BIG DATA HEALTH SCIENCE CONFERENCE

7TH NATIONAL BIG DATA HEALTH SCIENCE CONFERENCE

February 12-13 2026 | Columbia, SC

Conference Agenda
7TH NATIONAL BIG DATA HEALTH SCIENCE CONFERENCE

Unlocking the Power of Big Data in Health: Bridging the Gap Between Discovery and Delivery

February 12-13th, 2026 | Pastides Alumni Center

Wednesday, February 11th

Exploring SAS Viya: AI, Healthcare, and the Ethics of Data
Optional Pre-Conference Workshop | USC Campus | Pre-registration required
1:00pm – 4:00pm
Rachel McLawhon, SAS

Thursday, February 12th

Registration & Breakfast | Ballroom 2
8:00am – 9:00am

Plenary Sessions | Ballroom 3

Opening & Welcoming Remarks
9:00am – 9:15am
Tara Sabo-Attwood, *PhD, Dean, Arnold School of Public Health Henry Savage Jr. Professor in Environmental Quality and Global Health, University of South Carolina*
Mary Anne Fitzpatrick, *PhD, Executive Vice President for Academic Affairs and Provost, Office of the Provost, University of South Carolina*

Announcement of Case Competition Awards
9:15am – 9:30am
Tara Sabo-Attwood, *PhD, Dean, Arnold School of Public Health Henry Savage Jr. Professor in Environmental Quality and Global Health, University of South Carolina*
Banky Olatosi, *Associate Professor, Health Services Policy and Management, Arnold School of Public Health, University of South Carolina*

Recent Advances across the NIAID Data Ecosystem: Perspectives from the Office of Data Science and Emerging Technologies
9:30am – 10:15am
Reed Shabman, PhD, National Institute of Allergy and Infectious Diseases (*NIAID*)

Integrating Machine Learning Approaches with Pharmacokinetic Databases to Advance Toxicology, Food Safety, and Cancer Nanomedicine
10:15am – 11:00am
Zhoumeng Lin, *PhD, University of Florida*

Coffee Break | Pre-function
11:00am – 11:15am

Bridging Discovery and Delivery, Big Data Intelligence for Stronger Public Health Systems
11:15am – 12:00pm
Jeanine Condo, MD, PhD, Center for Impact, Innovation, and Capacity Building for Health Information and Nutrition

Lunch & Poster Session I | Ballroom 2
12:00pm – 1:00pm

(See full list on page X)

Breakout Sessions (S1-S3)
1:00pm – 3:00pm

S1. Big Data Analytics and Emerging Methodologies | Ballroom 3
Moderator: Jiajia Zhang, PhD (*University of South Carolina*)

AI-Assisted Spatial Data Analysis for Public Health: A Multi-Agent Framework
Zhenlong Li (*Penn State*)

Infectious, Allergic, and Immune-Mediated Disease Data Resources: A Landscape Overview and Subset Assessment
Reed Shabman (*NIAID*)

Analytical Framework for Modeling Differential Co-Expression and Transcriptional Interactions in Single-Cell RNA-Seq
Yen-Yi Ho (*University of South Carolina*)

Reproducible Data Pipeline for Harmonizing Multi-State AIDS Drug Assistance Program Data: Integrating Quality Assurance and Feedback to Strengthen Real-World Evidence
Erin Rogers (*University of Virginia*)

Applying Large Language Models to Characterize Engagement Features in Vaping-Related Instagram Posts
Zidian Xie (*University of Rochester*)

Machine Learning-Directed Discovery and Statistical Validation of Post-COVID-19 Condition Sequelae using Military Health System Data
Jed Shakarji (*Uniformed Services University*)

S2. Big Data for Public Health and Community Health I | Ballroom 1A
Moderator: Shan Qiao, PhD (*University of South Carolina*) and Chen Zhang (*University of Rochester*)

Profiling Demographics, Mental Health Status, and Social Determinants of Health among Substance Users: A Cross-Sectional Analysis using the NIH All of Us Data
Chen Zhang and Yao Tang (*University of Rochester*)

