

## Cici X.C. Bauer, PhD, MS

Associate Professor

James W. Rockwell Professorship in Public Health (Preventive Medicine and Epidemiology)

Department of Biostatistics and Data Science

Founding Director, Center for Spatial-temporal Modeling for Applications in Population Sciences (CSMAPS)

University of Texas Health Science Center in Houston (UTHealth Houston) School of Public Health

[Last updated: September 20, 2024]

### Contact Information

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### RESEARCH EXPERTISE/INTERESTS

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Bayesian spatial-temporal modeling; Dynamic prediction modeling; Hierarchical models for complex survey data; Bayesian small area estimation; Statistical analysis of data from wearable devices; Social determinants of health; Health disparity and inequality; Population Health

### EDUCATION

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Ph.D. in Statistics, University of Washington Seattle, August 2012

- Dissertation: *Bayesian Modeling of Health Data in Space and Time*

- Advisor: Dr. Jon Wakefield

- Committee: Drs. Vladimir Mini, Steve Self, Peter Guttorp and Paul Sampson

M.S. in Statistics, University of Alaska Fairbanks, August 2005

B.S. in Statistics, Anhui University, July 2003

### PROFESSIONAL APPOINTMENTS

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**Founding Director** 01/2023 – Present

Center for Spatial-temporal Modeling for Applications in Population Sciences (CSMAPS)

UTHealth Houston School of Public Health

**Associate Professor (Tenured)** 09/2022 – Present

Department of Biostatistics and Data Science

UTHealth Houston School of Public Health

**Faculty Affiliate** 06/2019 – Present

Center for Health Promotion and Prevention Research

UTHealth Houston School of Public Health

**Affiliate Member** 04/2021 – Present

National Cancer Prevention and Control Research Network (CPCRN)

**Co-Founder & Co-Director** 01/2022 – 12/2023

Joint Center on Geospatial Analysis & Health (JCoGA&H)

UTHealth-MD Anderson Population Health Initiative

<b>Assistant Professor (Tenure Track)</b> Department of Biostatistics and Data Science UTHealth Houston School of Public Health	08/2018 – 09/2022
<b>Associate Director of Statistics</b> Early Clinical Development Research, Pfizer Inc., Cambridge, MA	09/2016 – 08/2018
<b>Assistant Professor (Tenure Track)</b> Department of Biostatistics, Brown University	09/2012 – 09/2016
<b>Faculty Affiliate</b> Spatial Structures for the Social Sciences (S4), Brown University	09/2012 – 09/2016
<b>Fellow</b> Institute at Brown for the Study of Environment and Society (IBES) Brown University	05/2015 – 09/2016
<b>Core Faculty</b> Biostatistics core, Hasbro Children’s Hospital, Providence, Rhode Island	09/2013 – 09/2016
<b>Research Assistant</b> Statistical Center for HIV/AIDS Research & Prevention (SCHARP), Fred Hutchinson Cancer Research Center, Seattle, Washington	01/2010 – 08/2012
<b>Research Assistant</b> Department of Biostatistics, University of Washington Seattle	01/2008 – 12/2009
<b>Biometrician II</b> Alaska Department of Fish and Game Wildlife Conservation, Fairbanks, Alaska	08/2005 – 06/2007

## AWARDS AND HONORS

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- R. Palmer Beasley, M.D. faculty award for innovation, UTHealth School of Public Health, 2023
- Travel award for Woman in Statistics conference, Raleigh, NC, May 2014
- Sheridan junior faculty teaching fellow award, Brown University, 2013–2014 (5 recipients total)
- Travel award for the Joint Statistical Meeting (JSM), University of Washington Seattle, 2012
- Tuition award for the 2nd Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), Seattle, WA, 2010
- Top scholar award, Department of Statistics, University of Washington Seattle, 2007

## RESEARCH GRANTS AND CONTRACTS

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### ACTIVE

- RP230036 03/01/2023 – 02/28/2028  
**CPRIT (Cancer Prevention and Research Institute of Texas)** Total amount:  
\$1,998,196  
*Geospatial Approaches to Melanoma Early Detection – The GAMED Project*  
**Role: MPI (Nelson, MD Anderson/Bauer, UTHealth)**  
 In this project we aim to use data-driven approach to creating statistical models that predict which areas may have the most late-stage melanomas in the future, and identifying the multi-level factors associated with the late-stage melanoma diagnosis in Texas. We then plan to identify

PCPs in high melanoma burden areas who are interested in learning about skin cancer, and deploy our multimodal educational intervention program, tailored to the social and community patient context, to clinical sites in those communities.

- R01DA054267-01A1 5/15/2022 – 3/31/2027  
**NIH/NIDA** Total amount: \$3,446,178  
*Predict to Prevent: Dynamic Spatiotemporal Analyses of Opioid Overdose to Guide Preemptive Public Health Responses*  
Role: **MPI (Stopka, Tufts/Bauer, UTHealth)**  
This project proposes to use a statewide Public Health Data Warehouse with a large number of linked administrative datasets to identify current opioid overdose patterns, predict future opioid overdose epidemics, and evaluate the effectiveness of public health and clinical interventions.  
Project website:  
<https://spatiotemporal-data-science.shinyapps.io/PredictToPrevent/>
- U01TR004355 10/31/2022 – 9/30/2024  
**NIH/NCATS** Total amount: \$2,179,847  
*Addressing COVID-19 Testing Disparities in Vulnerable Populations Using a Community JITAI (Just in Time Adaptive Intervention) Approach: RADxUP Phase III*  
Role: **MPI (Fernandez/McPherson/Reininger/Fujimoto/McGaha/Bauer)**  
This project focuses on understanding factors associated with rapid SARS-CoV-2 testing through a mixed methods study and adapt our intervention messages, materials and strategies to increase relevance, intensity, and reach. We also include a broader focus on addressing the social determinants of health (SDoH) experienced by our communities and a greater focus on combating misinformation. Because the communities in which we are working are particularly vulnerable, and in need of many other services, broadening the topics on which outreach and education topics are covered.
- 1OT2OD032581-02-274 1/15/2024 – 1/14/2026  
**NIH/UNTHSC AIM-AHEAD Consortium** Total amount: \$994,295  
*Enhancing Equity in Opioid Medication Treatment: Confronting Disparities and Biases for Medicaid Beneficiaries with Responsive Machine Learning*  
PI: Gong (UTSA)  
Role: **Subcontract-PI**  
This project aims to address medication disparities for opioid use disorder among Medicaid beneficiaries by considering social determinants and using advanced machine learning techniques. The initiative emphasizes algorithmic fairness, creating a framework to improve treatment adherence, and offering open-source toolkits and resources for stakeholders.
- 90DPTB0025-01-00 9/1/2022 – 8/31/2027  
**NIDILRR**  
*TIRR Memorial Hermann/Baylor College of Medicine/UTHealth Collaborative Traumatic Brain Injury Model System (TBI) Model System*  
PI: Sander/Juengst, TIRR Memorial Hermann Research Center  
Role: **Subcontract-PI**

- P008536

**Office of the Governor**

*Texas Epidemic Public Health Institute (TEPHI) - Wastewater Monitoring*

PI: Boerwinkle (UTHealth)

Role: Co-Investigator (**Bauer leads the statistical analytics core**)

This project aims to identify multiple public health-relevant pathogens through wastewater monitoring. Bauer’s team is responsible for processing and analyzing wastewater data obtained from the weblab, using advanced statistical and machine learning techniques to detect pathogen signatures, identify anomalies, capture temporal trends, and develop predictive models. Additionally, we design and maintain a comprehensive data dashboard, enabling effective real-time monitoring and actionable public health insights.

11/8/2021 – 9/30/2026
- TBD

**National Aeronautics & Space Administration (NASA)**

*CIELO: Chicago’s Initiative for Environmental Justice and Light Pollution Outreach*

PI: Xiao (UTHealth)

Role: Co-Investigator

This project aims to address the environmental and public health implications of light pollution, particularly in marginalized communities. Our team is responsible for developing a GIS-enabled dashboard that integrates satellite-derived artificial light at night (ALAN) data with sociodemographic and health data. We apply advanced data visualization and analysis tools to characterize the burden of light pollution and its disproportionate impact on vulnerable populations. Additionally, we expand educational programs, providing local high school students with hands-on experience in light pollution research and its public health effects.

