ZES1 VSM-S (VC) 2	National Institutes of Health <i>Ad hoc</i> Member

2023-2027	Analytics and Statistics for Population Research Panel B (ASPB)	National Institutes of Health Standing Member
2024	Career Development Award Population Sciences	American Heart Association <i>Ad hoc</i> Member
2026	Bridge Career Development Award Clinical/Population	American Heart Association <i>Ad hoc</i> Member

Editorial Activities

***Ad hoc* Reviewer**

Acta Paediatrica
Annals of Epidemiology
Atmospheric Environment
Austin Public Health
BMC Medical Informatics and Decision Making
BMC Pregnancy and Childbirth
BMC Public Health
BMJ Open
Cities
Environmental International
Environmental Pollution
Environmental Research
Frontiers in Public Health
Hypertension
International Archives of Endocrinology Clinical Research
International Journal of Environment and Health
International Journal of Environmental Research and Public Health
International Journal of Epidemiology
International Journal of Health Geographics
International Journal of Hygiene and Environmental Health
Journal of Cachexia
Journal of Cardiovascular Medicine and Cardiology
Journal of Epidemiology & Community Health
Journal of Exposure Science and Environmental Epidemiology
Journal of Novel Physiotherapy and Physical Rehabilitation
Journal of Precision Medicine and Public Health
Journal of Psychiatric Research
Journal of Racial and Ethnic Health Disparities
Journal of Testing and Evaluation
Journal of Urology and Research
Journal of Women's Health
PeerJ
PLoS ONE
Sarcopenia and Muscle
Sustainability
Science Advances
The New England Journal of Medicine
Toxins
World Medical and Health Policy

Other Editorial Roles

2020-2021	Guest Editor, Environmental insults during <i>Frontiers in Public Health</i> and beyond pregnancy: a life-course perspective	
2022-	Associate Editor	<i>Frontiers in Public Health</i>
2025-2026	Editorial Board Member	<i>BMC Public Health</i>

Honors and Prizes

2009, 2011	People Scholarship (First Degree)	Fudan University
2010	Shanghai Municipal Government Scholarship	Shanghai Municipal Government
2012	Shanghai Municipal Government Award for “Outstanding University Graduates”	Shanghai Municipal Government
2013	Outstanding Research Award at the 2013 Public Health and Health Professions (PHHP) Research Fair	University of Florida
2013, 2015	The Graduate Student Council Travel Award	University of Florida
2014	Travel Award	International Society for Environmental Epidemiology
2016	Insight Health Data Science Scholarship	Insight Data Science
2019	The Sandra A. Daugherty Award for Excellence in Cardiovascular Disease or Hypertension Epidemiology	American Heart Association

Report of Funded and Unfunded Projects

Funding Information

Past

2018	A Pilot Linkage between HealthStreet and the UF Health Epic Electronic Health Record University of Florida Shands Quasi Endowment Fund PI The goals of this study were to evaluate the feasibility of performing a record linkage between HealthStreet data and the UF Health Epic EHR data, and to demonstrate the value and utility of the linked data by conducting an analysis to assess the concordance between the self-reported data in HealthStreet and medical records in Epic EHR.
2016-2019	Prescription Drug Overdose: Prevention for States CDC-National Center for Injury Prevention and Control (NCIPC), U17CE-002735

Consortium Co-Investigator (PI: James Jeffries)

The goal of this project was to enhance efforts to address the upstream drivers of the prescription drug overdose epidemic in West Virginia by targeting high-risk prescribing and patient behaviors that increase the risk of fatal overdose. This project focused on enhancing the prescription drug monitoring program; improving and evaluating public health insurance mechanisms; and evaluating state-level laws, policies, and regulations designed to prevent prescription drug misuse, diversion, and overdose.

2017-2021

The Total Environment and Hypertensive Disorders of Pregnancy: A Precision Public Health Approach

American Heart Association (AHA), 17SDG33630165

PI

The goal of this project is to use the Florida Vital Statistics Birth Records data to investigate the association among a variety of components in the total environment and hypertensive disorders of pregnancy using a precision public health approach, considering the totality of natural, built, and social environments. This project also examines how environmental exposures contribute to racial/ethnic disparities in hypertensive disorders of pregnancy.

2018-2019

ECHO Type 1 Diabetes: A Feasibility and Planning Proposal

Helmsley Charitable Trust, 2018PG-T1D052

Co-Investigator (PI: Michael Haller)

The goal of this project was to conduct a feasibility study to plan for implementation of a provider-level (primary care providers) intervention that would improve care access for underserved adult and pediatric communities with Type 1 Diabetes in Florida and California.

2018-2020

Identifying Patterns of Human Polysubstance Use to Guide Development of Rodent Models

National Institutes of Health (NIH)/National Institute on Drug Abuse (NIDA) R21 DA045140

Co-Investigator (Multi-PIs: Lori Knackstedt/Linda Cottler)

The goal of this project was to develop and validate a survey instrument for evaluating detailed temporal patterns of polysubstance use in cocaine users and determine in a cocaine-using population the most common temporal patterns of alcohol and cannabis use to guide development of rodent models.

2019-2021

Florida Development in Early Childhood: Adversity and Drug Exposure (FL-DECADE) Study

NIH/NIDA R34 DA0502991

Co-I (PI: Matthew Gurka)

Establishing developmental trajectories of children beginning in utero, while determining the impact of prenatal drug exposures and adverse childhood experiences, requires a team ready to address the legal/ethical issues surrounding recruitment and retention, and who can develop innovative recruitment, sampling, and assessment strategies. This study created a pathway to a long-term cohort built on ethical foundations, a comprehensive recruitment strategy, and leveraging existing big data resources. With a strong, existing infrastructure in the third most populous state, and researchers and community partners dedicated to understanding adversity and the developing brain, the FL-DECADE study was poised to determine feasibility of a long-term prospective study that helps address this topic of vital importance.

