10/07/2026

CURRICULUM VITAE

NAME Blake M. Hanson, M.S., Ph.D.

EXECUTIVE SUMMARY

Dr. Blake Hanson is an Associate Professor of Epidemiology at UTHealth Houston with expertise in infectious disease epidemiology, antimicrobial resistance (AMR), and the development of scalable surveillance systems integrating genomic, clinical, and wastewater data. His research focuses on advancing early detection and response to emerging pathogens through innovative data-driven approaches, including statewide wastewater monitoring and real-time analytic platforms. Dr. Hanson has led and contributed to multiple NIH- and CDC-funded projects supporting public health surveillance, workforce development, and antimicrobial stewardship.

PRESENT TITLE(s)

Associate Professor with Tenure
Center for Infectious Diseases
Department of Epidemiology, UTHealth School of Public Health at Houston
University of Texas Health Science Center at Houston

Faculty, Regular Member
Graduate School of Biomedical Sciences
University of Texas Health Science Center at Houston

Adjunct Assistant Professor of Medicine
Department of Medicine
Houston Methodist Academic Institute

ADDRESS

PHB 911.09
1930 Old Spanish Trail
Houston, TX 77054

UNDERGRADUATE EDUCATION

Augustana College
Rock Island, IL
September 2004 - May 2008
Degree: Bachelor of Arts

GRADUATE EDUCATION

The University of Iowa, College of Public Health
Iowa City, IA
May 2010 – December 2013
Degree: Doctorate of Philosophy, Epidemiology
Thesis: “Determination of the prevalence and incidence, molecular characterization, and nasal and pharyngeal colonization patterns of *Staphylococcus aureus* among urban and rural Iowans”

The University of Iowa, College of Education
Iowa City, IA
September 2011 - May 2013
Degree: Graduate Certificate in College Teaching

The University of Iowa, College of Public Health
Iowa City, IA
September 2008 - May 2010
Degree: Master of Science, Epidemiology

POSTGRADUATE TRAINING

Postdoctoral Associate
Weinstock Laboratory
The Jackson Laboratory for Genomic Medicine
January 2014 – August 2017

ACADEMIC APPOINTMENTS

September 2026 – Present
Associate Professor with Tenure
Center for Infectious Diseases
Department of Epidemiology, UTHealth School of Public Health at Houston
University of Texas Health Science Center at Houston

March 2024 – Present
Adjunct Assistant Professor of Medicine
Houston Methodist Academic Institute
Houston, Texas

April 2022 – Present
Faculty, Regular Member
Graduate School of Biomedical Sciences
University of Texas Health Science Center at Houston

October 2017 – August 2026
Assistant Professor
Center for Infectious Diseases
Department of Epidemiology, UTHealth School of Public Health at Houston
University of Texas Health Science Center at Houston

September 2021 – September 2024
Assistant Professor
Division of Pediatric Infectious Diseases, McGovern Medical School
University of Texas Health Science Center at Houston

October 2017 – September 2024
Associate Director of the Center for Antimicrobial Resistance and Microbial Genomics (CARMiG)
The University of Texas Health Sciences Center
Houston, Texas

October 2017 – September 2021
Assistant Professor
Division of Infectious Diseases, McGovern Medical School
University of Texas Health Science Center at Houston

January 2014 – August 2017
Postdoctoral Associate
Mentor: Dr. George Weinstock
Weinstock Laboratory
The Jackson Laboratory for Genomic Medicine
Farmington, Connecticut

October 2008 – December 2013
Graduate Research Assistant
Center for Emerging Infectious Diseases, The University of Iowa
College of Public Health
Iowa City, Iowa

October 2008 – December 2010
Graduate Research Assistant
Health Effectiveness Research Center, The University of Iowa
College of Public Health
Iowa City, Iowa

PROFESSIONAL ORGANIZATIONS

Local
- Iowa Academy of Science (2009-2010)

National
- American Heart Association (2024 – Current)
- American Society of Microbiology (2009 – Current)
- American Public Health Association (2009, 2024 – Current)
- Infectious Disease Society of America (2013, 2023 – Current)

HONORS AND AWARDS

September 2020 – November 2023, Antimicrobial Resistance Leadership Group (ARLG) Trialist in Training

January 2015 – March 2017, JAX Scholar Postdoctoral Fellow
The Jackson Laboratory for Genomic Medicine

April 2013, Oral Presentation Student Award Winner
2nd Great Plains Emerging Infectious Diseases Conference, Iowa City, Iowa, 2013

April 2013, Poster Session Award Winner
The University of Iowa Health Sciences Research Week
The University of Iowa

September 2011, ASM student presenter travel grant
Funded attendance to the 2nd ASM conference on methicillin-resistant staphylococci in animals, Boston, USA, 2011

May 2009 – May 2010, Elected Vice President
The College of Public Health Student Association
College of Public Health
The University of Iowa

May 2009 – May 2010, Elected President

Epidemiology Student Association
College of Public Health
The University of Iowa

September 2009, ASM student presenter travel grant
Funded attendance to the ASM conference on methicillin-resistant staphylococci in animals, London, England, 2009

PAST AND CURRENT TEACHING ACTIVITIES

Course Instructor, Epidemiology and Control of Infectious Diseases
January 2020 – Present
Course, design, discussion facilitation, instruction
The University of Texas School of Public Health

Course Instructor, Intermediate Epidemiology
June 2018 – Present
Course design, discussion facilitation, instruction
The University of Texas School of Public health

Journal Club Coordinator, Summer Student Journal Club
June 2014 – August 2014
Course design, discussion facilitation
The Jackson Laboratory for Genomic Medicine

Teaching Assistant, Epidemiology III: Theories
August 2013 – December 2013
Course design, discussion facilitation, teach select lectures
The University of Iowa