Racial Disparities Before, Not After, Hospitalization: Survival and Propensity-Matched Evidence on COVID-19 In-Hospital Mortality from Medicaid Claims
Shaminul Shakib (*Sam Houston State University*)

Predicting Awareness of Alcohol-Related Cancer Risk among U.S. Adults using Machine Learning: Evidence from the 2024 HINTS Survey
Kesheng Wang (*University of South Carolina*)

Rural-Urban Differences in Prenatal Care Pathways and Perinatal Care Expenditures among Medicaid Birthing People in South Carolina
William Capell (*Prisma Health & University of South Carolina School of Medicine*)

Leveraging Large Language Models to Identify Engagement-Driving Features in Vaping-Related TikTok Videos: A Cross-Sectional Study
Dongmei Li (*University of Rochester*)

Prize Competitions to Engage Researchers in Utilizing Large Datasets: Results of NIDA's All of Us Data Challenge
Sara Lioi (*NIDA*)

S3. Big Data for Biomedical Research | Ballroom 1B
Moderator: Michael Shtutman, PhD (*University of South Carolina*)

Automated Biomedical Hypothesis Generation System: From PubMed to Novel Discoveries
Ilya Tyagin (*University of Delaware*)

Investigating the Combined Effects of Cerebral Atrophy and Tissue Softening on Brain Deformation Response using MRI and MRE Data
Bashar Elkhatib (*University of South Carolina*)

Interpretable AI for LC-MS Glycomics: A Framework for Breast Cancer Biomarker Discovery
Christopher Lee (*University of South Carolina*)

DDX3 Activity Shapes RNA Pools in Stress-Related Ribonucleoprotein Condensates and Controls Stress Granule Abundance, Size, and Compartmentalization
Elizaveta Korunova (*University of South Carolina*)

Unlocking Circannual Rhythms: A Big Data Approach to Integrating Longitudinal Breeding and Epigenomic Data in Biomedical Models
Kim Tuyen Huynh Dam (*University of South Carolina*)

Epigenetic Mechanisms for Spatiotemporal Patterning of Zygotic Genome Activation in Early Embryogenesis
Sarah Spotten (*Colorado State University*)

Coffee Break | Pre-function
3:00pm – 3:15pm

Breakout Sessions (S4-S6)
3:15pm – 5:15pm

S4. Big Data for Public and Community Health II | Ballroom 3
Moderator: Xueying Yang, PhD (*University of South Carolina*)

Enhancing Institutional Data Science Capacity to Bridge Discovery and Delivery in Health Research
Raphael Isokpehi (*NIH*)

Evaluating the Effectiveness of State-of-the-Art LLMs, Prompting and Reasoning Strategies to Annotate Youth Vaping Behaviors on Reddit: A Transtheoretical Model of Change Perspective
Lucas Aust (*University of South Carolina*)

Disparities in Time-to-Treatment for Breast Cancer: The Impact of HIV Co-Diagnosis on Initiating Surgery, Radiation, Chemotherapy, and Hormone Therapy
Preethi Tabitha Ravikumar (*University of West Florida*)

Insurance Coverage, Pregnancy Status, and Receiving Treatment for Substance Use Among Reproductive-Age Women (16-49 years) in the United States – A Cross-Sectional Analysis of the National Survey on Drug Use and Health (NSDUH), 2021-23
Anirban Chatterjee (*University of South Carolina*)

Associations between Adverse Childhood Experiences and Severe Mental Health Disorder(s) among Patients Enrolled in a Patient Navigation Program
Xiaofang Lai (*Clemson University*)

Machine Learning Prediction of 5-Year Breast Cancer Survival in South Carolina: Evaluating the Impact of Targeted Therapy and Clinical Factors
Muyiwa Ategbole (*University of South Carolina*)

Hepatitis C Diagnosis and Treatment among Medicaid Beneficiaries in Kentucky
Bert Little (*University of Louisville*)