2019-2021	Artificial Intelligence-aided Personalization on Dual Antiplatelet Therapy for Patients Underwent Coronary Stent Implantation Using Large-scale Electronic Health Records AHA, 19GPSGC35180031 Co-I (PI: Cui Tao) Our goal is to develop and validate novel deep learning methods for evaluating the risk of severe adverse events (life-threatening bleeding, thrombosis, and myocardial infarction) in the postoperative period of coronary stent implantation so as to suggest personalized Dual Antiplatelet Therapy (DAPT) regimen through learning patterns from large-scale electronic health records (EHRs).
2020-2021	Spatiotemporal Analysis of HIV Health and Quality of Life Outcomes in Florida Florida Department of Health, 1NU62PS924532-01-00 Co-I (PI: Mattia Prosperi) The objective of this project is to improve our understanding of HIV clinical (e.g. virological suppression, immune reconstitution) as well as quality of life outcomes in Florida, identifying their social-ecological determinants and quantifying how much of the outcomes' variance is explained by actionable factors.
2020-2021	Assessing the Feasibility of a Universal Prenatal Screening Tool to Identify Women at Risk of Pregnancy-Associated Death in Florida NIH/National Center for Advancing Translational Sciences (NCATS) 3UL1TR001427-06 Multi-PI (Multi-PIs: Dunne Mitchell, Matthew Gurka, Kelly Gurka) The goal of this study is to utilize the Florida Healthy Start Risk Screen, used to screen for adverse infant outcomes, along with other readily available data on individual and environmental factors, to examine the ability to identify women at risk of pregnancy-associated death and severe maternal morbidity.
2020-2024	The External Exposome and COVID-19 Severity NIH/National Institute of Environmental Health Sciences (NIEHS) R21 ES032762 Multi-PI (Multi-PI: Jiang Bian) This study leverages OneFlorida and builds upon our prior work on the external exposome to (1) identify novel environmental factors associated with severe COVID-19, (2) examine whether the external exposome contributes to racial and ethnic disparities in severe COVID-19, and (3) develop predictive models of high-risk patients with external exposome factors.
2021-2023	Early Life Exposure to the Natural, Built, and Social Environments and Incident Hypertension NIH/National Institute of Environmental Health Sciences (NIEHS) R01 ES029840 Co-I (PI: Francine Laden) This study aims to explore the impacts of features of the natural, built, and social environments throughout childhood on risk of hypertension in adulthood, to provide valuable information for future risk assessments and population level prevention.
2021-2024	The External Exposome and COVID-19 Severity among Individuals with Alzheimer's Disease and Related Dementias NIH/National Institute of Environmental Health Sciences (NIEHS) Admin Supplement 3R21ES032762-02S1 Multi-PI (Multi-PI: Jiang Bian)

Expanding our parent award (R21ES032762) on the external exposome and COVID-19 severity to focus on individuals with Alzheimer's Disease and Related Dementias (ADRD), we aim to: (1) create a synthetic longitudinal COVID-19 cohort of individuals with ADRD, (2) systematically evaluate statistical methods for external exposome-wide association study (ExWAS), specifically for COVID-19 outcomes among ADRD patients, and (3) through an external ExWAS, identify external exposome factors associated with COVID-19 severity and then develop predictive models of COVID-19 severity among individuals with ADRD.

2022

Researching Covid to Enhance Recovery (RECOVER) Initiative
NIH/National Heart, Lung, and Blood Institute (NHLBI) OT2
HL161847
BWH Site PI

The RECOVER study is a combined retrospective and prospective, longitudinal, observational meta-cohort of individuals who will enter the cohort with and without SARS-CoV-2 infection and at varying stages before and after infection. Individuals with and without SARS-CoV2 infection and with or without PASC (post-acute sequelae of SARS-CoV-2) symptoms will be followed to identify risk factors and occurrence of PASC. BWH site (1) provides guidance on the design of the spatiotemporal linkage of the cohort with the external exposome data (e.g., how to choose exposure windows and the appropriate integration methods), and (2) generates and updates the external exposome database at the national level.

2023-2026

Harmonizing and Integrating Nursing Data into Multidisciplinary Datasets to Evaluate Hospital Care and Readmissions of Older Adults with Alzheimer's Disease and Alzheimer's Disease-Related Dementias
NIH/National Institute on Aging (NIA) R33
AG072265

Co-I (Multi-PIs: Tamara Macieira, Gail Keenan, Yingwei Yao) (\$61,580)
The goal of this project is to expand a research infrastructure to support the integration of nursing care plan data to large complex datasets with patient and clinical level data. Dr. Hui Hu from Brigham and Women's Hospital serves as a Co-I (and site PI) and contributes his expertise in the exposome and environmental health. Specifically, he assists the team with the linkage, analysis, and interpretation of environmental datasets in Aim 4 (R33 Phase).

Current

2021-2026

Hypertensive Disorders of Pregnancy and Early Risk of Maternal CVD: Influence of the External Exposome
NIH/National Heart, Lung, and Blood Institute (NHLBI) K01
HL153797
PI (\$750,702)

Leveraging the unique statewide linked electronic health records-birth records data from OneFlorida, this study builds on our prior work in the external exposome, aiming to examine the associations between the external exposome and risk of hypertensive disorders of pregnancy (HDP) and early risk of maternal cardiovascular disease (CVD) after pregnancy as well as to develop predictive models of HDP and maternal CVD after pregnancy to guide precision preventions.

2023-2026

Hypertensive Disorders of Pregnancy and Early-onset AD/ADRD: Influence of the External Exposome
NIH/NHLBI and NIA Administrative Supplement

3K01HL153797-04S1

PI (\$63,528)

Early-onset Alzheimer's disease (AD) and AD-related dementias (ADRD) is a significant public health issue with dramatic increase in incidence, especially in women, and it is important to identify novel risk factors to inform targeted prevention. Expanding our parent award on the external exposome, hypertensive disorders of pregnancy (HDP), and early risk of maternal cardiovascular disease (K01HL153797) to early-onset AD/ADRD, we aim to: (1) examine the association between HDP and early-onset AD/ADRD in women, and (2) identify external exposome factors contributing to early-onset AD/ADRD and assess potential effect modifications by HDP. This study will (1) fill important knowledge gaps on our understanding of HDP and early-onset AD/ADRD, (2) identify novel and modifiable environmental factors for early-onset AD/ADRD in women and potential effect modifications by HDP, and (3) generate preliminary data and evidence to inform an R01 application for a large-scale study to understand underlying mechanisms.

2023-2029

Post-Acute Sequelae of SARS-CoV-2 Infection and Subsequent Disease Progression in Individuals with AD/ADRD: Influence of the Social and Environmental Determinants of Health

NIH/NIA RF1

AG084178

Multi-PI (Multi-PIs: Jiang Bian, Fei Wang) (\$2,561,480)

This study leverages three large repositories of real-world data (RWD) with linked electronic health records (EHRs), claims, and vital statistics data covering multiple states. Building upon our prior and ongoing work on COVID-19 and Post-Acute Sequelae of SARS-CoV-2 (PASC) in the general population with the RECOVER Initiative, sub-phenotyping and disease progression modeling, and multiple social and environmental determinants of health (SEDH), we will (1) understand the epidemiology of PASC in individuals with mild cognitive impairment (MCI) or Alzheimer's disease (AD)/AD-related dementias (ADRD), (2) examine the impacts of COVID-19 and PASC on subsequent disease progression in individuals with MCI or AD/ADRD, and (3) assess how SEDH contribute to PASC and subsequent disease progression in individuals with MCI or AD/ADRD. This project will fill important knowledge gaps on our understanding of, especially SEDH's contributions to, risks of PASC and subsequent disease progression in individuals with cognitive impairment.