9/15/2025 – 9/14/2028

Total amount: \$707,414
- 1UH2ES036681

**NIH/NIEHS**

*A Validation Study of Satellite-based Measure of Artificial Light at Night for its Application in Epidemiological Research*

PI: Xiao (UTHealth)

Role: Co-Investigator

This project aims to validate satellite-based Artificial Light at Night (ALAN) measures in a large, nationally representative dataset, improving the accuracy of exposure assessments, guiding future studies, and enhancing the translational value of ALAN research.

8/30/2024 – 7/30/2026

Total amount: \$409,974
- 2T32CA057712-31

**NIH/NCI**

*Cancer Prevention and Control Research Training and Career Development Program*

PI: Fernandez/Bijal

Role: Mentor

9/1/2023 – 8/31/2028
- U54CA280804

**NIH/NCI**

*Acres Homes Cancer Prevention Collaboration*

MPIs: Basen-Engquist/McNeill/Rechis (MD Andersson)

Role: Co-Investigator

6/15/2023 – 5/30/2028

Serve as the geospatial analytics core to investigate the effect of environmental variables on intervention effectiveness.

- R21HL165369-01 7/1/2022 – 6/30/2024  
**NIH/NHLBI** Total amount: \$275,000  
*Studying 24-hour rhythms of light exposure, alignment with rest-activity cycle, and cardiometabolic health in a nationally representative sample*  
MPI: Xiao (UTHealth)/Figueiro (RPI)  
Role: Co-Investigator  
The aims of this study are to investigate 24-hour exposure patterns of light and the alignment between light-dark and rest-activity cycles in relation to cardiometabolic health.
- **Texas DSHS/CDC** 10/1/2021 – 7/31/2025  
*Texas SARS-CoV-2 Variant Sequencing Network* Total amount: \$15,000,000  
PI: Boerwinkle (UTHealth)  
Role: Co-Investigator (**Bauer co-leads the data coordinating and analytical core**)  
This state-wide project will create a networked partnership between DSHS, academic, commercial, and public health laboratories for high throughput SARS-CoV-2 sequencing and analysis for Texas, to enable an efficient and comprehensive approach to identify the presence of known variants of interest (VOI) and variants of concern (VOC) and will provide the capability to identify new variants as they emerge.
- 80NSSC21K0510 01/2021 – 01/2025  
**National Aeronautics & Space Administration (NASA)** Total amount: \$497,301  
*Apply NASA's Earth Observation Product to Improve Artificial Light at Night (ALAN) Mapping and Public Health Surveillance*  
PI: Xiao (UTHealth)  
Role: Co-Investigator/Statistical Lead  
The aims of this study are to use satellite data to measure spatial variations and temporal trends of light at night in the U.S. and link the data with existing public health datasets to examine their public health implications.  
Project website and dashboard:  
<https://spatiotemporal-data-science.shinyapps.io/ALAN/>
- R01CA228527 12/2018 – 11/2024  
**NIH** Total amount: \$2,858,386  
*Development and Validation of a Measure of Organizational Readiness (motivation × capacity) for Implementation*  
PI: Fernandez ME (UTHealth)  
Role: Co-Investigator  
Organizational readiness plays a critical role in the implementation of evidence-based interventions (EBIs) for cancer control and prevention (programs, practices, and policies). This study develops and validates measures for diverse settings (clinics and schools) and topics (cancer screening and nutrition).

## COMPLETED

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- 0017402 3/1/2022 – 5/30/2024  
**Cameron County Public Health Department (CCPH)** Total amount: \$225,000  
*COVID-19 Data Analytics*  
Role: **MPI (Bauer/Lee)**  
This project aims to conduct sophisticated spatial-temporal analysis to provide insight into the temporal trends, spatial trends, and disparities in COVID-19 infection, fatality, testing, and vaccination by age, gender, ethnicity and location for CCPH.
  
- UL1TR003167-03S3 9/01/2021 – 1/31/2024  
**NIH/NCATS** Total amount: \$2,333,630  
*Addressing COVID-19 Testing Disparities in Vulnerable Populations Using a Community JITAI (Just in Time Adaptive Intervention) Approach – RADxUP Phase II*  
MPI: Fernandez/McPherson/Fujimoto/McGaha/de Oliveira Otto/Reininger (UTHealth)  
Role: Co-Investigator  
This study will leverage long-standing academic-community partnerships to examine COVID-19 infection, testing, and vaccination patterns in three Texas regions (Houston/Harris County, South Texas, and Northeast Texas) to identify underserved communities. In these communities, we will provide and evaluate a multilevel intervention to increase reach, uptake, implementation, and sustainment of SARS-CoV-2 testing and COVID-19 vaccination. We will also explore the impact and reach of people’s communication networks on attitudes, intentions, and decisions on behavior regarding SARS-CoV-2 testing and COVID-19 vaccination.
  
- 3UL1TR003167-02S10 9/1/2020 – 8/31/2023  
**NIH/NCATS** Total amount: \$4,998,788  
*RADx-UP: Understanding and Addressing COVID-19 Testing Disparities in Vulnerable Populations: A Multilevel and Multi-method Approach: RADxUP Phase I*  
MPI: Fernandez/McPherson/Reininger/de Oliveira Otto (UTHealth)  
Role: Co-Investigator  
Building on the partnerships and resources of the Center for Clinical and Translational Science (CCTS), the goal of the study is to partner with our community and stakeholder colleagues to identify dynamic disease hotspots and testing deserts in racially diverse neighborhoods of the target regions, and to use that information to inform the rapid adaptation and deployment of multilevel level just-in-time adaptive intervention strategies to reach vulnerable populations.
  
- **FORE Opioid Crisis Innovation Challenge 2021** 2/2022 – 1/2024  
Total amount: \$300,000  
*Syndromic Surveillance of the Opioid Crisis in Lowell, Massachusetts: Data to Action and Evaluation*  
PI: Shrestha/Pustz/Stopka (Tufts University)  
Role: **Subcontract-PI**
  
- **Valley Baptist Legacy Foundation** 03/2021 – 03/2024  
*Establishment of a Public Health Laboratory and Integrated Data Management System for the Cameron County and Municipalities* Total amount: \$750,000

PI: Fisher-Hoch (UTHealth)  
Role: Biostatistician

- **National Aeronautics & Space Administration (NASA)** 09/2021 – 02/2023  
*Tiger Team Award, Satellite Data for Environmental Justice (SD4EJ)* Total amount: \$179,527  
PI: Anenberg, GWU/Xiao, UTHealth  
Role: Co-Investigator/Statistical Lead  
The aims of this study are to develop a central warehouse for long-term satellite data on multiple environmental exposures and hold regular teleconferences with EJ stakeholders to enhance their ability to map EJ for various environmental exposures and produce new understanding of which communities may experience benefits from governmental initiatives.
- 6U3SHS45319-01-03.6 11/01/2021 – 10/31/2023  
**Health Resources & Services Administration (HRSA)** Total amount: \$10,345,056  
*Community-Based Workforce Development and Mobilization to Increase COVID-19 Vaccination Equity in Texas*  
MPI: Fernandez/Reininger/Cucarro (UTHealth)  
Role: Co-Investigator (**Bauer co-leads the data coordinating and analytics core**)  
The goals are to address personal and community factors influencing vaccination decisions, and increase access to vaccination. Throughout the performance period, we will continuously monitor our efforts to provide information for rapid-cycle improvements to increase program reach and effectiveness.
- **UTH-MDA Population Health Initiative Collaborative Projects** 1/1/2022 – 12/31/2023  
**IMPACT FUND – Core Resources** Total amount: \$200,000  
*Joint Center on Geospatial Analysis and Health*  
Role: **MPI (Bauer/Ramphul/Strong/Walsh)** (No FTE for PIs)  
The Joint Center on Geospatial Analysis & Health (JCoGA&H) is a collaboration between The University of Texas Health Science Center at Houston – School of Public Health (UTHealth) and The University of Texas MD Anderson Cancer Center (MD Anderson), to conduct and deploy focused geospatial analysis to: build consensus on shared strategic impact priorities in population health and health equity; enhance access to spatial analysis essential to research, policy analysis, and public health practice; and directly enable researchers, public health practitioners, and community-based organizations in Greater Houston and across the state of Texas to utilize spatial analysis to improve and inform their work in population health.  
Project website: <https://sph.uth.edu/projects/jcogah/>
- **NIH Consortium for Cancer Implementation Science (CCIS)** 10/2021 – 10/2022  
Individual Award Total amount: \$20,000  
*Developing Geospatial Data Visualizations for Cancer Screening Inequality and Contextual Factors*  
Role: **Principal Investigator**  
This project aims to develop a public-facing data visualization dashboard to inform understanding of geographical variation of cancer screening inequality and its relation to social determinants of health and social vulnerability.  
Developed R Shiny dashboard:

<https://spatiotemporal-data-science.shinyapps.io/CancerScreening-SDOH/>

- 6U48DP006408-01-01 5/11/2021 – 5/10/2022  
**CDC** Total amount: \$396,825  
*Connecting Behavioral Science to COVID-19 Vaccine Demand (CBS-CVD) network*  
MPI: Fernandez/Cuccaro (UTHealth)  
Role: Co-Investigator  
University of Texas Prevention Research Center COVID-19 Supplement. The goal of this one-year supplement is to increase COVID-19 vaccine confidence in selected regions in Texas.
- **Cancer Prevention and Research Institute of Texas** 12/2016 – 5/2022  
**CPRIT RP170493** Total amount: \$1,413,306  
*For Our Children: A Tailored Multi-level Intervention for Parents and Healthcare Providers to Increase HPV Vaccination Rates.*  
PI: Fernandez ME (UTHealth)  
Role: Biostatistician (contributed time 04/2021 – 05/2022)  
The study aims to improve vaccination rates among Hispanic adolescents (aged 11-17). Group randomized trial of a multi-level intervention using a tailored interactive multimedia intervention (TIMI) for parents, parental text messaging, and healthcare providers training through an interactive app.
- **Episcopal Health Foundation** 10/2021 – 03/2022  
Total amount: \$95,732  
*Evaluation of a Collaborative Program Between an Affordable Housing Provider and a Managed Care Organization*  
PI: Tasi (UTHealth)  
Role: Co-Investigator
- **Fort Bend County** 11/2020 – 11/2021  
*Fort Bend County COVID Analytics* Total amount: \$122,757  
PI: de Oliveira Otto (UTHealth)  
Role: Co-Investigator  
The goal of this project is to understand person, place, time, disparities and trends to inform public health action and policy including vaccine distribution in Fort Bend County (FBC).
- **University of Texas College of Pharmacy** 03/2020 – 08/2020  
*Integrated Opioid Response Team Training Program* Total amount: \$1,500,000  
PI: Langabeer (UTHealth)  
Role: Biostatistician  
This project provides study design and analytical expertise for the development of an integrated emergency response program for opioids and other drug-related disorders.
- **Texas Department of State Health Services (DSHS)** 01/2020 – 12/2020  
*Rider 29 - Cost Analysis of Outbreaks Involving Certain Vaccine-preventable Diseases* Total amount: \$140,000

PI: Sonawane (UTHealth)

Role: Co-Investigator

This project studies and assesses the direct and indirect economic costs incurred by DSHS and local public health organizations in responding to vaccine-preventable disease outbreaks

- **Massachusetts Department of Public Health (MDPH)** 01/2019 – 12/2019  
Total amount: \$150,000  
*High-risk Opioid Prescribers and Overdose in MA: a Mixed Methods Approach*  
PI: Stopka (Tufts University)  
Role: Statistics consultant  
This project aims to conduct spatial and statistical analyses by employing a mixed methods “prescriber-centered” approach to assess opioid prescribing rates and associations with fatal and non-fatal opioid overdoses in communities across the state of Massachusetts.
  
- R01CA095994 2014 – 2018  
**NIH/NCI** Total amount: \$1,622,394  
*Spatio-temporal Epidemiology: Methods and Applications*  
PI: Wakefield (University of Washington Seattle)  
Role: **subcontract-PI** (ended in 2016 due to job change)  
This project proposes new statistical methodology development methods for the prediction of space-time health data.
  
- R01NS064901 2014 – 2017  
**NIH/NINDS** Total amount: \$2,294,999  
*EFECAB: Improving Pig Management to Prevent Epilepsy in Burkina Faso*  
PI: Carabin H (University of Oklahoma Health Sciences Center)  
Role: Statistics consultant
  
- R21AI119773 2015 – 2017  
**NIH/NIAID** Total amount: \$435,990  
*Spatial-temporal Modeling for Surveillance Data of Multiple Pathogens*  
PI: Y Yang (University of Florida)  
Role: **subcontract-PI** (ended in 2016 due to job change)  
This project proposes new statistical methods for analyzing infectious disease surveillance data to address the challenges of multiple transmission routes, multiple co-circulating pathogen types and complex system of immunity, cross-immunity and unobserved asymptomatic infections.
  
- **CFAR Developmental Grant** 2015 – 2016  
Total amount: \$40,000  
*The Spatial Pattern of HIV Treatment Cascade from Home-based Counseling and Testing in Western Kenya*  
Role: **Principal Investigator**  
The project investigates the spatial patterns of linkage to and retention in HIV care from home-based counseling and testing (HBCT) program in Western Kenya.

- R21HD078762  
**NIH/NICHD**  
*Investigating and Extending Bayesian Methods for Small Area Estimation*  
 PI: Logan (Brown University)  
 Role: Co-Investigator  
 This project evaluates the performance of Bayesian models for small area estimation with a particular focus on their performance with population data of the type provided by the census.

2014 – 2016  
 Total amount: \$441,796
- F31NS093983  
**NIH/NINDS** *Epidemiological and Spatial Methods to Improve Estimates of Neurological Disorders from Population-based Studies*  
 PI: Sahlu (Brown University)  
 Role: Mentor  
 This NIH F31 training grant provides predoctoral individuals with supervised research training in specified health and health-related areas leading toward the research doctoral degree.

2015 – 2017
- **Seed Grant**  
 Institute at Brown for the Study of Environment and Society (IBES) *Effects of Climate and Land-cover Change on Human Infectious Disease Outbreaks*  
 PI: Smith (Brown University)/Bauer C  
 Role: Co-Investigator (2014 – 2015), **Principal Investigator** (2015 – 2016)

2014 – 2016  
 Total amount: \$150,000
- **Seed Grant**  
 Institute at Brown for the Study of Environment and Society (IBES) *Communications and Socio-environmental Drivers of Disease Outbreaks*  
 PI: Smith (Brown University)  
 Role: Co-Investigator

2013 – 2014  
 Total amount: \$20,000
- **Salomon Faculty Research Awards**  
 Brown University *Small-area Estimation Using Complex Survey Data*  
 Role: **Principal Investigator**

2012 – 2013  
 Total amount: \$7,500
- **USDA Forest Service**  
 PNW Research Station, Olympia, WA *Statistical Analysis of Spatial Variability and Correlation Among Various Soil Characteristics*  
 Role: Statistics consultant

Summer 2011  
 Total amount: \$2,000

## PUBLICATIONS

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\*Student/Postdoc Authorship; §Corresponding/Co-corresponding Author  
 IF: Impact Factor (the journal's IF at the time of publication)