Teaching Assistant, Epidemiology of Infectious Diseases
August 2012 – December 2012
Assist in course design and teach select lectures
The University of Iowa

Teaching Assistant, Epidemiology II: Advanced Methods
January 2012 – May 2012
Assist in course design and teach select lectures
The University of Iowa

Journal Club Coordinator, Department of Epidemiology
October 2011 – May 2013
Bi-weekly journal club
The University of Iowa

Teaching Assistant, Zoonotic Diseases
June 2011
Two-week summer course
The University of Iowa

Video Session Coordinator, Epidemiology of Infectious Diseases
August 2010 – December 2010; August 2011 – December 2011
Video Selection, Core Curriculum

The University of Iowa

Seminar Coordinator, Department of Epidemiology
May 2010 – May 2012
Weekly seminar course
The University of Iowa

SERVICE – THE UNIVERSITY OF TEXAS HEALTH SCIENCES CENTER

Co-Coordinator for The Infectious Disease Epidemiology Certificate
August 2023 - Present
School of Public Health

Texas Epidemic Public Health Institute Wastewater Committee
August 2022 – Present
School of Public Health

Texas SARS-CoV-2 Variant Detection Network Steering Committee
University of Texas Health Sciences Center
October 2021 – March 2025

UTHealth COVID-19 Clinical Research Workgroup
July 2020 – January 2022

SPH Preliminary Exam Committee
August 2019 – June 2022
Department of Epidemiology
School of Public Health

SPH Center for Infectious Disease Faculty Search Committee
August 2019 – September 2021
Department of Epidemiology
School of Public Health

SPH Human Genetics Center Faculty Search Committee
August 2019 – July 2020
Department of Epidemiology
School of Public Health

SPH IT Faculty Advisory Committee
January 2019 – current
School of Public Health

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES

Ad hoc Reviewer – NIH Urological Systems Function and Dysfunction (ZRG1 KURS-B 83) study section
March and July 2026 sessions

Early Career Reviewer – NIH Etiology, Diagnostic, Intervention and Treatment (EDIT) study section
June 2024 session

Antimicrobial Resistance Leadership Group Diagnostics Committee
February 2022 – Present

American Heart Association Fellowship Reviewer – Genomics and Translational Biology committee
2023 Cycle – 2025 Cycle

American Heart Association Career Development Award Reviewer – Population committee
2022 Cycle

EDITORIAL POSITIONS

Antimicrobial Agents and Chemotherapy – Editorial Board
January 2021 – Current

APHA Control of Communicable Diseases Manual – Editorial Board
March 2025 – Current

Ad-hoc reviewer for journals including: Antimicrobial Agents and Chemotherapy, Advances in Microbiology Infectious Diseases and Public Health, BMC Infectious Diseases, Cell Reports, Clinical Infectious Diseases, Communications Biology, Frontiers, Genome Medicine, Heliyon, International Society for Microbial Ecology, Journal of Antimicrobial Chemotherapy, Journal of Antimicrobial Chemotherapy – Antimicrobial Resistance, JAMA, Journal of Clinical Microbiology, Journal of Infectious Disease, Journal of Microbiology Methods, mBio, Microbial Genomics, Microbiology Spectrum, mSphere, Nature, Nature Communications, Nature Microbiology, Nature Scientific Reports, New England Journal of Medicine, Plos ONE, PLOS Pathogens

SERVICE – THE JACKSON LABORATORY

Postdoctoral Association Co-Founder
February 2014 – August 2017
The Jackson Laboratory for Genomic Medicine

SERVICE – THE UNIVERSITY OF IOWA

Seminar Coordinator
December 2011 – May 2013
Department of Epidemiology
College of Public Health

Journal Club Coordinator
May 2010 – May 2012
Department of Epidemiology
College of Public Health

SPONSORSHIP OF CANDIDATES FOR GRADUATE DEGREE

Jesus Duran Ramirez
PhD Student in Microbiology and Molecular Genetics
2022 – Current

Hossaena Ayele
PhD Candidate in Epidemiology
2021 – Current

An Q. Dinh
PhD Student in Epidemiology
2021 – Current

Shezeen Gillani
MPH degree conferred 2023
PhD Student in Epidemiology
2020 – Current

Shelby R. Simar, MPH, PhD
MPH degree conferred 2019
PhD conferred 2024
2017 – 2024

William C. Shropshire, MPH, PhD
PhD conferred 2020
2017 – 2020

SPONSORSHIP OF POSTDOCTORAL FELLOWS

Kyle Buchan, PhD
July 2024 – September 2026
Current position: Current position: Faculty Instructor, Molecular Virology & Microbiology, Baylor College of Medicine

Shelby R. Simar, MPH, PhD
August 2024 – April 2025
Current position: Faculty Instructor, Molecular Virology & Microbiology, Baylor College of Medicine

Naomi Bier, PhD
November 2019 – April 2022
Current position: Legal Administrator – The Law Office of Elchonon Reizes, PLLC

SPONSORSHIP OF VISITING SCHOLARS

Luis Antonio Gonzalez Villaseca
2019
Pre-Baccalaureate Trainee

Alex Deyanov
2022-2023
Professional Trainee

Haley Greenia

2022-2023
Professional Trainee

SERVICE ON STUDENT THESIS AND EXAM COMMITTEES

Sandile Ndabezitha
PhD Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Biostatistics
Spring 2025 - Present

Jan Catindig
PhD Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Health Promotion & Behavioral Sciences
Spring 2025 - Present

Jesus Duran Ramirez, MPH
PhD Thesis
Role: Committee Member
Institution: MD Anderson-UTHealth Houston Graduate School of Biomedical Sciences
Program: Microbiology and Molecular Genetics
Fall 2023 – Present

Jana Gomez, MS
PhD Thesis
Role: Committee Member
Institution: MD Anderson-UTHealth Houston Graduate School of Biomedical Sciences
Program: Microbiology and Molecular Genetics
Summer 2022 – Spring 2026