2024-2029

Semantics Standards and Tools for Spatial and Contextual Exposome Data

NIH/NIEHS R24

ES036131

Multi-PI (Multi-PIs: Jiang Bian, Cui Tao) (\$3,119,002)

The objective of this proposal is to develop an innovative *SPATIAL AND CONTEXTUAL EXPOSOME SEMANTIC DATA INTEGRATION SYSTEM (SPACESCANS)* with (1) an ontology-annotated knowledge graph of existing publicly available high-quality spatial and contextual exposome data from heterogeneous sources, along with (2) a user-friendly data integration tool.

2024-2029

Environmental and Social Determinants of Mammographic Features

NIH/NIEHS R01

ES035736

Co-I (Multi-PIs: Francine Laden, Rulla Tamimi) (\$1,303,665)

This project takes a comprehensive approach to understanding the impact of a wide range of environmental factors including air pollution, and physical

stressors (ultraviolet radiation [UV], radon), demographic factors (age, race and ethnicity), and social determinants of health (SDOH) on mammographic features in the Nurses' Health Study 3. We expect our findings to provide valuable information on the role of modifiable exposures on mammographic features and thus, subsequent breast cancer risk. These findings will inform individual- and population-level prevention, risk assessments, and policy decisions, with the long-term goal of reducing the burden of breast cancer.

2025-2030 Multiple long-term environmental exposures and incidence of asthma
NIH/NIEHS R01
ES036205
Co-I (PI: Jaime E. Hart) (\$4,319,152)
Asthma is a disease of the respiratory tract that results in the reversible narrowing of airways, leading to symptoms ranging from wheezing and trouble breathing to death, and it is estimated that over 26 million Americans live with asthma. A large body of evidence has suggested that individual environmental exposures (e.g. air pollution) in the short-term are associated with asthma exacerbations, however, other environmental factors are understudied and little is known about the effects of long-term exposures on asthma incidence as most studies have only examined the health effects associated with one lifestyle or environmental exposure at a time, although individuals are exposed to multiple exposures simultaneously. We will address these gaps using the unique resources of the nationwide prospective Nurses' Health Studies (NHS, NHSII, NHS3), Health Professionals' Follow-Up Study (HPFS) and the Growing Up Today Studies (GUTS).

Report of Local Teaching and Training

Teaching of Students in Courses

University of Florida Courses

2017	Measurement in Epidemiology and Outcomes Research (PHC6711) 1 st /2 nd year graduate students	University of Florida, College of Public Health and Health Professions 3-hr sessions per wk for 15 wks
2017-2021	Critical Skills in Data Manipulation for Population Science (PHC 7065) 1 st /2 nd year graduate students	University of Florida, College of Public Health and Health Professions 2-hr sessions per wk for 15 wks
2018-2021	Spatial Epidemiology (PHC 6194) 1 st /2 nd year graduate students	University of Florida, College of Public Health and Health Professions 3-hr sessions per wk for 15 wks

Laboratory and Other Research Supervisory and Training Responsibilities

2016-2021	Research supervision MPH students	University of Florida Department of Epidemiology 1:1 supervision one hour per week
2017-2021	Research supervision MS students	University of Florida Department of Epidemiology 1:1 supervision one hour per week
2017-2021	Research supervision	University of Florida

2018-2021	PhD students	Daily mentorship for four years
	Research supervision Undergraduate students	University of Florida University Minority Mentor Program One-hour individual meeting per month; One-hour group meeting biweekly
2022-	Research supervision Research fellows (average of 1 fellow per year)	Brigham and Women's Hospital One-hour lab meeting biweekly 1:1 supervision one hours per week per trainee

Mentored Trainees and Faculty

2017-2019	Jae Min, PhD / Epidemiologist, Evidation Health, San Mateo, CA Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: multiple first-authored scholarship of mentored research; PhD in Epidemiology at University of Florida
2017-2019	Jia Qi, MS / PhD student, School of Population and Public Health, University of British Columbia, Vancouver, BC Career stage: Master's student. Mentoring role: thesis committee member. Accomplishments: one first-authored scholarship of mentored research; MS in Epidemiology at University of Florida
2017-2019	Upuli A. Dissanayake / PhD student, Department of Epidemiology, University of Florida Career stage: Master's student. Mentoring role: thesis committee member. Accomplishments: MS in Epidemiology at University of Florida
2017-2021	Tong Kang, PhD / Biostatistician, Bristol Myers Squibb, New York, NY Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: multiple first-authored scholarship of mentored research; PhD in Biostatistics at University of Florida
2017-2022	Yi Zheng, MPH / Postdoctoral Fellow, Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School Career stage: Doctoral student and Postdoctoral Fellow. Mentoring role: research mentor, doctoral dissertation committee chair. Accomplishments: multiple first- authored scholarship of mentored research
2018-2020	Yiyang Liu / Research Assistant Professor, Department of Epidemiology, University of Florida Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: multiple first-authored scholarship of mentored research; PhD in Epidemiology at University of Florida
2018-2020	Dakota W. Derry / Intern, Delhi Community Health Center, Delhi, LA Career stage: Master's student. Mentoring role: thesis committee member. Accomplishments: MS in Epidemiology at University of Florida
2020	Ananta Addala, DO, MPH / Assistant Professor of Pediatrics, Stanford University, Stanford, CA Career stage: Instructor. Mentoring role: research advisor. Accomplishments: submission of an NIH K23 application.