### Peer-reviewed Publications

68. Chen X, Balliew J, **Bauer C**, Deegan J, Gitter A, Hanson B M, Maresso A W, Tisza M,

- Troisi C L, Rios J, Mena K D, Boerwinkle E, Wu F. Revealing patterns of SARS-CoV-2 variant emergence and evolution using RBD amplicon sequencing of wastewater. *Journal of Infection*. Accepted. (IF 14.3)
67. Hunyadi JV, Zhang K, Xiao Q, Strong LL, **Bauer C**<sup>§</sup>. Spatial and temporal patterns of chronic disease burden in US Counties: 2018-2021. *American Journal of Preventive Medicine*. Accepted. (IF 4.3, Acceptance Rate 16%)
66. Iqbal M\*, Cazaban CG, Morgan R, **Bauer C**, Siddiqi S. Rethinking health systems responsiveness in low-and middle-income countries: A validation study. *JMIR Research Protocols*. 2024;13:e59836. (IF 1.4)
65. Huebinger R, Hunyadi JV, Zhang K, Shekhar AC, **Bauer C**, Bakunas C, Waller-Delarosa J, Schulz K, Persse D, Witkov R. Geospatial predictive modeling for prehospital extracorporeal cardiopulmonary resuscitation in Houston. Texas. *Prehospital Emergency Care*. Epub ahead of print. (IF 2.4)
64. Ramphul R, Zamorano AS, Upadhyay S, Desai M, **Bauer C**. Spatiotemporal analysis of HPV vaccination and associated neighborhood-level disparities in Texas – an ecological study. *Frontiers in Public Health*. 2024 12:1418526.
63. Nze C, Andersen CR, Ayers AA, Westin J, Wang M, Iyer S, Ahmed S, Pinnix C, Vega F, Nguyen L, McNeil L, Nastoupil LJ, Zhang K, **Bauer C**, Flowers CR. Impact of patient demographics and neighborhood socioeconomic variables on clinical trial participation patterns for Non-Hodgkin Lymphoma. *Blood Advances*. 2024 Jul 23;8(14):3825-3837. PMID: 38607394. (IF 7.6)
62. Su Q, **Bauer C**, Bergquist R, Cao Z, Gao F, Hu Y, Zhang Z. Unraveling trends in schistosomiasis: Deep learning insights into national control programs in China. *Epidemiology and Health*, e2024039.
61. Garza AL\*, Lee M, Blangero J, **Bauer C**, Czerwinski SA, Choh AC. Genetic correlations between liver fat content, metabolic health, and adiposity distribution in the FELS longitudinal study. *Nutrition, Metabolism and Cardiovascular Diseases*. 2024 Jul;34(7):1610-1618. PMID: 38555241. (IF 3.9)
60. Low EV\*, Lee M, **Bauer C**, Fisher-Hoch S, McCormick JB, Rowan PJ, Abughosh S, Essien JE, Chen H. Risk factors for overweight and obesity in children and adolescents living on the Texas-Mexico Border. *Frontiers in Adolescent Medicine*. 2024 2:1297391. (IF 1.1)
59. **Bauer C**<sup>§</sup>, Hassan GH\*, Bayly R, Cordes J, Li X, Bernson D, Li W, Ackerson, LK, Dammann O, LaRochelle M, Stopka TJ. Trends in fatal opioid-related overdose in American Indian and Alaska Native communities, 1999-2021. *American Journal of Preventive Medicine*. 2024 Feb 3:S0749-3797(24)00036-9. PMID: 38311190. (IF 5.5)
58. Madrigal K, Morris L, Zhang K, Nelson E, Tran T, Galindez M, Duan Z, Adamson AS, Zhao H, Doan HQ, Taylor M, **Bauer C**<sup>§</sup>, Nelson KC. Persistent poverty and incidence-based melanoma mortality in Texas. *Cancer Causes & Control*. 2024 Jun;35(6):973-979. PMID: 38421511. (IF 2.3)

57. Oghuan J, Chavarria C, Vanderwal SR, Gitter, A, Ojaruega AA, Monserrat C, **Bauer C**, Brown EL, Cregeen SJ, Deegan J, Hanson BM, Tisza M, Ocaranza HI, Balliew J, Maresso AW, Rios J, Boerwinkle E, Mena KD, Wu F. Wastewater analysis suggests unreported Mpox cases in a low-prevalence city: An environmental surveillance study. *The Lancet Regional Health - Americas*. 2023 Nov 24;28:100639. PMID: 38076410. PMCID: PMC10701415. (IF 7.4)
56. Cerda I\*, **Bauer C**, Zhang K, Lee M, Jones M, Rodriguez A, McCormick JB, Fisher-Hoch SP. Evaluation of a targeted COVID-19 community outreach intervention: A case for precision public health. *JMIR Public Health and Surveillance*. 2023 Dec 20;9:e47981. PMID: 38117549. PMCID: PMC10765283. (IF 8.5)
55. Yeung CHC\*, **Bauer C**, Xiao Q. Associations between rest-activity rhythms and function tests: the US National Health and Nutrition Examination Survey, 2011–2014. *Clocks and Sleep*. 2023 Dec; 5(4):667–685. PMID: 37987396. PMCID: PMC10660688. (IF 3.1)
54. Zhang Z, Sabharwal R, Lee M, Zhang K, McGaha P, Crum M, **Bauer C**, Fisher-Hoch SP, McCormick JB, Reininger BM, Thomas S, Guajardo E, Pinon D, Yaseen A. An interactive online dashboard with COVID-19 trends and data analysis in northeast and south Texas. *Texas Public Health Journal*. 2024 76;2;12.
53. Xiao Q, Zhou M, Lyu Y, Lu J, Zhang K, Figueiro M, Wang J, **Bauer C**. County-level geographical variations and temporal trends of artificial light at night (ALAN) in the contiguous U.S., 2012-2019. *Environmental Science and Pollution Research*. 2023 Nov;30(54):115870-115881. PMID: 37897576. (IF 5.8)
52. Tisza M, Javornik Cregeen S, Avadhanula V, Zhang P, Ayvaz T, Feliz K, Hoffman KL, Clark JR, Terwilliger A, Matthew C, Ross MC, Cormier J, Henke D, Troisi C, Wu F, Rios J, Deegan J, Hansen B, Balliew J, Gitter A, Zhang K, Li R, **Bauer C**, Mena KD, Piedra PA, Petrosino FJ, Boerwinkle E, Maresso AW. Comprehensive wastewater sequencing reveals community and variant dynamics of the collective human virome. *Nature Communication*. 2023;14(1):6878. PMID: 37898601. PMCID: PMC10613200. (IF 16.6).
51. Yeung CHC\*, Lu J, Soltero E, **Bauer C**<sup>§</sup>, Xiao Q. U.S. Adolescent Rest-Activity patterns: insights from functional principal component analysis (NHANES 2011-2014). *International Journal of Behavioral Nutrition and Physical Activity*. 2023;20:125. PMID: 37833691. PMCID: PMC10571346. (IF 6.71)
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10. Carabin H, Millogo A, Ngowi H, **Bauer C**, Dermauw V, Cissé A, Sahlu I, Salvatore A, Preux P, Somé T, Tarnagda Z, Gabrië S, Cissé R, Ouédraogo J, Cowan L, Boncoeur M, Dorny P, Ganaba R. Effectiveness of a community-based educational programme in reducing the cumulative incidence and prevalence of human *Taenia solium* cysticercosis in Burkina Faso in 2011-14 (EFECAB): a cluster-randomised controlled trial. *The Lancet Global Health*. 2018 Apr;6(4):e411-e425. PMID:29530423. PMCID: PMC5873982. (IF 26.76)
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8. Fish L, Wakefield J, **Bauer C**, Self S. Time series modeling of pathogen-specific disease probabilities with incomplete data. *Biometrics*. 2017 Mar;73(1):283-293. PMID:27378138. PMCID: PMC5224700. (IF 1.71)
7. **Bauer C**, Wakefield JC, Rue H, Self SG, Feng Z, Wang Y. Bayesian spline models for the analysis of spatio-temporal count data. *Statistics in Medicine*. 2016 May 20;35(11):1848-54. PMID: 26530705. PMCID: PMC4959802. (IF 2.37)
6. Carabin H, Millogo A, Cissé A, Gabrië S, Sahlu I, Dorny P, **Bauer C**, Tarnagda Z, Cowan L, Ganaba R. Prevalence of and factors associated with human cysticercosis in 60 Villages in three provinces of Burkina Faso. *PLOS Neglected Tropical Diseases*. 2015 Nov;9(11):e0004248. PMID: 26588468. PMCID: PMC4654529. (IF 3.89)
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 †equal contribution as first author