Gretchen Morrison
PhD Thesis
Role: Committee Member
Institution: MD Anderson-UTHealth Houston Graduate School of Biomedical Sciences
Program: Microbiology and Molecular Genetics
Spring 2022 – Summer 2026

Olivia Morris
MPH Thesis
Role: Thesis Chair
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2022 – Summer 2023

William Shutze, MPH
Integrated Learning Experience
Role: Integrated Learning Experience Preceptor
Institution: UTHealth Houston School of Public Health

Program: Epidemiology
Fall 2022 – Spring 2023

Rachel Atterstrom, MPH
MPH Thesis
Role: Thesis Chair
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2022 – Spring 2023

Sreyya Sudharsan Raamasamy, MS
MS Thesis
Role: External Committee Member
Institution: MD Anderson
Program: Diagnostic Genetics
Summer 2022 – Summer 2023

Jesus Duran Ramirez, MPH
MPH Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2021 – Spring 2022

Shelby R. Simar, MPH, PhD
PhD Thesis
Role: Thesis Chair
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2021 – Summer 2024

Shezeen Gillani, MPH
MPH Thesis
Role: Thesis Supervisor
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2021 – Fall 2021

Fernanda Valasco-Huerta, MPH
MPH Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2021 – Fall 2021

Anika Stakov, MPH
MPH Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2021 – Summer 2021

Katherine Bay, MPH, PhD

PhD Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2021 – Spring 2022

Marissa Gagliardo, MPH
MPH Thesis
Role: Committee Member
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2020 – Summer 2021

Yasmine Hoballah, MS
MS Thesis
Role: External Committee Member
Institution: MD Anderson
Program: Diagnostic Genetics
Summer 2020 – Summer 2021

Chioma Odo, PhD
PhD Thesis
Role: External Committee Member
Institution: MD Anderson-UTHealth Houston Graduate School of Biomedical Sciences
Program: Microbiology and Molecular Genetics
Fall 2019 – Spring 2024

Chioma Odo, PhD
PhD Comprehensive Exam
Role: External Committee Member
Institution: MD Anderson-UTHealth Houston Graduate School of Biomedical Sciences
Program: Microbiology and Molecular Genetics
Fall 2019 – Spring 2020

Camden Hallmark, MPH, PhD
PhD Thesis
Role: Thesis Chair
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Spring 2019 – Spring 2021

William C. Shropshire, MPH, PhD
PhD Thesis
Role: Thesis Chair, Thesis Supervisor
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2018 – Fall 2020

Kirsten Bevan Rydell, MPH
Master's Thesis
Role: Thesis Chair, Thesis Supervisor

Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2018 – Spring 2019

Shelby R. Simar, MPH, PhD
MPH Thesis
Role: Thesis Chair, Thesis Supervisor
Institution: UTHealth Houston School of Public Health
Program: Epidemiology
Fall 2018 – Spring 2019

MENTORING AND ADVISING ACTIVITIES

Postdoctoral Mentor

Kyle Buchan, PhD
July 2024 – September 2026

Shelby R. Simar, MPH, PhD
August 2024 – April 2025

Naomi Bier, PhD
November 2019 – April 2022

Postdoctoral Co-mentor

Ryan Valdez, PhD
August 2025 – Current
Mentor: Danielle Garsin, PhD

Henok Tegegne
September 2023 – August 2025
Mentor: Tor Savidge, PhD

Mahesh Prasad Bekal, PhD
May 2023 – April 2025
Mentor: Yoshua Esquenazi Levy, MD

Taryn Eubank, PharmD
July 2021 – June 2023
Mentor: Kevin Garey, PharmD

PhD Advisor

Melissa Freeland
2025 - Current

Benjamin Cristol
2025 – Current

Hossaena Ayele
2021 – Current

An Q. Dinh
2021 – Current

Shezeen Gillani

2020 – Current

Shelby R. Simar, MPH, PhD
2017 – 2024

Tahani Hamdan
2020-2023

Camden Hallmark, PhD
2020 - 2021

William C. Shropshire, MPH, PhD
2017 – 2020

MPH Advisor Lyutha Abid
2025-Current

Solomon Awadzie
2025-Current

Emily Giddings
2025-Current

Cortni McGhee
2025-Current

Stuti Parikh
2025-Current

Adedolapo, Adewunmi
2025-Current

Karen Almendariz
2025-Current

Gabryelle Harlan
2025-Current

Josary Valerion
2025-Current

Olivia Jones
2024-2025

Abigail Jyrkila
2024-Current

Olivia Morris
2023-2025

Brian Ortiz
2022-2025

Aiza Nisar
2022-2024

Jennifer Reiss
2021-2024

Abigail Amaya
2023-2024

Shezeen Gillani
2021-2023

Zarrin-Taj Gomez-Benson
2021-2023

Muhammad Virk
2022-2023

Rachel Atterstrom
2022-2023

Sungho Park
2022-2023

Chelsea Prescott
2022-2023

Lorrie Hill
2021-2023

Julie Liu
2021-2023

Frederick Cramer
2021-2022

Tiffany Dimaano
2021-2022

Adanma Ezenekwe
2021-2022

Tyler Swate
2021-2022

Fernanda Velasco-Huerta
2021-2022

Marissa Gagliardo
2021

Megan Mai
2020-2021

Alauna Hunt
2020-2021

Tara Prezioso
2019-2021

Shelby Simar
2019-2020

Arunangshu Sakar
2019-2020

Shivani Lokesh
2019-2020

MS Advisor Kirsten Rydell
2019-2020

Undergraduate students Anne-Marie Saldana
2023
Undergraduate Research Technician

Amber Santiago
2022
MicroSURP student

Benjamin Black
2022
Undergraduate Research Technician

GSBS rotation tutorials Kerianalee Rivera Cruz, MS
2026
Microbiology and Infectious Disease, GSBS