S5. Big Data Health Research Perspectives from Global South | Ballroom 1A
Moderator: Banky Olatosi, PhD (*University of South Carolina*)

Variations in Antiretroviral Therapy Loss to Follow-up Rate among Adults Across Nine Provinces of South Africa: A Machine Learning Approach
Edith Phalane (*University of Johannesburg*)

Modelling the Influence of Climate Variability on Vector-Borne Disease Prevalence in South Africa using Big Data Analytics
Lesedi Victoria Monaiwa (*University of Johannesburg*)

Persistent Geospatial Clusters of Zero-Dose Children in Nigeria: Contrasting Trajectories and Community-Level Determinants (2013–2024)
Bola Oyeledun (*Centre for Integrated Health Programs*)

Leveraging Mobile Technology to Promote and Enhance Health Education amongst Adolescent Girls and Young Women in Nigeria: The Cool-Girls App Implementation
David Udanwojo (*Centre for Integrated Health Programs*)

S6. Big Data for Clinical Practice and Patient Care | Ballroom 1B
Moderator: Jessica Gonzalez, RN, DNP, MSN, MSHAPI (*University of South Carolina*)

Are "Baby-Friendly" Hospitals Mother-Unfriendly?
Lindsey Woodworth (*University of South Carolina*)

Parent Mediated Intervention Effects on Language and Behavioral Outcomes in Children with Autism Spectrum Disorder
Mukta Rani (*A.T Still University*)

Image-Based Disease Diagnosis with a Fusion of Convolutional Neural Networks, Cluster Centroids, and Bayesian Optimization
Kelum Gajamannage (*University of Rhode Island*)

Model-Based Machine Learning Approaches for Predicting Mortality in Dementia Patients: Insights from NACC Data (2005–2024)
Tahir Munir (*The Aga Khan University Hospital*)

Creation of the South Carolina Opioid Treatment Dashboard using Statewide Claims Data
Cassie Odahowski (*University of South Carolina*)

Finding Patient Reference Groups with Distinct Effects from Higher Surgery Rates Across Outcomes using Instrumental Variable Generalized Forest Estimates
John Brooks (*University of South Carolina*)

Networking Reception | Presidential Dining Room
5:30pm – 7:30pm

Friday, February 13th

Registration & Breakfast | Ballroom 2
8:30am – 9:30am

Plenary Sessions | Ballroom 3

Integrating Social Network Analysis with Implementation Science: Advancing AI-Powered Health Science through the Diffusion of Blockchain Innovation
9:30am – 10:15am
Kayo Fujimoto, PhD, University of Texas Health Science Center at Houston

The Largest EHR Isn't Epic—It Might Be ChatGPT: Designing the Human-Centered Data Layer of Healthcare
10:15am – 11:00am
Keisuke Nakagawa, *MD, Jacobs Center for Health Innovation at UC San Diego Health*

Coffee Break | Pre-function
11:00am – 11:15am

Unintended Consequences: The Next Gene Sequencing Revolution and the Rise of One Health
11:15am – 12:00pm
Kelley Thomas, *PhD, Hubbard Center for Genome Studies, University of New Hampshire*

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UNIVERSITY OF SOUTH CAROLINA

Lunch & Poster Session II | **Ballroom 2**
12:00pm – 1:00pm

(See full list on page X)

Breakout Sessions (S1-S3)
1:00pm - 3:00pm

S1. NIH Trainee Session | **Ballroom 3**
Moderators: Banky Olatosi, PhD, (*University of South Carolina*) and Xiaoming Li, PhD, (*University of South Carolina*)

R25 Junior Faculty Fellow
Mitchel Colebank (*Department of Mathematics, University of South Carolina*)
Jessica Gonzalez (*College of Nursing, University of South Carolina*)
Joseph McQuail (*Pharmacology, Physiology & Neuroscience School of Medicine, University of South Carolina*)
Chao Cai (*College of Pharmacy, University of South Carolina*)

R25 Community Scholar
April Sumter, (*PALSS Inc.*)
Olympia Witherspoon, (*Sistercare, Inc.*)