4. **Chen(Bauer) C**, Wakefield JC, Lumley T. The use of sampling weights in Bayesian hierarchical models for small area estimation. *Spatial and Spatio-temporal Epidemiology*. 2014 Oct;11:33-43. PMID: 25457595. PMCID: PMC4357363.
3. Mercer L, Wakefield JC, **Chen(Bauer) C**, Lumley T. A comparison of spatial smoothing weighting methods for small area estimation. *Spatial Statistics*. 2014;8:69-85. PMID: 24959396. PMCID: PMC4064473. (IF 2.06)
2. Wang Y, Feng Z, Yang Y, Self S, Gao Y, Longini IM, Wakefield J, Zhang J, Wang L, **Chen(Bauer) C**, Yao L, Stanaway JD, Wang Z, Yang W. Hand, Foot, and Mouth disease in China: patterns of spread and transmissibility. *Epidemiology*. 2011 Nov;22(6):781-92. PMID: 21968769. PMCID: PMC3246273. (IF 4.82)
1. Rupp TS, **Chen(Bauer) C**, Olson M. Sensitivity of simulated boreal fire dynamics to uncertainties in climate drivers. *Earth Interactions*. 2007;11:3-21. (IF 2.17)

#### Conference Abstract and Posters (Selected Only)

10. Lu J, **Bauer C**. A Bayesian circadian hidden Markov model to infer rest-activity rhythms using 24-hour actigraphy data. *2024 ENAR Conference*.
9. **Bauer C**, Zhang K, Taylor M, Nelson K. Demographic, geographic, and temporal patterns of melanoma incidence in adult population in Texas, 2000-2018: a Bayesian spatial-temporal disease mapping analysis. *2023 CPRIT Conference*.
8. Hunyadi J, Zhang K, Zhang Z, Lee M, Reininger B, Crum M, Guajardo E, Kiger JN, Otto M, Yamal JM, **Bauer C**. Demographic trends in COVID-19 booster vaccination uptake in three regions of Texas: Cameron County, Harris County, and Northeast Texas. *2023 APHA Conference*.
7. Zhang K, **Bauer C** et al. Protocol for adaptive geospatial selections of communities to implement evidence-based practices to increase COVID-19 testing uptake in the Texas RADx-UP study. *2023 RADx-UP Scientific Meeting*.
6. Walker TJ, Zhang K, Lamont A, Diamond P, Craig D, McClam M, Workman L, **Bauer C**, Brandt H, Wandersman A, Fernandez ME. Examining differences in readiness scores across respondent characteristics: a cross-sectional study with employees from federally qualified health center clinics. *2022 Conference on the Science of Dissemination and Implementation, Washington DC*.
5. Workman L, Zhang K, McClam M, Craig D, Walker TJ, Padilla J, Dias E, **Bauer C**, Fernandez ME. Do readiness scores differ by urban/rural characteristics? *2022 Conference on the Science of Dissemination and Implementation, Washington DC*.
4. Nguy L, Ramphul R, Desai M, **Bauer C**, Zamorano A. Identifying HPV vaccination initiation hot/cold spots and associated disparities in Texas. *2022 WAGO Annual Meeting*
3. Tran T, Rousseau MA, Farris D, **Bauer C**, Nelson KC, Doan HQ. Use of the social vulnerability index in cancer research. *2022 17th annual Texas conference on health disparities*.
2. Xiao Q and **Bauer C**. Creating personalized rhythmic profiles of activity and diet for precision nutrition. *2021 NIDDK precision nutrition: research gaps and opportunities workshop*. Best poster award

1. Suk R\*, Sonawane K, **Bauer C**, Lairson D, Deshmukh AA. Risk of anal cancer in inflammatory bowel disease patients in the US: a population-based study 2008-2018. *2021 Crohn's & Colitis Congress*.

### Manuscripts Under Review

15. Garza AL\*, Blangero J, Lee M, **Bauer C**, Czerwinski SA, Choh,AC. Endophenotype informed association analyses for liver fat accumulation and metabolic dysfunction in the Fels longitudinal study.
14. Garza AL\*, Choh AC, Blangero J, **Bauer C**, Czerwinski SA, Lee M. Cross-sectional assessment of metabolically healthy obesity and liver steatosis in the Fels longitudinal study.
13. Burford K\*, Salvo D, Kohl HW, Ganzar LA, **Bauer CX**, Hoelscher DM. Examination of traffic-related safety, child, and family factors associated with active commuting to school among children residing in a large urban city.
12. Hunyadi JV, Savas LS, Zheng K, Deason JE, Ramphul R, Peskin MF, Erica LF, **Bauer C**<sup>§</sup>. A comparison and modification of floating catchment area methodologies with applications to a dataset of clinics enrolled in a statewide child and adolescent psychiatric consultation program.
11. Lu J\*, Xiao Q, **Bauer C**<sup>§</sup>. A Bayesian circadian hidden Markov model to infer rest-activity rhythms using 24-hour actigraphy Data. *arXiv:2307.03832*.
10. Lu J\*, Xiao Q, **Bauer C**<sup>§</sup>. Methodological advances in analyzing rest-activity rhythms: a comprehensive comparison using 24-hour actigraphy data with application to 2011-2014 NHANES data.
9. Zhang K\*, Cordes J, **Bauer C**, Stopka TJ, Shrestha S. Assessing spatial and temporal variation in opioid-related incidents and risk factors in Lowell, Massachusetts from 2011 to 2022: A Bayesian spatial-temporal approach.
8. Matas JL\*, Mitchell LE, Salemi JL, **Bauer C**, Ganduglia Cazaban C. Individual and county-level factors associated with severe maternal morbidity at delivery: An investigation of a privately insured population in the United States, 2008-2018.
7. Matas JL\*, Mitchell LE, Salemi JL, **Bauer C**, Ganduglia Cazaban C. Severe maternal morbidity and economic costs of prenatal, delivery, and delivery plus postpartum care among privately insured population in the United States, 2007-2019.
6. Leining LM\*, Erickson TA, Hanis CL, **Bauer C**, Murry MD, Brown EL, Mejia R, Gunter SM. Epidemiologic investigation of protozoa and soil-transmitted helminths in Starr County, Texas.
5. Zhang K\*, Hunyadi J, de Oliveira Otto MC, Lee M, Zhang Z, Ramphul R, Yamal JM, Yaseen A, Morrison AC, Sharma S, Rahbar MH, Zhang X, Linder S, Marko D, Roy RW, Banerjee D, Guajardo E, Crum M, Reininger B, Fernandez ME, **Bauer C**<sup>§</sup>. Adaptive geospatial selections in community-based randomized trials to increase COVID-19 testing and vaccination uptake in the Take Care Texas Study: Research protocol.

4. Bayly R, Cordes J, Bernson D, Ackerson LK, Larochelle MR, Hassan G, **Bauer C**<sup>§</sup>, Stopka TJ. Predicting fatal opioid-related overdoses: A social-ecological framework matched to a linked-data warehouse.
3. Zhang X, Rahbar MH, Tahanan A, **Bauer C**, de Oliveira Otto MC, Morrison AC, Reininger B, Fernandez ME. An application of minimization for ensuring balanced study arms in a group-randomized COVID-19 educational intervention trial.
2. Stopka T, Cordes J, Bernson D, **Bauer C**. Public health data-to-action: Reframing surveillance to rebuild trust in public health.
1. Iqbal M\*, Cazaban CG, Morgan R, **Bauer C**, Siddiqi S. What is health systems responsiveness? Delphi process elaborating domains and sub-domains in the context of low-and middle-income countries.