Jesus Duran Ramirez, MPH
2022
Microbiology and Infectious Disease, GSBS

Additional laboratory members Timothy Cruz, MPH
2022-Current

Haider Al Rustem, MS
2021-Current

Tayler Hunter
2023-2025

Amber Santiago
2022-2025

MENTEES WHO HAVE SECURED COMPETATIVE FELLOWSHIP FUNDING SUPPORT

Mentee: Hossaena Ayele
Fellowship Type: Predoctoral
Agency: American Heart Association
Type of Grant: Predoctoral Fellowship
Fellowship Title: *Elucidate the impact of polymicrobial interactions on antimicrobial-resistant Enterococcus faecium in the gut microbiome*
Role: Mentor
Dates of Award: January 2026 – December 2027

Mentee: Jesus Duran Ramirez
Fellowship Type: Predoctoral
Agency: American Heart Association
Type of Grant: Predoctoral Fellowship
Fellowship Title: *Determining the role of genomic adaptations in Staphylococcus aureus disease severity*
Role: Co-Mentor
Dates of Award: January 2025 – December 2026

Mentee: Ryan Valdez
Fellowship Type: Postdoctoral
Agency: NIH NIAID
Type of Grant: T32
Fellowship Title: *Texas Medical Center Training Program in Antimicrobial Resistance (TPAMR)*
Role: Co-Mentor
Dates of Award: August 2025 – July 2027

Mentee: Henok Tegegne
Fellowship Type: Postdoctoral
Agency: NIH NIAID
Type of Grant: T32
Fellowship Title: *Texas Medical Center Training Program in Antimicrobial Resistance (TPAMR)*
Role: Co-Mentor
Dates of Award: September 2023 – August 2025

Mentee: Mahesh Prasad Bekal
Fellowship Type: Postdoctoral
Agency: Texas CPRIT
Type of Grant: Fellowship
Fellowship Title: *McWilliams School of Biomedical Informatics at UTHealth Houston, Genomics and Translational Cancer Research Training Program (BIG-TCR) Fellowship*
Role: Co-Mentor
Dates of Award: May 2023 – April 2025

Mentee: Taryn Eubank, PharmD
Fellowship Type: Postdoctoral
Agency: NIH NIAID
Type of Grant: T32
Fellowship Title: *Texas Medical Center Training Program in Antimicrobial Resistance (TPAMR)*

Role: Co-Mentor
Dates of Award: July 2021 – June 2023

Mentee: Shelby Simar, MS
Fellowship Type: Predoctoral
Agency: NIH NIAID
Type of Grant: T32
Fellowship Title: *UTHealth Molecular Basis of Infectious Disease Research Training Fellowship*
Role: Mentor
Dates of Award: September 2020 – August 2022

Mentee: Naomi Bier, PhD
Fellowship Type: Postdoctoral
Agency: NIH NCADS
Type of Grant: TL1
Fellowship Title: *UTHealth Center for Clinical and Translational Sciences TL1 Training Program Fellowship*
Role: Mentor
Dates of Award: May 2020 – April 2022

RESEARCH SUPPORT

A. ACTIVE RESEARCH SUPPORT
NIST: Congressional Allocation (Hanson)
High-performance computing cluster for AI and interdisciplinary biomedical research at the University of Texas Health Science Center
09/01/2026-08/31/2028
This project aims to deploy and operationalize a centrally managed, secure high-performance computing (HPC) environment to support data-intensive artificial intelligence (AI), machine learning, and interdisciplinary biomedical research at UTHealth Houston. The system will integrate scalable CPU and GPU resources, high-speed networking, and tiered storage infrastructure to enable large-scale parallel computing and analysis of complex datasets. The platform is designed as a HIPAA-compliant, controlled-access environment to support secure integration of clinical and population-level data, while also providing training and workflow optimization to facilitate adoption across research groups. Ultimately, the project will expand institutional capacity for advanced computing, enable scalable and reproducible scientific workflows, and support data-driven discovery across diverse biomedical domains.
Direct Costs: $1,031,000
Role: Principal Investigator

NIH/NIOSH (Hanson): R21
09/30/2026-09/29/2028
Prevalence of bovine tuberculosis among dairy farm workers in Texas and New Mexico, USA
This project aims to determine the prevalence of bovine tuberculosis (bTB) among dairy farm workers in Texas and New Mexico and evaluate occupational risk factors associated with exposure to infected cattle. The study will use epidemiological and diagnostic approaches to identify evidence of bTB infection in workers and assess patterns of transmission within dairy farm settings. Findings from the project will support the development of targeted surveillance, prevention, and control strategies to reduce zoonotic tuberculosis risks among agricultural workers.
Direct Costs: $274,995
Role: Principal Investigator

Fidelity Foundation/Baylor College of Medicine
Gulf Coast Climate Health Early Warning Systems
06/01/2025 - 05/31/2030
This project aims to develop and evaluate climate-informed early warning systems to identify and mitigate health risks associated with extreme weather and environmental hazards along the Gulf Coast. The study will integrate climate, environmental, and public health data to predict disease outbreaks and other climate-sensitive health outcomes, support timely public health responses, and strengthen community resilience. Findings will inform strategies for protecting vulnerable populations and enhancing regional climate-health preparedness.
Direct Costs: $209,016 (2026 annual)
Role: Co-Investigator

Burroughs Wellcome Fund/Baylor College of Medicine
FORECAST (Forecasting Outcomes through Resilience, Education, Climate, and Sustainability for Texas)
08/01/2026-07/31/2031
This project will develop and validate an AI-enabled, integrated surveillance framework that links de-identified clinical and community-level data to characterize disease patterns and associated pathogen signals, supporting scalable approaches to emerging infectious disease monitoring and public health decision-making.
Direct Costs: $2,597,902
Role: Key Personnel