T35 Research Traineeship Program
Preethi Tabitha Ravikumar (*University of West Florida*)

R25 Emerging Scholar
Hannah Villanueva, (*University of South Carolina*)

S2. South Carolina Department of Public Health Data Repository | **Ballroom 1A**
Moderator: Paul Sagona, *University of South Carolina*
Panelist: Joshua Sellner, (*South Carolina Department of Public Health*
Panelist: Katie O'Shields Free (*South Carolina Department of Public Health*)
Panelist: Carlos Avalos, (*South Carolina Department of Public Health*)
Panelist: Nick Davidson (*South Carolina Department of Public Health*)
Panelist: Tashauna Lane (*South Carolina Department of Public Health*)

S3. Bridging the Last Mile: Data-Driven Solutions for Implementation Challenges | **Ballroom 1B**
Moderator: Gayenell Magwood, PhD, RN, FAHA, FAAN (*University of South Carolina*)

Translating Evidence into Team-Based Hypertension Care: Data-Driven Implementation of Home BP Monitoring and Lifestyle Support
Sarah Slone (*University of South Carolina*)

The Last Mile is Personal: Big Data and Implementation Science for Tailored, Scalable Intervention
Oluwabunmi Ogungbe (*Johns Hopkins School of Nursing*)

Using Big Data from the Mobile Lifestyle Intervention for Food and Exercise (mLife) Randomized Trial to Inform the Implementation of a Future Mobile Health Intervention
Brie Turner-McGrievy and Christopher Lee (*University of South Carolina*)

From Data to Impact: Connecting Community and Implementation Science
Joni D. Nelson (*Medical University of South Carolina*)

Plenary Sessions | **Ballroom 3**

Bridging the gap between evidence and practice: Exploring implementation research through a sensemaking perspective
3:00pm – 3:45pm
Gregory Maniatopoulos, *PhD, University of Leicester, UK*

Closing Remarks & Announcement of Awards | **Ballroom 3**
4:00pm – 4:15pm

Poster Session I | **Ballroom 2**

P1. How Can a Data-Driven Chatbot Using Geographic Information Systems (GIS) Improve Patient Access to Maternal Healthcare Services? A Systematic Literature Review
Bharat Sowrya Yaddanapalli (*University of South Carolina*)

P2. Post-transition Care Retention and Viral Suppression Outcomes Among Youth Living with HIV in South Carolina: A Real-world Data Research
Hao Zhang (*University of South Carolina*)

P3. From Claims to Care: Big-Data–Driven Adherence Trajectories to Antipsychotics in South Carolina Medicaid
Chao Cai (*University of South Carolina*)

P4. Machine Learning Application in HIV Prevention and Testing in Resource-Limited Settings: A Systematic Review
Cuihong Huang (*University of South Carolina*)

P5. Blood Cancers Among Adults in Haiti: Types and Characteristics from January 2015 to September 2020
Emmanuel Julceus (*University of South Carolina*)

P6. Grouped Spatio-Temporal Data Autoregressive Analysis: A Case Study of HIV Late Diagnosis Rate in South Carolina
Fanghua Chen (*University of South Carolina*)

P7. Creating a New Diathesis Stress Index for Stimulant Use Disorder: Clinical Risk Prediction Modelling in the All of Us Dataset
Gazi Sakir Mohammad Pritom (*University of South Carolina*)

P8. A Conceptual Design Framework for Designing an Empathetic Chatbot with Nudging Techniques to Support Parents in the Postpartum Period
Jiaxuan Zhang (*University of South Carolina*)

P9. Timing of First Neuroimaging in Alzheimer's Disease: A Multicenter Competing-Risk Analysis of Genetic, Cognitive, and Social Determinants
Joshua Korley (*University of South Carolina*)

P10. Creating Machine Learning Models for Optimization of EEG Data Processing
Kaitlyn Murphy (*University of South Carolina*)

P11. Evaluating Diagnostic Strategies for Tenofovir-Associated Kidney Injury in Sub-Saharan Africa
Ketlareng Polori (*University of Johannesburg*