## TEACHING AND STUDENT ADVISING

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### Courses taught as instructors:

†Designed new course, ‡Substantial revision/redesign

<b>University of Texas Health Science Center in Houston</b>		
Course Title	Semester	Enrollment
Introduction to Biostatistics in Public Health (PH 1690)	Spring 2024	16
Introduction to Biostatistics in Public Health (PH 1690)	Fall 2021	56
Introduction to Biostatistics in Public Health (PH 1690)	Fall 2020	52
Introduction to Biostatistics in Public Health (PH 1690)	Spring 2020	64
‡ Introduction to Biostatistics in Public Health (PH 1690)	Fall 2019	47
†Spatial-temporal Analysis of Population Health Data	Spring 2023	16
†Spatial-temporal Analysis of Population Health Data	Spring 2021	9
†Spatial-temporal Analysis of Population Health Data	Spring 2020	7

<b>Brown University</b>	
Course Title	Semester
Principles of Biostatistics and Data Analysis (PHP 2510)	Fall 2015
‡Principles of Biostatistics and Data Analysis (PHP 2510)	Fall 2014
‡Principles of Biostatistics and Data Analysis (PHP 2510)	Fall 2013
†Generalized Linear Models (PHP 2605)	Spring 2015
‡Spatial Statistics (PHP 2604)	Spring 2016
†Spatial Statistics (PHP 2604)	Spring 2014
†Spatial Statistics (PHP 2604)	Spring 2013

### Lectures/Workshop

- Guest lecture on ‘Geospatial Data Science Supporting to Local Public Health Departments in COVID-19 Control and Mitigation’, KIN127L/PH2998, Current Topics in Infectious Diseases: COVID-19, UTHealth Houston SPH, Spring 2021.
- Guest lecture on ‘Geospatial Approaches in Disease Control/Prevention and its Application in Epidemiology’ in PH2990 Epidemiology Seminar, UTHealth Houston SPH, Spring 2020.
- Guest lecture on ‘Spatial-temporal Statistical Models: Some Methods and Applications’, PH 2126 Fundamentals and Applications of GIS, UTHealth Houston SPH, Fall 2020.

- Guest lecture on ‘Hypothesis Testing’ in PH2770 NIH Proposal Development, a required course for Epidemiology PhD students, Department of Epidemiology, UTHealth Houston SPH, Fall 2019.
- Introduction to Statistics (Stat 300), an elementary statistics course for undergraduate students. University of Alaska Fairbanks, Fairbanks, Alaska, Fall 2005/Spring 2006.
- Analysis of Epidemiological Data, Brown-China NIEHS Epidemiology and Biostatistics Workshop. 2 hours. Xi’an, China, Summer 2015.
- Introduction to Spatial Statistics Workshop (3 hours), S4 GIS Institute, Brown University, Winter 2013/Summer 2014.
- Introduction to Statistics, Brown IMSD, Brown University, Summer 2014. 4 hours.

## POSTDOCTORAL FELLOW/STUDENT ADVISING

### Postdoctoral Supervisor

- Jiaohao Cao, Postdoctoral Fellow, UTHealth Houston SPH, 09/2024 - current
- Ghada Hassan, Postdoctoral Fellow, UTHealth Houston SPH, 10/2022 - current

### Thesis/Dissertation Supervisor/Chair

- Current  
Jishu Zheng, PhD Biostatistics, UTHealth Houston SPH (Dissertation Chair/Supervisor/Advisor).  
- Robert H. Bigelow Endowed Scholarship, UTHealth, 2024
- Current  
Kehe Zhang, PhD Biostatistics, UTHealth Houston SPH (Dissertation Chair/Supervisor/Advisor).
- Graduated August 2024  
Jiachen Lu, PhD Biostatistics, UTHealth Houston SPH (Dissertation Chair/Supervisor/Advisor).  
*A Bayesian hidden markov model framework to investigate multiple circadian rhythmicities*  
- UTHealth Houston SPH outstanding new student scholarship award - Aurelia Murphy Killian endowment in public health, 2020  
- Best overall performance award in preliminary examination, UTHealth Houston SPH, 2021  
- ActiGraph digital data summit travel award, 2022 (9 awardees total worldwide)  
- Keith D. Burau, Ph.D. scholarship award, UTHealth, 2022  
- Dr. M. Stewart West Memorial Scholarship in Biometry award, UTHealth, 2023
- Graduated Summer 2022  
Tzuruei Chao, MS Biostatistics, UTHealth Houston SPH (Thesis Supervisor)  
*Sampling design of wastewater surveillance to detect SARS-CoV-2: A simulation study using geospatial kriging method*
- Graduated Summer 2022  
Minji Chae, MS Biostatistics, UTHealth Houston SPH (Thesis Chair)  
*Predicting hospitalization and length of stay following emergency department admission in working adults with chronic kidney disease.*
- Graduated Summer 2022  
Yustinah Ndambakuwa, MS Biostatistics, UTHealth Houston SPH (Thesis Chair)  
*Identification of a metabolite network associated with anthracycline-response in the ipsc-cardiomyocyte model system*

- Graduated Summer 2022  
Sungjin Cho, MS Biostatistics, UTHealth Houston SPH (Thesis Co-supervisor with Dr. Michael Swartz)  
*Investigating critical windows of exposure to PM<sub>2.5</sub> during pregnancy on estimated fetal weight using tree-based distributed lag non-linear model (TDLNM)*
- Graduated Spring 2022  
Haley Barnes, MS Biostatistics, UTHealth Houston SPH (Thesis Chair/Thesis Supervisor)  
*The impact of rest-activity patterns and neighborhood characteristics on weight status in the Dallas Heart Study: a Bayesian multilevel model approach*
- Graduated Summer 2021  
Brian Heckler, MS Biostatistics, UTHealth Houston SPH (Thesis Chair/Thesis Supervisor)  
*Studying the impact of rest-activity rhythms on metabolic health using a circadian Hidden Markov model approach*
- Graduated Summer 2020  
Kehe Zhang, MS Biostatistics, UTHealth Houston SPH (Thesis Chair/Thesis Supervisor)  
*Individual and community social determinants of health associated with diabetes management in a Mexican American population*
- Graduated in Spring 2016  
Emily Silvia, MPH Brown University (Thesis Advisor)  
*Geographic variation in receipt of rehabilitation services post lower limb amputation surgery in the VA system*
- Graduated in Spring 2016  
Jun Ke, MS Biostatistics, Brown University (Thesis Advisor)  
*Spatial boundary detection using Bayesian hierarchical modeling*
- Graduated in Spring 2016  
Zihao Zhang, MS Biostatistics, Brown University (Thesis Advisor)  
*The association between ambient air pollution exposure and birth outcome: an analysis from a cohort study in Wuhan, China.*
- Graduated in Spring 2015  
Joe Servadio, MS Biostatistics, Brown University (Thesis Advisor)  
*Climate determinants of vector-borne infectious disease outbreaks in Asia*  
- Winner of the best poster for Master's students, Brown University School of Public Health Research Day, 2015
- Graduated in Spring 2014  
Alyssa Feldman, MS Biostatistics, 2014, Brown University (Thesis Advisor)  
*Analyses of the temporal trends of global infectious disease outbreaks*

### **Thesis/Dissertation Committee Member**

- Current  
Francine Vega, PhD in Management, Policy and Community Health(MPACH), UTHealth Houston SPH  
*A multidimensional analysis of state laws regulating pediatric opioid prescribing*
- Graduated Summer 2024  
Anayeli H. Morales, PhD in Epidemiology, current, UTHealth Houston SPH-Brownsville (Committee Member, External Discipline Representative [formally known as Minor Representative])

*Association between maternal sleep disorders and maternal and birth outcomes: A retrospective analysis of Optum's de-identified Clinformatics® Data Mart database*

- Graduated Spring 2024  
Joonha Chang, PhD in Biostatistics, UTHealth Houston SPH (Committee Member, Minor Representative)  
*Latent classification of multi-model non-homogeneous continuous-time Markov chains*
- Graduated Spring 2024  
Anh Ngoc Ly, PhD in Department of Epidemiology, Human Genetics, and Environmental Sciences (EHES), UTHealth Houston SPH (Committee Member/Minor Representative)  
*Hand hygiene infrastructure and practices in schools in Belize during the COVID-19 pandemic: A national assessment and intervention*
- Graduated Spring 2024  
Jennifer Matas, PhD in Department of Epidemiology, Human Genetics, and Environmental Sciences (EHES), UTHealth Houston SPH (Committee Member, Minor Representative)  
*Investigation of individual and social predictors of severe maternal morbidity: An analysis of privately insured population in the United States, 2007-2019*
- Graduated Summer 2023  
Ariana L. Garza, PhD in Epidemiology, UTHealth Houston SPH-Brownsville (Committee Member, Minor Representative)  
*Metabolic and genetic determinants of elevated liver fat content in the FELS longitudinal study*
- Graduated Spring 2023  
Kathryn G Burford, PhD in Department of Epidemiology, Human Genetics, and Environmental Sciences (EHES), UTHealth Houston SPH-Austin (Committee Member/Minor Representative)  
*Measuring objective traffic-related safety for active commuting to school*
- Graduated Spring 2023  
Allison Rector, PhD in Biostatistics, UTHealth Houston SPH-Houston (Committee Member)  
*Knot selection, mediation analysis, and modeling PM<sub>2.5</sub> and COVID-19 outcomes in a distributed lag non-linear model (TDLNM) framework*
- Graduated Fall 2022  
Rachel White, PhD in Department of Epidemiology, Human Genetics, and Environmental Sciences (EHES), current, UTHealth Houston SPH (Committee Member/Minor Representative)  
*What is contributing to COVID-19 mortality in Harris County?*
- Graduated Fall 2022  
Alaina M Beauchamp, PhD in Department of Epidemiology, Human Genetics, and Environmental Sciences (EHES), UTHealth Houston SPH-Dallas (Committee Member/Minor Representative)  
*Assessing the mental health of women at the intersection of intimate partner violence and animal cruelty: Personal and population level risk factors for co-victimization*
- Graduated Summer 2022  
Yenan Zhu, PhD in Management, Policy and Community Health(MPACH), UTHealth Houston SPH (Committee Member/Minor Representative)  
*Urban-rural disparities in the utilization of post-stroke rehabilitation and long-term outcome among stroke survivors in the United States 2010-19*