2020	Joseph B. Struzeski / Biostatistician, Telligen, West Des Moines, IA Career stage: Master's student. Mentoring role: thesis committee member. Accomplishments: MS in Epidemiology at University of Florida
2020-2021	Matthew Diller / PhD student, Department of Health Outcomes and Biomedical Informatics, University of Florida Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: one co-authored scholarship of mentored research
2020-2021	Laura Gonzalez Paz / MS student, Department of Epidemiology, University of Florida Career stage: Master's student. Mentoring role: thesis committee member. Accomplishments: multiple co-authored scholarship of mentored research
2020-2021	Xiaoxiao Wen, MMed / PhD student, Department of Epidemiology, University of Florida Career stage: Doctoral student. Mentoring role: research mentor, dissertation committee chair. Accomplishments: multiple co-authored scholarship of mentored research
2020-2021	Inyoung Jun / PhD student, Department of Epidemiology, University of Florida Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: University of Florida Informatics Institute Graduate Student Fellowship
2021	Pooja Subedi / PhD student, Department of Epidemiology, University of Florida Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: American Heart Association Predoctoral Fellowship
2021	Boya Lin, MPH / PhD student, Department of Health Outcomes and Biomedical Informatics, University of Florida Career stage: Doctoral student. Mentoring role: dissertation committee member. Accomplishments: multiple first-authored scholarship of mentored research in preparation
2022-2024	Suhanee Mitragotri / Research trainee, Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School Career stage: Undergraduate student. Mentoring role: research mentor. Accomplishments: a research project focusing on residential radon exposure and hypertensive disorders of pregnancy in the LIFECODES cohort.
2025-2026	Claire L. Leiser, PhD / Postdoctoral Fellow, Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School Career stage: Postdoctoral Fellow. Mentoring role: research mentor. Accomplishments: co-authored scholarship of mentored research.

Local Invited Presentations

No presentations below were sponsored by outside entities.

2016	All-Cause Mortality Associated with Early Drunkenness and Nonmedical Use of Opioid Pain Relievers: A 27-Year Follow-Up from the Epidemiologic Catchment Area Study / Epidemiology Seminar Series Department of Epidemiology, University of Florida, Gainesville, FL
------	--

- | | |
|------|---|
| 2019 | Genetic Code verses ZIP Code: The Complementarity of Precision Medicine and Precision Public Health / Epidemiology Seminar Series
Department of Epidemiology, University of Florida, Gainesville, FL |
| 2021 | The External Exposome: Opportunities and Challenges / Learning Health System & Artificial Intelligence Symposium
University of Florida Clinical and Translational Science Institute, Gainesville, FL |
| 2022 | Methodological challenges in spatial and contextual exposome-health studies / Chalk Talk Series
The Harvard Chan-National Institute of Environmental Health Sciences (NIEHS) Center for Environmental Health, Boston, MA |

Report of Regional, National and International Invited Teaching and Presentations

No presentations below were sponsored by 3rd parties/outside entities.

Invited Presentations and Courses

National

- | | |
|------|---|
| 2018 | Examining Geographic and Temporal Variations of Racial Disparities in Hypertensive Disorders of Pregnancy: A Bayesian Spatio-temporal Analysis, Florida, 2005-2014 / Epidemiology Seminar Series, Department of Public Health Sciences, Pennsylvania State University, Hershey, PA |
| 2021 | The External Exposome and Hypertensive Disorders of Pregnancy / Seminar Series
Department of Public Health Sciences, University of Connecticut Health, Farmington, CT |
| 2022 | Development and Validation of Machine Learning Models to Estimate Individuals' Overall Cardiovascular Health with Incomplete Life's Essential 8 Metrics / The Science of Precision Prevention: Research Opportunities and Clinical Applications to Reduce Disparities in Cardiovascular Health Virtual Workshop, National Heart, Lung, and Blood Institute (NHLBI), Bethesda, MD |
| 2024 | Integrating and Leveraging Contextual-level Social Determinants of Health: Opportunities and Challenges / American Medical Informatics Association (AMIA) Knowledge Discovery and Data Mining (KDDM) Working Group Collaborative Workshop: Enriching Electronic Health Records with Social Determinants of Health to Improve Outcomes and Health Equity, AMIA 2024 Annual Symposium, Boston, MA |
| 2025 | The Spatial and Contextual Exposome: Methodological Challenges and Paths Forward / Seminar Series, Department of Epidemiology, Indiana University Indianapolis, Indianapolis, IN |
| 2025 | Semantic Standards and Tools for Spatial and Contextual Exposome Data / National Institute of Environmental Health Sciences (NIEHS) Data and Metadata Standards Program Meeting, Research Triangle Park, NC |
| 2026 | Semantic Standards and Tools for Spatial and Contextual Exposome Data / National Institute of Environmental Health Sciences (NIEHS) Superfund Research Program (SRP) Data Management and Analysis Cores (DMAC) Webinar, Research Triangle Park, NC |
| 2026 | Integrating Multi-Source Geospatial Data to Advance Human Exposome Research: Challenges and Opportunities / Joint Statistical Meetings (JSM) 2026, Boston, MA |

International

- 2022 A Spatial and Contextual Exposome-Wide Association Study of COVID-19 Hospitalizations in Florida, United States / 34th Annual Conference of the International Society of Environmental Epidemiology (ISEE) 2022, Athens, Greece
- 2025 The Spatial and Contextual Exposome: Methodological Challenges and Paths Forward / The 5th Young Scholars Forum on Environmental Remediation and Health, Chengdu, Sichuan, China
- 2026 SPACESCANS: Tools for Ontology-Driven Spatiotemporal Linkage and Analysis of the Spatial and Contextual Exposome / 38th Annual Conference of the International Society of Environmental Epidemiology (ISEE) 2026 Pre-Conference Workshop, Munich, Germany

Report of Teaching and Education Innovations

- | | |
|---|--|
| Critical Skills in Data Manipulation for Population Science course, University of Florida PhD, MSE, MPH (2017-2021) | As the director of the Critical Skills in Data Manipulation for Population Science course for graduate students at University of Florida, I re-designed the course material with cutting-edge data science tools. This course focuses on providing basic knowledge and skills needed in data manipulation for population science. Topics include data context and concepts; relational databases; data collection and extraction; parallel manipulation of massive datasets; NoSQL systems and concepts. The course is designed for advanced students to learn the “code of best practice” for data engineering in population science. |
| Spatial Epidemiology course, University of Florida PhD, MSE, MPH (2018-2021) | As the director of the Spatial Epidemiology course for graduate students at University of Florida, I re-designed the course material and replaced ArcGIS with cutting-edge geographic and location intelligence tools. This course introduces the concepts and methods of spatial epidemiology. Students gain hands-on experience in Geographic Information Systems (GIS) and spatial data analyses. Recent developments in location intelligence applied to healthcare and public health research are also introduced. |

Report of Scholarship

ORCID ID: 0000-0002-7482-9060

*co-first author. **mentee.