P12. Associations of Health Literacy with the Prevalence of Cardiovascular Diseases and Their Risk Factors in West Virginia
Kesheng Wang (*University of South Carolina*)

P13. Between- and Within-Subject Associations Between Daily Physical Activity and Cognitive Function in Older Adults
Liyan Xiong (*University of South Carolina*)

P14. Uncertainty-Aware Machine-Learning Classification of Structural Heart Disease Through Echocardiography
Mitchel Colebank (*University of South Carolina*)

P15. Head and Neck Cancer Characteristics Among Adults in Haiti (2015–2020)
Natacha Julceus Fabien (*Polyclinique Magloire Ambroise*)

P16. Functional Impairment and Engagement in Advance Care Planning Among Older Americans with Alzheimer's Disease and Related Dementia
Oluranti Babalola (*University of South Carolina*)

P17. Computing the Constrained Longest Common Substring of Two Strings
Rao Li and Richy Modugu (*University of South Carolina Aiken*)

P18. Big Data Research in Primary Healthcare: Constructing the "Labeled" Learning Database to Support AI
Stephen Lloyd (*University of South Carolina*)

P19. Big Data Approaches to Enhance Accuracy and Reproducibility in MRI Analysis for Alzheimer's Disease
Tia Warrick (*Juniata College*)

P20. Analyzing Workforce Demand for Autism Intervention Services Using Large Language Models and Job Postings Big Data
Weiwei He (*Independent Researcher*)

P21. Leveraging Mobile Technology to Promote Health Education Among Adolescent Girls and Young Women in Nigeria: The Cool-Girls App Implementation
David Udanwojo (*Centre for Integrated Health Programs, Nigeria*)

P22. Benchmarking Classical and Deep Learning Survival Models Using Simulated and High-Dimensional Clinical Data
Menglin Shang (*University of South Carolina*)

P23. Evaluating the Causal Relationship Between Sleep Traits, Sleep Disorders, and Risk of B-Cell Acute Lymphoblastic Leukemia: A Two-Sample Mendelian Randomization Study
Nadine El Kalach (*University of South Carolina*)

P24. Machine Learning Diagnosis of Peripheral Arterial Disease from CT-Angiography (CTA) Images
Shrikant Pawar (*Claflin University*)

P25. AI-Enabled Construction of Aligned Collagen Using Two-Photon Techniques
Shrikant Pawar (*Claflin University*)

Poster Session II | Ballroom 2

P1. Treatment Utilization Among Adults with Co-occurring Substance Use and Mental Health Disorders (2018-2023): A Study Based on All of Us Program
Abdul-Hanan Saani Inusah (*University of South Carolina*)

P2. Effectiveness Of An E-learning Management System in Improving Quality Assurance of Rapid HIV Test Outcomes in Gauteng, South Africa: A Retrospective Quasi-Experimental Study
Amanda Mohlala (*University of Johannesburg*)

P3. Estimating The Spatial Prevalence of Rickettsia and Ehrlichia Spp. In Amblyomma Americanum (Lone Star Ticks) In South Carolina with A Pooled Testing Approach
Chao Ma (*University of South Carolina*)

P4. Variations In Prenatal, Intrapartum, and Postpartum Care Spending Among Medicaid Beneficiaries by Hospital Annual Birth Volume in South Carolina

Chen Zhang (University of South Carolina)

P5. The Lifestyle Of New Middle-Aged And Older Adults in Taiwan Described by Wearable Device: Age and Gender Differences
CHIH-Liang Wang (*University of South Carolina*)

P6. Turning Data into Direction: The South Carolina Health Compass
Claire Carey (*SC Department of Public Health*)

P7. Victim Assistance Using Large Language Models: The Case of a Massive Earthquake in Hatay, Turkey
Cantay Caliskan and Ezgi Siir Kibris (*University of Rochester*)

P8. Developing The Latent Environmental Vulnerability Affecting Stimulant Use Disorder in All of Us Dataset
Gazi Sakir Mohammad Pritom (*University of South Carolina*)