NIH/NIAID (Wu): R01AI192873
A wastewater approach to viral transmission, evolution, and ecology
07/01/2025-06/30/2030
This project aims to develop an advanced wastewater-based surveillance framework to improve early detection and forecasting of viral infectious diseases. By integrating computational modeling and next-generation sequencing, the study seeks to enhance understanding of viral transmission, evolution, and ecology at the community level. While SARS-CoV-2 serves as a model pathogen, the methodologies developed are designed to be adaptable across diverse viral threats, thereby strengthening public health infrastructure and pandemic preparedness.
Direct Costs: $1,850,199
Role: Co-Investigator

NIH/NICHHD: 1DP1HD115427-01 (Kay)
Wastewater surveillance to enhance the public health response to HIV and TB in Eswatini
01/01/2025-07/31/2029
This project aims to establish and validate wastewater-based surveillance methods for detecting HIV and tuberculosis (TB) as a complementary tool to traditional public health reporting in Eswatini. The study will utilize molecular and sequencing technologies to detect viral and bacterial pathogens in sewage and compare these data with clinical surveillance across communities with varying disease burdens. Wastewater samples will also be monitored longitudinally in conjunction with infection control and case-finding interventions. By linking wastewater and clinical pathogen data, the project seeks to inform future integration of wastewater-based epidemiology into national TB and HIV surveillance strategies.
Direct Costs: $1,750,000
Role: Co-Investigator

NIH/NIAID: 2R01AI132354-06 (Krachler)
Mechanoregulation of EHEC Virulence
06/21/2024 – 06/20/2029
This project aims to understand how bacteria sense and respond to physical forces as environmental cues, particularly focusing on enterohemorrhagic E. coli (EHEC). Key discoveries include identifying the transcriptional regulator GrlA, which controls the LEE pathogenicity island-encoded type 3 secretion system in

response to mechanical stimuli. GrlA dissociates from the inner membrane under shear force, activating virulence factors. The project will further investigate the mechanoregulation of Shiga toxin and its impact on gut motility and microbial competition within the host.
Direct Costs: $1,498,372
Role: Co-Investigator

B. PENDING RESEARCH SUPPORT
NIH/NIDDK: R01 (Walker)
Elucidation of host-pathogen and pathogen-pathogen interactions driving genomic adaption within the catheterized urinary tract
12/01/2026-11/30/2031
Urinary catheterization, the most common medical procedure in the US, increases the risk of developing i) asymptomatic bacteriuria (ASB), which can act as a reservoir for multidrug resistant uropathogens and ii) symptomatic catheter associated urinary tract infections (CAUTIs), which can progress to more severe sequela such as bacteremia and sepsis. Notably, ASB and CAUTI are often polymicrobial, with understudied uropathogens—including the gram-positive bacteria Staphylococcus aureus and Enterococcus faecalis—being some of the most frequent microbes persisting in individuals with long-term urinary catheters. This proposal leverages longitudinally collected S. aureus and E. faecalis isolates from individuals with long-term urinary catheters to determine how host-pathogen and pathogen-pathogen interactions drive genomic adaptions that i) impact pathogenesis and persistence; ii) impact polymicrobial interactions; and iii) arise and are selected for during persistent ASB and CAUTI.
Direct Costs: $3,893,688
Role: Co-Investigator

NIH/NIAID: R01 (Hanson)
Investigating the expansion of multi drug resistant Klebsiella pneumoniae in the urinary tract
04/01/2027-03/31/2032
This project aims to investigate the increasing prevalence of urinary tract infections (UTIs) caused by multidrug-resistant (MDR) *Klebsiella pneumoniae*, with a particular focus on the CG307 lineage. Preliminary data suggest that CG307 exhibits enhanced tissue tropism for the urinary tract, potentially contributing to the rising incidence of *K. pneumoniae* UTIs in the United States. The study will characterize the prevalence, clonal distribution, and urinary tract adaptation of MDR *K. pneumoniae* isolates across the Gulf Coast region. Findings will inform antimicrobial stewardship, guide empiric treatment decisions, and support infection control strategies to mitigate the impact of MDR pathogens and improve clinical outcomes.
Direct Costs: $2,720,648
Role: Principal Investigator

NIH/NIAID: R01 (Hanson)
A Clinical Application for Pathogen Genomic Insights in Healthcare Excellence: Enhancing GENO-STELLAR for Hospital-wide surveillance
12/01/2026 – 11/30/2031
This project aims to expand GENO-STELLAR's support to additional pathogens and enhance its current features and functionality. By implementing antimicrobial susceptibility predictive models and improving integration with existing systems, we seek to create a rapid, accessible, and clinically actionable tool. Ultimately, we plan to conduct a clinical trial to evaluate GENO-STELLAR's effectiveness in reducing the time from empiric treatment to definitive therapy.
Direct Costs: $3,093,801
Role: Principal Investigator

C. **COMPLETED RESEARCH SUPPORT**

Office of the Governor & US Department of Treasury: 4546301 (Hanson as a sub-project of TEPHI)
Texas Epidemic Public Health Institute (TEPHI) Antimicrobial Resistance Wastewater Surveillance

11/08/2021 – 08/31/2026
This is an independent sub-project of the TEPHI funding. This project aims to utilize wastewater surveillance for monitoring antimicrobial resistance (AMR), providing a novel, non-invasive approach for detecting resistant pathogens and resistance genes in healthcare-associated environments, particularly hospitals. This study will collect wastewater samples from Memorial Hermann hospital to identify carbapenem-resistant (CR) and extended-spectrum beta-lactamase-resistant (ESBL-R) ESKAPE pathogens. By comparing wastewater findings with clinical isolates, the project aims to detect overlapping and unique resistance mechanisms, potentially identifying subclinical pathogens. This approach could serve as an early warning system for emerging resistance, enhancing infection control and improving patient safety and public health outcomes.
Direct Costs: $1,024,652
Role: Principal Investigator