Peer-reviewed publications in print or other media

Research investigations

1. **Hu H**, Dailey AB, Kan H, Xu X. The effect of atmospheric particulate matter on survival of breast cancer among US females. *Breast Cancer Res Treat.* 2013;139(1):217-26. PMID: 23592372
2. Xu X, **Hu H**, Kearney G, Kan H, Sheps DS. Studying the effects of polycyclic aromatic hydrocarbons on peripheral arterial disease in the United States. *Sci Total Environ.* 2013;461-2:341-7. PMID: 23747551
3. Xu X, **Hu H**, Dailey AB, Kearney G, Talbott EO, Cook RL. Potential health impacts of heavy metals on HIV-infected population in USA. *PLoS One.* 2013;8(9):e74288. PMID: 24023932

4. Xu X, Ha S, Kan H, **Hu H**, Curbow B, Lissaker C. Health effects of air pollution on length of respiratory cancer survival. *BMC Public Health*. 2013;13(1):800. PMID: 24004483
5. Xu X, **Hu H**, Ha S, Roth J. Ambient air pollution and hypertensive disorder of pregnancy. *J Epidemiol Community Health*. 2014;68(1):13-20. PMID: 24022815
6. **Hu H**, Ha S, Roth J, Kearney G, Talbott EO, Xu X. Ambient air pollution and hypertensive disorders of pregnancy: A systematic review and meta-analysis. *Atmos Environ*. 2014;97:336-45. PMID: 25242883
7. Ha S, **Hu H**, Roussos-Ross D, Haidong K, Roth J, Xu X. The effects of air pollution on adverse birth outcomes. *Environ Res*. 2014;134:198-204. PMID: 25173052
8. Cottler LB, Ajinkya S, Goldberger BA, Ghani MA, Martin DM, **Hu H**, Gold MS. Prevalence of drug and alcohol use in urban Afghanistan: epidemiological data from the Afghanistan National Urban Drug Use Study (ANUDUS). *Lancet Glob Health*. 2014;2(10):e592-e600. PMID: 25304635
9. **Hu H**, Scheidell J, Xu X, Coatsworth AM, Khan MR. Associations between blood lead level and substance use and sexually transmitted infection risk among adults in the United States. *Environmental Res*. 2014;135c:21-30. PMID: 25261860
10. **Hu H**, Odedina FT, Reams RR, Lissaker CT, Xu X. Racial differences in age-related variations of testosterone levels among US males: potential implications for prostate cancer and personalized medication. *J Racial Eth Health Disparities*. 2015;2(1):69-76. PMID: 26863244
11. **Hu H**, Kan H, Kearney G, Xu X. Associations between exposure to polycyclic aromatic hydrocarbons and glucose homeostasis as well as metabolic syndrome in nondiabetic adults. *Sci Total Environ*. 2015 505:56-64. PMID: 25310882
12. Khan MR, Golin C, Friedman S, Scheidell JD, Adimora AA, Monk S, Hobbs M, Dockery G, Brown S, Oza K, Hammond M, Meyers D, **Hu H**, Wohl DA. STI/HIV sexual risk behavior and prevalent STI among incarcerated African American men in committed partnerships: the significance of poverty, mood disorders, and substance use. *AIDS and Behavior*. 2015;505:56-64. PMID: 25863467
13. Ha S, **Hu H**, Roth J, Kan H, Xu X. Associations between residential proximity to power plants and adverse birth outcomes. *Am J Epidemiol*. 2015;182(3):215-24. PMID: 26121989
14. **Hu H**, Ha S, Henderson BH, Warner TD, Roth J, Kan H, Xu X. Association of atmospheric particulate matter and ozone with gestational diabetes mellitus. *Environ Health Perspect*. 2015;123(9):853-9. PMID: 25794412
15. Chen R, Qiao L, Li H, Zhao Y, Zhang Y, Xu W, Wang C, Wang H, Zhao Z, Xu X, **Hu H**, Kan H. Fine particulate matter constituents, nitric oxide synthase DNA methylation and exhaled nitric oxide. *Environ Sci Technol*. 2015;49(19):11859-65. PMID: 26372312
16. Kearney GD, **Hu H**, Xu X, Hall M, Balanay JA. Estimating the prevalence of heat-related symptoms and sun safety related behavior among Latino farmworkers in Eastern North Carolina. *J Agromedicine*. 2016;21(1):15-23. PMID: 26479455
17. Cottler LB, **Hu H**, Smallwood BA, Anthony JC, Wu L, Eaton WW. Nonmedical opioid pain relievers and all-cause mortality: a 27-year follow-up from the Epidemiologic Catchment Area Study. *Am J Public Health*. 2016;106(3):509-16. PMID: 26691106
18. Ha S, **Hu H**, Mao L, Roussos-Ross D, Roth J, Xu X. Potential selection bias associated with using geocoded birth records for epidemiological research. *Ann Epidemiol*. 2016;26(3):204-11. PMID: 26907541
19. Xu X, **Hu H**, Ha S, Han D. Smartphone-assisted spatial data collection improves geographic information quality: pilot study using a birth records dataset. *Geospat Health*. 2016;11:482. PMID: 27903063
20. **Hu H**, Ha S, Xu X. Ozone and hypertensive disorders of pregnancy in Florida: identifying critical windows of exposure. *Environ Res*. 2017;153:120-5. PMID: 27940104
21. Xu X, **Hu H**, Kearney G, Kan H, Carrillo G, Chen X. A population-based study of smoking, serum cotinine, and exhaled nitric oxide among asthmatics and a healthy population in the USA. *Inhal Toxicol*. 2016;28(14):724-30. PMID: 27973944
22. Shen Y, **Hu H**, Taylor BD, Kan H, Xu X. Early menarche and gestational diabetes mellitus at first live birth. *Matern Child Health J*. 2017;21(3):593-8. PMID: 27456304
23. Xu X, **Hu H**, Hong YA. Body burden of heavy metals among HIV high risk population in USA. *Environ Pollut*. 2017;220(Pt B):1121-6. PMID: 27856018