P9. Geospatial–ai Approaches for Automated Detection of Mosquito Larval Habitats
Huan Ning (*Emory University*)

P10. Past The Barrier, Past Assumptions: Stage, Support, And Survival in Breast Cancer Patients Living With HIV
Jessica Gonzalez (*University of South Carolina*)

P11. Predicting The STI Prevalence, Transmission Dynamics and Trends in South African Adults Using the Repeated South African National Survey 2017
Joy Hlengiwe Mhlongo (*University of Johannesburg*)

P12. Clinicians Vs. C-suite: A Qualitative Synthesis of Interviews on AI And Big-data Analytics in Health Care
Krishma Patel (*University of South Carolina*)

P13. National And Regional Trends of Mental Health Disorders Among Older Adults Treated in The U.S. State Mental Health System
Tareq Ferdous Khan (*Clemson University*)

P14. Racial And Residential Disparities in Postpartum Sepsis Readmission Within One Year of Delivery Discharge: A Population-based Cohort Study in South Carolina
Utba Bin Rashid (*University of South Carolina*)

P15. Prediction Of HIV/STI Risk Factors Among Pregnant Women in South Africa Using a National Repeated Cross-sectional Survey
Mohlago Seloka (*University of Johannesburg*)

P16. Trends In Birth Setting in Florida During The COVID-19 Pandemic by Maternal Race, Ethnicity, And Residence Location
Peiyin Hung (*University of South Carolina*)

P17. Assessing Public Perception of E-cigarette Harms on Twitter Using Large Language Models
Puhua Ye (*University of Rochester Clinical & Translational Science Institute*)

P18. Social Injustice Among Men Who Have Sex with Men in Ghana: Prevalence and Contributing Factors Among Those Who Disclose Their Sexual Identity
Ratif Abdulai (*University of Johannesburg*)

P19. Reasoning-enhanced Large Language Model Annotation Strategies for Behavioral Health Insights on Reddit Discourse
Sai Vuruma (*University of South Carolina*)

P20. Initiation And Retention of Opioid Use Disorder Treatment Medication After Emergency Department Discharge Among South Carolina Medicaid Enrollees
Skylar Gross (*University of South Carolina*)

P21. Measuring Global Structural Oppression in Free-text Identity Data Via Rule-guided Large Language Models
Sreejato Chatterjee (*University of Rochester*)

P22. Unleashing The Genie: Doubling Quality at Half the Cost Potential Impact of Big Data and AI On Healthcare
Stephen Lloyd (*University of South Carolina*)

P23. Perceptions, Contexts of Use, Health Effects, And Co-occurring Substance Use for Cocaine: A Social Media Analysis
Wonkyung Kniffen (*University of Rochester Medical Center*)

P24. Real-world Evidence of Psychiatric Disorders Associated with Cannabis Use: A Pharmacovigilance Analysis From 2015 To 2024
Xiangxiang Jiang (*University of South Carolina*)

P25. Revisiting The Positivity Bias: Nonlinear Age Effects on Valence Perception Across Adulthood
Xuan Yang (*University of South Carolina*)

P26. Using Machine Learning Models to Predict COVID-19 Vaccine Hesitancy in Rural Populations During the Pandemic: A Cross-sectional Study
Yang Ge (*University of Georgia*)

P27. Socio-behavioral Gradients and Mental-health Comorbidities Across Substance-use Complexity: Insights from the NIH All of Us Data
Yu Liu (*University of Rochester*)

P28. Variation In Postpartum Care Initiation Among Medicaid Beneficiaries Across South Carolina Hospitals
Yunqing Ma (*University of South Carolina*)

P29. The Role of Low-profile Antiphospholipid Antibodies and Adverse Pregnancy Outcomes
Eugenia Chock (*Yale University*)

P30. County-Level Telecommunication Capacity and Prenatal Telehealth Uptake in South Carolina (2018–2023)
Rithi Ramamurthy (*University of South Carolina*)

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