Office of the Governor & US Department of Treasury: 4546301 (Boerwinkle)
TEPHI Viral Wastewater Surveillance
11/08/2021 – 08/31/2026
This project aims to monitor a broad spectrum of human and animal viruses, identify emerging mutations, and enable early warning of potential public health threats to enhance timely intervention and resource allocation.
Direct Costs: $34,600,100
Role: Co-Investigator

NIH/NIAID: R01-AI148342 (Arias)
VENOUS: A Translational Approach to Enterococcal Bacteremia
07/01/20-06/30/26
This project hypothesizes that a deep understanding of the clinical and microbiological aspects of VRE bloodstream infections and the population structure of infecting isolates is critical for informing the development of novel diagnostics and treatment strategies. Using an assembled cohort, we propose to: (i) characterize the clinical impact of VRE bacteremia, (ii) dissect the population structure of VRE causing bloodstream infections, and (iii) develop a new minimal inhibitory concentration (MIC)-independent diagnostic test to assess DAP susceptibility, guiding clinicians in accurate identification of DAP-susceptible isolates to improve therapeutic strategies using DAP and β-lactams.
Direct Costs: $ 2,499,995
Role: Subcontract Principal Investigator

NIH/NIAID: P01- AI152999-01 (Arias)
Dynamics of colonization and infection by multidrug-resistant pathogens in immunocompromised and critically ill patients (DYNAMITE)
07/01/20-06/31/26
This project hypothesizes that patient susceptibility to gut-derived nosocomial colonization and subsequent infection is critically dependent on functional microbiota-pathogen interactions that can be detected via a holistic combination of pathogen, host, and commensal microbiota analyses.
Direct Costs: $11,934,488
Role: Subcontract Principal Investigator, Co-Core Director

CDC & Texas Department of State Health Services: HHS001089700001/292484 (Hanson & Boerwinkle)
Texas Respiratory Syncytial Virus & SARS-CoV-2 Co-Sequencing Network
01/01/2025-07/31/2026[#]
This initiative established genomic sequencing and analysis of Respiratory Syncytial Virus (RSV) in Texas to support public health surveillance and response. RSV, like other RNA viruses, accumulates mutations that may alter transmissibility, severity, and response to diagnostics or therapeutics. By sequencing RSV genomes from clinical specimens across the state, the project enabled detection of emerging variants, supported real-time surveillance, and informed public health decision-making.
Direct Costs: $4,039,176
Role: Principal Investigator

CDC & Texas Department of State Health Services: HHS001089700001/292484 (Hanson & Boerwinkle)
Texas Workforce Training
01/01/2025-07/31/2026[#]
This program established a statewide genomic epidemiology training initiative to modernize and strengthen the skillsets of infectious disease epidemiologists in Texas. Through a no-cost curriculum integrated into the Texas Epidemic Public Health Institute (TEPHI), participants received training in microbial genomics, bioinformatics, and surveillance applications. The program delivered webinars, case-based modules, and hands-on workshops across UTHealth Houston School of Public Health campuses.
Direct Costs: $1,281,550
Role: Principal Investigator

CDC & Texas Department of State Health Services: HHS001089700001/292484 (Boerwinkle)
Texas SARS-CoV-2 Variant Network
08/01/2021 – 07/31/2026[#]
This project developed and implemented a statewide network to collect and sequence SARS-CoV-2 positive specimens and report genomic findings to the Texas Department of State Health Services (DSHS).
Direct Costs: $16,793,270
Role: Co-Investigator, Co-Director Coordinating Center ($2,400,000 to Hanson)
[#] Denotes grants prematurely cancelled on 03/25/2025 as a part of the CDC ELC fund callback.

NIH/NIAID: K01AI148593-01 (Hanson)
Mobile Genetic Elements and Clinical Outcomes in Staphylococcus aureus Bacteremia
07/01/20 – 06/30/24
This project clarified the role of mobile genetic elements in transmitting antimicrobial resistance and driving genetic diversity within endemic *Staphylococcus aureus* lineages causing bacteremia. It also supported the career development of a junior investigator focused on bacterial phylogenetics, clinical epidemiology, and machine learning approaches to address antimicrobial resistance.
Direct Costs: $498,666
Role: Principal Investigator

NIH/NIAID: UM1AI104681 (Hanson as a sub-project of the Antimicrobial Resistance Leadership Group)
GENOmics, Sequencing-based Typing, EpidemioLogy, Linkage, and Antimicrobial Resistance (GENO-STELLAR) Tool
7/2020-6/2024
This independent sub-project developed an online tool for clinicians and scientists to integrate bacterial whole genome sequencing data with phenotypic susceptibility profiles and clinical outcomes. The tool generated actionable genomic insights into antimicrobial resistance mechanisms in clinical isolates, supporting improved patient management in cases involving multidrug-resistant bacteria.
Direct Costs: $1,250,000
Role: Principal Investigator

UTHealth CCTS COVID-19 Pilot Funding (Hanson)
COVID-19 and SARS-CoV-2 infection surveillance of high-risk community members in the Houston area
07/01/2020 – 06/30/2021
This project collected nasal and blood samples to assess for active SARS-CoV-2 infection and prior exposure among high-risk individuals in the Houston area. The study aimed to understand the impact of the COVID-19 pandemic on vulnerable communities through local surveillance efforts.
Direct Costs: $25,000
Role: Principal Investigator

School of Public Health PRIME Award, The University of Texas Health Science Center (Hanson)