24. Khan MR, El-Bassel N, Golin CE, Scheidell JD, Adimora AA, Coatsworth AM, **Hu H**, Judon-Monk S, Medina KP, Wohl DA. The committed intimate partnerships of incarcerated African-American men: implications for sexual HIV transmission risk and prevention opportunities. *Arch Sex Behav*. 2017; 46(7):2173-85. PMID: 28332036
25. **Hu H**, Eaton WW, Anthony JC, Wu L, Cottler LB. Age of first drunkenness and risks for all-cause mortality: a 27-year follow-up from the Epidemiologic Catchment Area Study. *Drug Alcohol Depend*. 2017;176:148-53. PMID: 28535457
26. Chen X, **Hu H**, Xu X, Gong J, Yan Y, Fang L. Probability sampling by connecting space with households using GIS/GPS technologies. *J Surv Stat Methodol*. 2018;6(2):149-68.
Chen X, **Hu H**. Rejoinder to the discussion by Steven Heeringa. *J Surv Stat Methodol*. 2018;6(2):182-5.
27. Zazzi M, **Hu H**, Prosperi M. The global burden of HIV-1 drug resistance in the past 20 years. *PeerJ*. 2018;6:e4848. PMID: 29844989
28. Khan MR, Scheidell JD, Golin CG, Friedman SR, Adimora AA, Lejuez CW, **Hu H**, Quinn K, Wohl DA. Dissolution of committed partnerships during incarceration and STI/HIV-related sexual risk behavior after prison release among African American men. *J Urban Health*. 2018;95(4):479-87. PMID: 30073599
29. **Hu H**, Xiao H, Zheng Y, Yu BB. A Bayesian spatio-temporal analysis on racial disparities in hypertensive disorders of pregnancy in Florida, 2005-2014. *Spat Spatiotemporal Epidemiol*. 2019;29:43-50. PMID: 31128630
30. Shen Y, Varma DS, Zheng Y, Boc J, **Hu H**. Age at menarche and depression: results from the NHANES 2005-2016. *PeerJ*. 2019;7:e7150. PMID: 31223544
31. Niu J, Liang H, Tian Y, Yuan W, Xiao H, **Hu H**, Sun X, Song X, Wen S, Yang L, Ren Y, Miao M. Prenatal plasma concentrations of perfluoroalkyl and polyfluoroalkyl substances and neuropsychological development in children at four years of age. *Environ Health*. 2019;18(1):53. PMID: 31196101
32. Tian Y, Liang H, Miao M, Yang F, Ji H, Cao W, Liu X, Zhang X, Chen A, Xiao H, **Hu H**, Yuan W. Maternal plasma concentrations of perfluoroalkyl and polyfluoroalkyl substances during pregnancy and anogenital distance in male infants. *Hum Reprod*. 2019;34(7):1356-68. PMID: 31242507
33. Fishe JN, Bian J, Chen Z, **Hu H**, Min J**, Modave F, Prosperi M. Prodromal clinical, demographic, and socio-ecological correlates of asthma in adults: A 10-year statewide big data multi-domain analysis. *J Asthma*. 2020;57(11):1155-67. PMID: 31288571
34. Tighe P, Modave F, Horodyski M, Marsik M, Lipori G, Fillingim R, **Hu H**, Hagen J. Geospatial analyses of pain intensity and opioid unit doses prescribed on the day of discharge following orthopedic surgery. *Pain Med*. 2020;21(8):1644-62. PMID: 31800063
35. Zheng Y**, Shen Y, Zhu Z, **Hu H**. Associations between cadmium exposure and taste and smell dysfunction: results from the National Health and Nutrition Examination Survey (NHANES), 2011-2014. *Int J Environ Res Public Health*. 2020;17(3):943. PMID: 32028740
36. **Hu H**, Zhao J, Savitz DA, Prosperi M, Zheng Y, Pearson TA. An external exposome-wide association study of hypertensive disorders of pregnancy. *Environ Int*. 2020;141:105797. PMID: 32413622. PMCID: PMC7336837
37. Walker AF, **Hu H**, Cuttriss N, Anez-Zabala C, Yabut K, Haller MJ, Maahs D. The neighborhood deprivation index and provider geocoding identify critical catchment areas for diabetes outreach. *J Clin Endocrinol Metab*. 2020;105(9):3069-75. PMID: 32676640. PMCID: PMC7418444
38. Zheng Y**, Wen TS, Shen Y, **Hu H**. Age at menarche and cardiovascular health: results from the NHANES 1999-2016. *Menopause*. 2020;28(1):18-24. PMID: 32898020
39. Qi J**, **Hu H**, Yaghjian L, An L, Kalim HA, Cooke EO, Cheng TD. Association of adipose tissue distribution with type 2 diabetes in breast cancer patients. *Breast Cancer*. 2020;14:1178223420972369. PMID: 33281450
40. Shen Y, Xiao H, **Hu H**. Racial/ethnic differences in age at menarche and lifetime nonmedical marijuana use: results from the NHANES 2005-2016. *J Racial Ethn Health Disparities*. 2021;8(2):448-53. PMID: 32557278
41. Rich SN, Poschman K, **Hu H**, Mavian C, Cook RL, Salemi M, Spencer EC, Prosperi M. Sociodemographic, ecological, and spatiotemporal factors associated with human