- Graduated Summer 2022  
Isela De La Certa, PhD in Epidemiology, UTHealth Houston SPH-Brownsville (Committee Member/Minor Representative)  
*Improving local COVID19 outbreak response using precision public health*
- Graduated Summer 2022  
Vijayashri Rallapalli, PhD in Management, Policy and Community Health(MPACH), UTHealth Houston SPH (Committee Member/Minor Representative)  
*Geographic variation in Hepatocellular Carcinoma incidence and its association with area-based socioeconomic measures in Texas from 2007-2016: A population based study*
- Graduated Summer 2021  
Ee Vien Low, PhD in Pharmacy, University of Houston (Committee Member)  
*Physical and mental health among Mexican American children and adolescents living on the US-Mexico border*
- Graduated Summer 2021  
Immanuelle Azebe-Osime, MPH in Epidemiology, UTHealth Houston SPH (Committee Member)  
*Trends and risk factors for hospital delivery associated blood transfusions in Texas, 2009-2018: A cross-sectional study*
- Graduated Spring 2021  
Temitope Oluwadairo, PhD in Epidemiology, UTHealth Houston SPH (Committee Member/Minor Representative)  
*Evaluation of a low-cost sensor device for the assessment of community exposures to fine particulate matter in Houston, Texas*
- Graduated Spring 2021  
Randa Hamden, PhD in Management, Policy and Community Health(MPACH), UTHealth Houston SPH (Committee Member/Minor Representative)  
*The impact of hurricane HARVEY on maternal health outcomes in FEMA designated disaster areas in Texas*
- Graduated Fall 2020  
Ryan Suk, PhD in Health Economics, UTHealth Houston SPH (Committee Member/Minor Representative)  
*The burden of HPV-associated cancer in inflammatory bowel disease patients*
- Graduated Fall 2020  
Lauryn Winter, MPH in Epidemiology, UTHealth Houston SPH (Committee Member)  
*Characterization of age-associated COPD progression in the COPD gene cohort*
- Graduated Spring 2020  
Abigail Sedory, PhD in Biostatistics, UTHealth Houston SPH (External Reviewer)  
*Sample size calculations for longitudinal mediation analysis with continuous-time Markov chain variables.*
- Graduated Spring 2019  
Xinyue Qi, PhD in Biostatistics, UTHealth Houston SPH (External Reviewer)  
*Bayesian modeling of censored data with application to meta-analysis of immunotherapy trials*
- Graduated Spring 2016  
Ida Sahlu, PhD in Epidemiology, Brown University (Committee Member)

*Estimating the burden of neurological disorders in low-resource settings*

- Graduated Spring 2016  
Bahar Erar, PhD in Biostatistics, Brown University (Committee Member)  
*Whole genome regression for modeling gene×environment interactions in structured populations*
- Graduated Spring 2015  
Frances Terry, MPH, Brown University (Reader)

### **Visiting Student/Summer Internship Supervised**

- Dileka Gunawardana, CPRIT summer undergraduate innovation Program, Summer 2020, Rice University.
- Gabriella Novak, undergraduate summer intern, Summer 2019, University of Rochester.
- Ping Wang, PhD exchange student, Spring 2015, School of Public Health, City University of Hong Kong.

### **PROFESSIONAL SERVICE**

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#### **Department Service:**

- Department strategical planning committee Fall 2022 - Present
- Chair of faculty search committee (Non-tenure research-track) Spring 2023  
Department of Biostatistics and Data Science, UTHealth Houston SPH
- Student admission committee Spring 2019 – Present  
Department of Biostatistics and Data Science, UTHealth Houston SPH
- Teaching quality and efficiency committee Spring 2019 – Present  
Department of Biostatistics and Data Science, UTHealth Houston SPH
- Chair of faculty search committee (Non-tenure teaching-track) Fall 2018 – Fall 2019  
Department of Biostatistics and Data Science, UTHealth Houston SPH
- Data science track in Biostatistics ScM program ad-hoc committee Spring 2016  
Department of Biostatistics, Brown University
- Faculty liaison for Sheridan teaching center Fall 2014 – Spring 2016  
Department of Biostatistics, Brown University
- Graduate program committee Fall 2013/Fall 2014/Fall 2015/Spring 2016  
Department of Biostatistics, Brown University
- PhD qualifying exam committee Spring 2015  
Department of Biostatistics, Brown University
- Master program admission committee Spring 2013/2015/2016  
Department of Biostatistics, Brown University
- PhD program admission committee Spring 2014  
Department of Biostatistics, Brown University
- Biostatistics seminar organizing committee Fall 2013 – Spring 2014  
Department of Biostatistics, Brown University

**School and University Service:**

- UTHealth Houston SPH Executive Committee (SPHEC) Spring 2024 – Present
- UTHealth Houston SPH Research Council Spring 2023 – Present
- Reviewer UTHealth Houston SPH PRIME pilot funding Summer 2023
- Co-chair, Data Committee, Texas SARS-CoV-2 Variant Network Project Fall 2021–Spring 2022
- Lead, Biostatistics Teaching Assistants (TA) Bootcamp, UTHealth Houston SPH Summer 2020
- Member, UTHealth COVID-19 Research Task Force Informatics workgroup Spring 2020–Present
- Member, UTHealth Houston SPH – MD Anderson population health initiative Community engagement & service delivery workgroup Spring 2020–Present
- Member, Faculty search committee for UTHealth Houston SPH Brownsville 2021 Fall 2019–Spring 2021
- Member, MPH admission committee, School of Public Health, Brown University Spring 2016
- MPH core advisor, School of Public Health, Brown University 2013–2015
- Member, graduate curriculum committee, School of Public Health, Brown University 2014–2015

**National/International Service and Service to Professional Societies****Grant Reviewer:**

- Reviewer, NIH Population Sciences and Epidemiology Integrated Review Group, June 2024
- Reviewer, NIH The Helping to End Addiction Long-term Initiative (HEAL Initiative), June 2022
- Reviewer, NSF April 2022
- Reviewer, Special Emphasis Panel, NIH/NIAID Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome, May 2021
- Reviewer, NIH HEAL Initiative, June 2019

**Other Committees:**

- DSMB member, NIMH R34, *Optimizing Mobile Interventions to Overcome Stigma and Promote HIV Prevention Among Thai Young Transgender Women* (PI: Bo Wang, UMass Worcester Chan Medical School)
- Lead, American Public Health Association (APHA) Applied Public Health Statistics (APHS) section, 2023 – Present
- Chapter representative, Houston Area Chapter of the American Statistical Association (HACASA), 2023 – Present
- President, Houston Area Chapter of the American Statistical Association (HACASA), 2022-2023
- President-elect, Houston Area Chapter of the American Statistical Association (HACASA), 2021-2022
- Member. American Statistical Association (ASA) Committee of Women in Statistics (CoWIS), 2022 – Present.