Elucidating the antimicrobial resistance mechanisms and mapping the mobilome of *Staphylococcus aureus*
09/01/2018 – 08/31/2019
This project characterized the diversity of mobile genetic elements in *Staphylococcus aureus* strains causing bacteremia at a single hospital in Latin America, contributing to the understanding of resistance gene dissemination in clinical settings.
Direct Costs: $25,000
Role: Principal Investigator

CONFERENCE ABSTRACTS AND PUBLICATIONS

A. SELECTED INVITED CONFERENCE TALKS AND PANELS

1. **Hanson BM**, Stadler L, Septimus E. Career mentoring breakfast: predicting future pandemics and outbreaks. Texas Medical Center Antimicrobial Resistance and Stewardship Conference 2025. Houston, TX (2025). Invited Panel Speaker
2. **Hanson BM**, Treangen T, Ajami N, Harrison L. Career mentoring: careers in computational genomics applied to infectious diseases. Texas Medical Center Antimicrobial Resistance and Stewardship Conference 2023. Houston, TX (2023). Invited Panel Speaker

3. **Hanson BM**, Tran TT, Miller W. Career mentoring: career development awards in antimicrobial resistance. Texas Medical Center Antimicrobial Resistance and Stewardship Conference 2021. Houston, TX (2021). Invited Panel Speaker

4. **Hanson BM**. Nanopore sequencing to understand AMR. Oxford Nanopore Day Houston. Houston, TX (2019). Invited Talk

5. **Hanson BM**. The application of genomic sequencing in pathogen identification and antimicrobial susceptibility detection. Texas Department of State Health Services Healthcare Safety Conference 2018. Austin, TX (2018). Invited Keynote Talk

6. **Hanson BM**, Weinstock G, Sodergren E, Leopold S, Nguyen H, Brown JS, van Belkum A, Dunne W, Schechter L, Creely D, Humphries R, Yang S, Hemarajata P, Miller W, Kahn A, Arias C. Determining novel antimicrobial resistance mechanisms with Oxford Nanopore long-read sequencing data. Oxford Nanopore London Calling 2018. London, UK (2018). Invited Talk

B. SELECTED PEER REVIEWED CONFERENCE ABSTRACTS

1. Buchan KD, Duran Ramirez JM, Gomez J, Cruz TR, Volkan E, Sandoval MN, Shea AE, Walker JN, **Hanson BM.** Carbapenem-resistant *Klebsiella pneumoniae* lineage CG307 displays urinary tract tropism. UTI Global Alliance 6th CSAUTI Conference. Nashville, TN (2026).

2. **Hanson BM**, Troisi C. Don't Waste Water: A Collaborative Approach to Translating Wastewater Science into Public Health Action. Anaheim, CA (2025).

3. **Hanson BM,** Troisi C, Laird E, Chillag K. Beyond the Flow: Challenges, Ethics, and Public Health Actions in Wastewater Epidemiology. San Antonio, TX (2025).

4. Troisi C, Bauer C, **Hanson BM**, Deegan J. From sewage to solutions: The possibilities and implications of wastewater monitoring. American Public Health Association 2024. Minneapolis, MN (2024).

5. **Hanson BM**, Walker JN, Hunter T, Simar SR, Duran Ramirez J, Myckatyn T. A prospective randomized clinical trial demonstrates prophylactic antibiotic administration does not reduce microbial burden or alter the breast microbiome during implant-based breast reconstruction. ISSSI 2024. Perth, Australia (2024).

6. **Hanson BM**, Gillani S, Al Rustem H, Bobier K, Hardy M, Freeland M, Rai S, Kubin G, Milleron R, Boerwinkle E. Evolving with Evolution: Utilizing Dynamic Dashboards to Track Sars-Cov-2 Variants in Texas in a Time of Expanding Genomic Diversity. CSTE 2024. Pittsburgh, PA (2024).

7. Troisi C, Bauer C, **Hanson BM**, Deegan J. From sewage to solutions: The possibilities and implications of wastewater monitoring. Preparedness Summit 2024. Cleveland, OH (2024).

8. **Hanson BM**, Gillani S, Al Rustem H, Bobier K, Hardy M, Freeland M, Rai S, Kubin G, Milleron R, Boerwinkle E. SARS-CoV-2 genomic surveillance system development as a model for other emerging pathogens in Texas. IDWeek 2023. Boston, MA (2023).

9. **Hanson BM.** Genomics of Carbapenem-resistant *Enterobacterales* in the USA. Texas Medical Center Antimicrobial Resistance and Stewardship Conference 2021. Houston, TX (2021).

10. **Hanson BM**. Nanopore Sequencing to Understand AMR. ASM Conference on Rapid Applied Microbial Next-Generation Sequencing and Bioinformatic Pipelines 2018. Tysons Corner, VA (2018).

11. **Hanson BM**. Nanopore Sequencing to Understand AMR. Texas Medical Center Antimicrobial Resistance and Stewardship Conference 2018. Houston, TX (2018).

12. **Hanson BM**, Weinstock G, Shannon W, Kwambana B, Deych E, Betts M, Worwui A, Carter S, Brown JS, Ceesay F, Tientcheu PE, Phillips D, Sambou E, Sodergren E, Antonio M. Early Life Colonization of the Nasopharyngeal Microbiome: A Longitudinal Study in The Gambia. The Human Microbiome: Emerging Themes at the Horizon of the 21st Century. Bethesda, Maryland (2017).

13. **Hanson BM**, Leopold S, Rojas L, Nguyen H, Chen L, Lek S, Spakowicz D, Johnson J, Brown J, Bonomo R, Arias C, Weinstock G. Applications of long-read sequencing in infectious disease genomics. Infectious Disease Genomics 2015. Cambridge, London (2015).