- immunodeficiency virus drug resistance in Florida: a retrospective analysis. *J Infect Dis*. 2021;223(5):866-75. PMID: 32644119
42. **Hu H**, Zheng Y, Wen X, Smith SS, Nizomov J, Fishe J, Hogan WR, Shenkman EA, Bian J. An external exposome-wide association study of COVID-19 mortality in the United States. *SciTotal Environ*. 2021;768:144832. PMID: 33450687. PMCID: PMC7788319
 43. Zheng Y**, Wen X, Bian J, Lipkind H, **Hu H**. Associations between the chemical composition of PM 2.5 and gestational diabetes mellitus. *Environ Res*. 2021 Jul 1;198:110470. PMID: 33217440
 44. Ye F, Yale S, Zheng Y, **Hu H**, Zhou L, Fanning J, Yeboah J, Brubaker P, Bertoni AG. Trends in Physical Activity Among US Adults With Heart Failure, 2007-2016. *J Cardiopulm Rehabil Prev*. 2021 Sep 1;41(5):351-6. PMID: 33758154
 45. Savitz DA, **Hu H**. Ambient Heat and Stillbirth in Northern and Central Florida. *Environ Res*. 2021 Aug 1;199:111262. PMID: 33974845
 46. Zheng Y**, Wen X, Bian J, Zhao J, Lipkind HS, **Hu H**. Racial, ethnic, and geographic disparities in cardiovascular health among women of childbearing age in the United States. *J Am Heart Assoc*. 2021 Sep 7;10(17):e020138. PMID: 34431309
 47. Yang Z, Zhu Z, Lizarondo L, Xing W, Han S, **Hu H**, Hu Y, Wu B. Experience of chronic noncommunicable disease in people living with HIV: a systematic review and meta-aggregation of qualitative studies. *BMC public health*. 2021 Dec;21(1):1-9. PMID: 34507576. PMCID: PMC8431942
 48. Fishe J, Zheng Y**, Lyu T, Bian J, **Hu H**. Environmental effects on acute exacerbations of respiratory diseases: A real-world big data study. *SciTotal Environ*. 2022;806:150352. PMID: 34555607. PMCID: PMC8627495
 49. Gurka KK, Young II HW, **Hu H**, Kuchera J, Cottler LB. Opioids Dispensed in the US by Prescribing Specialty, 2012–2017. *American Journal of Preventive Medicine*. 2022 Feb 10. PMID: 35151524
 50. Xie Z, Tan J, Fang G, Ji H, Miao M, Tian Y, **Hu H**, Cao W, Liang H, Yuan W. Associations between prenatal exposure to perfluoroalkyl substances and neurobehavioral development in early childhood: A prospective cohort study. *Ecotoxicology and Environmental Safety*. 2022 Aug 1;241:113818. PMID: 35777342
 51. Zheng Y**, Bian J, Hart J, Laden F, Wen TST, Zhao J, Qin H, **Hu H**. PM2. 5 constituents and onset of gestational diabetes mellitus: Identifying susceptible exposure windows. *Atmospheric Environment*. 2022 Sep 29:119409.
 52. Chen Z, Zhang H, Yang X, Wu S, He X, Xu J, Guo J, Prosperi M, Wang F, Xu H, Chen Y, **Hu H**, DeKosky ST, Farrer M, Guo Y, Wu Y, Bian J. Assess the documentation of cognitive tests and biomarkers in electronic health records via natural language processing for Alzheimer's disease and related dementias. *International Journal of Medical Informatics*. 2023; 170:104973. PMID: 36577203
 53. Lin B, Zheng Y, Roussos-Ross D, Gurka KK, Gurka MJ, **Hu H**. An external exposome-wide association study of opioid use disorder diagnosed during pregnancy in Florida. *Science of The Total Environment*. 2023 Jan 28:161842. PMID: 36716893
 54. Zhang Y, **Hu H***, Fokaidis V, Colby LV, Xu J, Zang C, Xu Z, Wang F, Koropsak M, Bian J, Hall J. Identifying Environmental Risk Factors for Post-Acute Sequelae of SARS-CoV-2 Infection: An EHR-based Cohort Study from the RECOVER Program. *Environmental Advances*. 2023 Feb 8:100352. PMID: 36785842. PMCID: PMC9907788
 55. Li Q, Yang X, Xu J, Guo Y, He X, **Hu H**, Lyu T, Marra D, Miller A, Smith G, DeKosky S, Boyce RD, Schliep K, Shenkman E, Maraganore D, Wu Y, Bian J. Early prediction of Alzheimer's disease and related dementias using real-world electronic health records. *Alzheimer's and Dementia*. 2023 Feb 23: 12967. PMID: 36815661
 56. Li Y, **Hu H**, Zheng Y, Donahoo WT, Guo Y, Xu J, Chen W-H, Liu N, Shenkman EA, Bian J, Guo J. Impact of Contextual-Level Social Determinants of Health on Newer Antidiabetic Drug Adoption in Patients with Type 2 Diabetes. *International Journal of Environmental Research and Public Health*. 2023; 20(5):4036. PMID: 36901047
 57. **Hu H**, Laden F, Hart J, James P, Fishe J, Hogan W, Shenkman E, Bian J. A spatial and contextual exposome-wide association study and polyexposomic score of COVID-19 hospitalization. *Exposome*. 2023 May;3(1):osad005. PMID: 37089437

58. Zheng Y**, Huang T, Guasch-Ferre M, Hart J, Laden F, Chavarro J, Rimm E, Coull B, **Hu H**. Estimation of life's essential 8 score with incomplete data of individual metrics. *Frontiers in Cardiovascular Medicine*. 2023;10(12):1216693. PMID: 37564908
59. Zheng Y**, McElrath T, Cantonwine D, **Hu H**. Longitudinal associations between ambient air pollution and angiogenic biomarkers among pregnant women in the LIFECODES Study, 2006–2008. *Environmental Health Perspectives*. 2023 Aug 9;131(8):087005. PMID: 37556304
60. Schmitt CP, Stingone JA, Rajasekar A, Cui Y, Du X, Duncan C, Heacock M, **Hu H**, Gonzalez JR, Juarez PD, Smirnov AI. A roadmap to advance exposomics through federation of data. *Exposome*. 2023 Jan 1;3(1):osad010.
61. Chen A, Zhao Y, Zheng Y**, **Hu H**, Hu X, Fishe J, Hogan W, Shenkman E, Guo Y, Bian J. Exploring the Relation between Contextual Social Determinants of Health and COVID-19 Occurrence and Hospitalization. *Informatics* 2024 Jan 15 (Vol. 11, No. 1, p. 4).
62. Rich S, Liu Y, Fisk-Hoffman R, Zheng Y**, **Hu H**, Spencer E, Cook R, Prosperi M. Spatial and temporal analysis of HIV clinical outcomes in Florida reveals counties with persistent racial and ethnic disparities during 2012-2019. *BMC Public Health*. 2024 Mar 9;24(1):749. PMID: 38459461 PMCID: PMC10924316
63. Kwak G, Kamdar H, Douglas M, **Hu H**, Ack S, Lissak I, Williams A, Yechoor N, Rosenthal E. Social Determinants of Health and Limitation of Life-Sustaining Therapy in Neurocritical Care: A CHoRUS Pilot Project. *Neurocritical Care*. 2024 Jun 6:1-4. PMID: 38844599
64. Li Y, Lu Y, Tang H, Spector E, Wen X, Germinal K, Milfort A, Guo Y, Bost S, Shenkman E, Bian J, **Hu H**, Guo J. Neonatal outcomes among pregnant women with COVID-19: a systematic scoping review and meta-analysis. *BMC Pregnancy and Childbirth*. 2025 Sep 25;25(1):948. PMID: 40999389 PMCID: PMC12465480
65. **Hu H**, Savitz D, Shenkman E. Subtypes and onset of hypertensive disorders of pregnancy and cardiovascular disease within 5 years after delivery. *Frontiers in Cardiovascular Medicine*. 2026 Feb 19;13:1701507. PMID: 41798618 PMCID: PMC12960569
66. **Hu H**, Leiser C**, He X, Hart J, Laden F, Tao C, Bian J. The spatial and contextual exposome and subtypes of hypertensive disorders of pregnancy: A double machine learning-based analysis. *Exposome*. 2026 Mar 9:osag009.