- Judge, ASA SBSS 2022 student paper competition, 2022
- Steering committee member, CPCRN, October 2021 – Present
- Cancer Prevention and Control Research Network (CPCRN) Social Deprivation Workgroup, Co-Chair, 2021– Present.
- Organizing committee, ENAR 2022
- Organizer, ICSA invited session ‘Bayesian analysis of complex survey data’, 2020 ICSA 2020 Applied Statistics Symposium, Houston, TX.
- Member, local organizing committee/Poster session committee, ICSA 2020 Applied Statistics Symposium, Houston, TX, 2020.
- Volunteer, StatFest, The University of Texas Health Science Center at Houston, Houston, TX, 2019
- Organizer, topic-contributed paper session ‘Recent advances in spatial and spatial-temporal analysis’, Joint Statistical Meetings (JSM), Denver, US, 2019
- Co-chair, local organizing committee, 4<sup>th</sup> International Conference on Big Data and Information Analytics, Houston, TX, 2018.
- Organizer, invited session ‘Recent advances in Spatial statistics’, The 29th New England Symposium (NESS), University of Connecticut, CT, 2015

#### **Referee Service:**

Journal of American Statistical Association (JASA), Statistics, Politics and Policy, Spatial Statistics, Spatial and Spatial-temporal Epidemiology (SSTE), Journal of official statistics, Annals of Applied Statistics (AOAS), Journal of Agricultural, Biological, and Environmental Statistics (JABE), Journal of Royal Statistical Society Series C (JRSSC), Epidemiology, Social Science & Medicine (SSM), Social Science & Medicine Mental Health (SSM-MH), R Journal, Proceedings of the National Academy of Sciences (PNAS).

#### **TALKS AND PRESENTATIONS**

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- Oral presentation: From sewage to solutions: the possibilities and implications of wastewater monitoring (Deegan/Hanson/Troisi/Bauer)  
2024 Public Health Preparedness Summit, Cleveland, Ohio, March 25-28, 2024.
- Oral presentation: Statistical methods to assess regional heterogeneity and representativeness in sample sequencing for a statewide SARS-CoV-2 genomic surveillance system in Texas.  
2023 American Public Health Association Annual Meeting and Expo, Atlanta, GA, November 12-15, 2023
- Invited talk: Spatial-temporal data science applications in public health during the COVID-19 pandemic  
2024 Houston Area Chapter of the American Statistical Association (HACASA) meeting, Houston, Texas, January 2024.
- Invited talk: Identification and quantification of SARS-CoV-2 testing disparities for small area estimation using Bayesian spatial-temporal modeling  
2023 International Chinese Statistical Association (ICSA) Applied Statistics Symposium, Ann

Arbor, Michigan, June 11-14, 2023.

- Invited panelist: Panel on Careers in Data Science.  
2023 International Chinese Statistical Association (ICSA) Applied Statistics Symposium, Ann Arbor, Michigan, June 11-14, 2023.
- Invited talk: Bayesian spatiotemporal models for COVID-19 disparities in small area estimation: Application in infectious disease epidemiology.  
2023 New England Statistical Society (NESS), Boston, MA, June 3-6, 2023.
- Invited talk: Geospatial data science to support local public health departments in COVID-19 control and mitigation.  
2023 Alamo Symposium in Statistics, San Antonio, Texas, March 10-11, 2023.
- Selected: Quantification of chronic disease burden in the continental US counties.  
Solving critical problems in cancer control using spatial science: A national NCI comprehensive cancer center meeting, University of Southern California, Los Angeles, CA, Jan 18-19, 2023.
- Invited talk: Spatial-temporal data science for population health.  
Social and Health Statistics Seminars, University of Massachusetts Lowell, October 19, 2022.
- Selected talk: How two institutions partnered to democratize geospatial data  
Presenter: Bauer/Ramphul/Strong/Walsh  
The Healthier Texas Summit, Austin, Texas, October 20-21, 2022.
- Selected talk: Novel quantifications of rest-activity rhythms using 24-hour actigraphy data to inform diabetes status.  
The Digital Physical Activity and Diet (dPAD) 2022 Fall Symposia. UTHealth School of Public Health, Houston, Texas, September 8-9, 2022.
- Invited talk: Stratified space-time infectious disease modeling: with an application to hand, foot and mouth disease in China.  
London School of Hygiene & Tropical Medicine (LSHTM), London, UK, March 2022
- Invited talk: Geospatial data science support to disease surveillance and the design and implementation of community-based interventions  
CPCRN Social Deprivation Interest Group, May 2021
- Invited talk: Geospatial data science support to disease surveillance and the design and implementation of community-based interventions  
Department of Epidemiology, MD Anderson Cancer Research Center, Houston Texas, May 2021.
- Invited talk: Supporting local public health departments in COVID-19 control and mitigation – my humble experience and lessons  
ASA North Texas Chapter, November 2020.
- Invited talk: Supporting local public health departments in COVID-19 control and mitigation – my humble experience and lessons  
Department of Biostatistics and Data Science, University of Texas School of Public Health in Houston, Houston, TX, November 2020.
- Invited talk: Spatial-temporal statistical models: some methods and applications.  
Department of Mathematics, University of Houston, Houston, TX, February 2019.
- Contributed talk: Probabilistic modeling of sleep and awake states in Alzheimer’s disease.  
Contributed e-poster: Using wearable devices to quantify modulation of circadian rhythms.

Joint Statistical Meetings (JSM), Vancouver, Canada, August 2018.

- Invited talk: Bayesian space-time models for the analysis of infectious disease surveillance data. Department of Biostatistics, Yale University, April 5, 2016.
- Invited talk: Spatial-temporal statistical models: some methods and applications. IBM Thomas J. Watson Research Center, September 18, 2015.
- Module of Analysis of epidemiological data, Brown-China NIEHS Epidemiology & Biostatistics Workshop, Xi'an China, June 2-5, 2015
- Statistical analysis of the ambient air pollution data in Wuhan, China. China Forum on Public Health, Environment, and Health Policy, Brown University, April, 2015
- Session organizer (invited): Recent advances in Spatial statistics. The 29th New England Symposium (NESS), University of Connecticut, April, 2015
- Invited talk: The use of sampling weights in Bayesian hierarchical models for small area estimation. Department of Statistics, University of Connecticut, CT, November, 2014
- Invited talk: The use of sampling weights in Bayesian hierarchical models for small area estimation. Department of Management Science, Tokyo University of Science, Tokyo, Japan, July 2014
- Invited talk: Bayesian spline models for the analysis of spatial-temporal count data. The 3rd IMS-APRM (Institute of Mathematical Statistics Asia Pacific Rim Meeting), Taipei, Taiwan, July 2014
- Invited talk: Bayesian spatial-temporal models for the analysis of China Hand-foot-mouth surveillance data. China CDC, Beijing, China, June 2014
- Contributed poster: Bayesian spline models for the analysis of spatial-temporal count data. 1st Women in Statistics Conference, Cary, NC, May 2014
- Contributed talk: Space-time models for aggregated infectious disease data with different strains. Joint Statistical Meetings (JSM), Montreal, Canada, August 2013.
- Invited: Bayesian spline models for the analysis of spatial-temporal count data. 15th IMS New Researchers Conference, Montreal, Canada, August 2013.
- Invited talk: Bayesian spline models for the analysis of spatial-temporal count data (In the session of Recent Development in Spatial Statistics) The 27th New England Symposium (NESS), University of Connecticut, April 2013
- Invited talk: Bayesian modeling of health data in space and time Department of Mathematics and Statistics, University of Massachusetts Amherst, April 2013
- Invited talk: Spatial statistics and its applications. S4 GIS Institute, Brown University, January 2013
- Contributed poster: Bayesian spline models for the analysis of spatial-temporal count data. Spatial Statistics Conference, University of Miami, December 2012
- Contributed talk: The use of sampling weights in Bayesian hierarchical models for small area estimation. Joint Statistical Meetings (JSM), San Diego, CA, July 2012.

## **PROFESSIONAL MEMBERSHIPS**

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- American Statistical Association, 2010 – Present
- American Public Health Association, 2023 – Present
- Committee on Women in Statistics (CoWIS), American Statistical Association, 2022 – Present
- Chapter Representative (2024 – Present), Past-president (2023), President (2022), President-elect (2021), Houston Area Chapter of the American Statistical Association (HACASA)