Other peer-reviewed publications

1. Xu X, Chen X, **Hu H**, Dailey AB. Current opinion in the role of testosterone in the development of prostate cancer: a dynamic model. *BMC Cancer*. 2015;15(1):806. PMID: 26502956
2. Zheng Y**, Chen Z, Pearson TA, Zhao J, **Hu H***, Prosperi M*. Design and methodology challenges of environment-wide association studies: a systematic review. *Environ Res*. 2020;183:109275. PMID: 32105887. PMCID: PMC7346707 (*co-corresponding author)
3. Zhang H*, **Hu H***, Diller M, Hogan WR, Prosperi M, Guo Y, Bian J. Semantic Standards of External Exposome Data. *Environ Res*. 2021 Jun 1;197:111185. PMID: 33901445 (*co-first author)
4. **Hu H**, Liu X, Zheng Y**, He X, Hart J, James P, Laden F, Chen Y, Bian J. Methodological challenges in spatial and contextual exposome-health studies. *Critical Reviews in Environmental Science and Technology*. 2022 Jun 29:1-20. PMID: 37138645
5. Zhu Z, **Hu H**, Wu B, Hu Y. Mapping symptom networks among co-occurrence of psychological and somatic symptoms. *Frontiers in Public Health*. 2023 May 23;11:1210151. PMID: 37287814
6. Pearson TA, Vitalis D, Pratt C, Campo R, Armoundas AA, Au D, Beech B, Brazhnik O, Chute CG, Davidson KW, Diez-Roux AV, Fine LJ, Gabriel D, Groenveld P, Hall J., Hamilton AB, **Hu H**, Ji H, Kind A, Kraus WE, Krumholz H, Mensah GA, Merchant RM, Mozaffarian D, Murray DM, Neumark-Sztainer D, Petersen M, Goff D. The Science of Precision Prevention: Research Opportunities and Clinical Applications to Reduce Cardiovascular Health Disparities. *JACC: Advances*. 2024 Jan 1;3(1):100759. PMID: 38375059 PMCID: PMC10876066
7. Hines D, Bian J, Ceger P, Deziel NC, Harris N, He X, **Hu H**, Cummins MR, Moxon S, Mungall CJ, Niu S, Tao C, Toro S, Burger A, O'Connor MJ, Musen MA, Vasiliou V, Cheung, K, Hamilton CM,

Gouripeddi R, 2026. Accelerating Environmental Health Sciences Through Data and Metadata Standards to Support FAIR Principles. Scientific Reviews (accepted, in publication).

Non-peer reviewed scientific or medical publications/materials in print or other media

Reviews, chapters, monographs and editorials

1. **Hu H**, Bian J, Zhao J. Ambient air pollution and preeclampsia: looking back and moving forward. Hypertension. 2020;75(3):618-9. PMID: 31902251
2. Chen X, **Hu H**. GIS/GPS-assisted probability sampling in resource-limited settings. In: Chen X, Chen D, editors. Statistical methods for global health and epidemiology. Cham: Springer; 2020. pp. 53-86.

Letters to the Editor

1. **Hu H**. Re: "Prospective Study of Ultraviolet Radiation Exposure and Mortality Risk in the United States". Am J Epidemiol. 2013;178(12):1761-2. PMID: 24243741.

Thesis

Hu H. Neighborhood Environment and Hypertensive Disorders of Pregnancy [dissertation]. Gainesville (FL): University of Florida; 2016.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings

1. **Hu H**, Xu X. Health Effects of Traffic-related Air Pollution on Length of Respiratory Cancer Survival. 2013 PHHP Research Fair, University of Florida, Gainesville, FL, USA – April 2013 (received the Outstanding Research Award)
2. **Hu H**, Kan H, Kearney G, Xu X. Association of Polycyclic Aromatic Hydrocarbons with Glucose Homeostasis, Metabolic Syndrome, and Diabetes in USA Adults. The 47th Annual Society for Epidemiologic Research Meeting, Seattle, WA, USA – June 2014 (received the ISEE Travel Award)
3. **Hu H**, Pearson TA, Zhao J, Prosperi M, Rasmussen SA, Xiao H, Cottler LB. Geographic Disparities in Hypertensive Disorders of Pregnancy: An Environment-Wide Association Study. AHA EPI|Lifestyle 2019 Scientific Sessions, Houston, TX, USA – March 2019 (received the Sandra A. Daugherty Award for Excellence in Cardiovascular Disease or Hypertension)
4. Zheng Y, Cantonwine D, McElrath T, **Hu H**. Ambient Air Pollution and Preeclampsia Onset in Massachusetts, United States. The 34th Annual Conference of the International Society for Environmental Epidemiology, Athens, Greece – September 2022.

Narrative Report

I am an Assistant Professor of Medicine and Associate Epidemiologist at the Channing Division of Network Medicine at Brigham and Women's Hospital and Harvard Medical School. My area of excellence is Investigation.

As an environmental epidemiologist specializing in spatial analyses and health data science, my research focuses on developing exposome data integration methods and machine learning algorithms to uncover actionable patterns from large-scale population health data. My research considers the totality of biological, lifestyle, and environmental factors that impact population health and provides personalized insights and recommendations that enable individuals and communities to improve their health and wellness. I am the PI of multiple grants focusing on the health impacts of the external exposome, funded by NIEHS, NHLBI, and NIA. In these projects, we integrate and harmonize multi-source environmental data to examine the external exposome's impacts on various health outcomes.

My work on the external exposome and hypertensive disorders of pregnancy was recognized by the Sandra A. Daugherty Award for Excellence in Cardiovascular Disease or Hypertension Epidemiology, presented by the AHA in 2019. In addition to serving as the PI of these projects, I also enjoy collaborating with other investigators and have been involved in numerous grants as a Co-Investigator.

I am a standing member of the NIH's Analytics and Statistics for Population Research Panel B (ASPB) study section (2023-2027). I have also served as an *ad hoc* reviewer for numerous grant applications, including those for the NIH's Infectious Diseases, Reproductive Health, Asthma, and Pulmonary Conditions Study Section (IRAP), Social Sciences and Population Studies Study Section A (SSPA), ASPB, Special Emphasis Panel/Scientific Review Group ZES1 ARL-D (R0) 2, AHA's Career Development Award in Clinical-Population Sciences, and the UF CTSI Precision Health Initiative Pilot Grant.

In addition to research, teaching is one of my passions. I have extensive teaching experience in epidemiology, environmental health, and health data science. During my PhD program, I had the opportunity to give guest lectures and serve as a teaching assistant for a wide range of courses in epidemiology and environmental health. After becoming a faculty member, I independently taught three graduate-level courses: Measurement in Epidemiology and Outcomes Research, Spatial Epidemiology, and Critical Skills in Data Manipulation for Population Science. Besides teaching, I also enjoy mentoring students. Since 2016, I have served as a research mentor for two postdoctoral fellows and two PhD students, an academic advisor for eight students, and a dissertation/thesis committee member for seven PhD and five MS students. Additionally, I was a mentor for the University Minority Mentor Program at UF.