14. **Hanson BM**, Kwambana B, Zhou Y, Worwui A, Sodergren E, Ndukum-Ndonwi MB, Kinteh MA, Clark E, Bah S, Bah E, Sanneh K, Kijera M, Gibba I, Bojang L, Haffner M, Cox M, Faal A, Sillah L, Said B, Ezedimbu-Michael P, Tientcheu O, Antonio M, Weinstock G. Pneumococcal vaccination and the nasopharyngeal microbiome: a longitudinal study in The Gambia. ASM General Meeting. New Orleans, Louisiana (2015).

15. **Hanson BM**, Kwambana B, Zhou Y, Worwui A, Sodergren E, Ndukum-Ndonwi MB, Kinteh MA, Clark E, Bah S, Bah E, Sanneh K, Kijera M, Gibba I, Bojang L, Haffner M, Cox M, Faal A, Sillah L, Said B, Ezedimbu-Michael P, Tientcheu O, Antonio M, Weinstock G. Pneumococcal vaccination and the nasopharyngeal microbiome: a longitudinal study in The Gambia. 5th International Human Microbiome Congress. Luxembourg City, Luxembourg (2015).

16. **Hanson BM**, Kates A, O'Malley S, Farina S, Klostermann C, Wu J, Meirick T, Quick M, Forshey B, Smith T. Longitudinal study of Iowa families to determine prevalence of *Staphylococcus aureus* and observe colonization incidence and familial transmission. IDWeek 2013. San Francisco, California (2013).

17. **Hanson BM**, Kates A, O'Malley S, Farina S, Klostermann C, Wu J, Meirick T, Quick M, Forshey B, Smith T. Longitudinal study of Iowa families to determine prevalence of *Staphylococcus aureus* and observe colonization incidence and familial transmission. Great Plains Emerging Infectious Diseases Conference. Iowa City, Iowa (2013).

18. **Hanson BM**, Kates A, O'Malley S, Farina S, Klostermann C, Wu J, Meirick T, Quick M, Forshey B, Smith T. Longitudinal study of Iowa families to determine prevalence of *Staphylococcus aureus* and observe colonization incidence and familial transmission. University of Iowa Health Sciences Research Week. Iowa City, Iowa (2013).

19. Beahm A, **Hanson BM**, Karriker L, Ramirez A, Smith TC, Frana T. Molecular characterization of *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* isolated from veterinary students, swine, and their environment. Great Plains Emerging Infectious Diseases Conference. Iowa City, Iowa (2012).

20. O'Brien AM, **Hanson BM**, Farina SA, Wu JY, Simmering JE, Wardyn SE, Kulick ME, Wallinga DB, Smith TC. *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* (MRSA) in retail pork. 2nd ASM-ESCMID Conference on methicillin-resistant *Staphylococci* in Animals. Boston, Maryland (2011).

21. **Hanson BM**, Harper, AL, Wardyn SE, Dressler AE, Smith TC. Characterizing *Staphylococcus aureus* strains presenting at a Mongolian Hospital. University of Iowa Epidemiology Poster Session. Iowa City, Iowa (2010).

22. **Hanson BM**, Harper, AL, Scheibel, RP, Roberts LK, Smith TC. Prevalence of *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* in retail meat in Iowa. Iowa Academy of Science Poster Session. Des Moines, Iowa (2009).

23. **Hanson BM**, Harper, AL, Scheibel, RP, Roberts LK, Smith TC. Prevalence of *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* in retail meat in Iowa. Midwest Rural Agricultural Safety & Health Forum. Johnston, Iowa (2009).

24. **Hanson, BM**, Harper, AL, Scheibel, RP, Roberts LK, Smith TC. Prevalence of *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* in retail meat in Iowa. ASM-ESCMID Conference on methicillin-resistant *Staphylococci* in Animals Poster Session. London, England (2009).

25. **Hanson, BM**, Harper, AL, Scheibel, RP, Roberts LK, Smith TC. Prevalence of *Staphylococcus aureus* and methicillin-resistant *Staphylococcus aureus* in retail meat in Iowa. University of Iowa Research Week Poster Session. Iowa City, Iowa (2009).

C. PREPRINT PUBLICATIONS (*Corresponding author; #Mentee author)

1. Buchan KD, Duran Ramirez JM, Gomez JM, Cruz TR, Volkan E, Sandoval MN, Shea AE, Walker JN, **Hanson BM**. Carbapenem-resistant Klebsiella pneumoniae lineage CG307 displays urinary tract

tropism. 2026 April. Available from: https://www.biorxiv.org/content/10.64898/2026.04.02.715352v1. doi: https://doi.org/10.64898/2026.04.02.715352.

D. PEER REVIEWED PUBLICATIONS (*Corresponding author; #Mentee author)

1. Clark JR, Tisza MJ, Hammerquist AL, Prakash H, Munoz JL, Ross MC, Surathu A, Javornik Cregeen SJ, Parker NW, Cortez MS, Terwilliger A, Petrosino JF, Ayvaz T, **Hanson B**, Deegan J, Boerwinkle E, Barrozo ER, Maresso AW. Community wastewater parvovirus B19 signal amid rising maternal–fetal cases. Scientific Reports. 2026 September 2. doi: 10.1038/s41598-026-68165-7.

2. Bauer C, Reger N, Rustem HAL, Tisza M, Triosi CL, Javornik Cregeen S, Ghobrial L, Gitter A, Wu F, Surathu A, Deegan J, Mena KD, Petrosino J, Boerwinkle E, **Hanson BM**, Maresso AW. SeqBoard: a genomics-based data dashboard for comprehensive wastewater virome monitoring. J Am Med Inform Assoc. 2026 Aug 1;33(8):1446-1456. doi: 10.1093/jamia/ocag088. PMID: 42243631.

3. Tyson KJ, Velez AZ, **Hanson BM**, Jiang J, Lu KY, Ruffin F, Sutton G, Brinkac LM, Clarke TH, Tao Y, Fouts DE, Adams MD, Arias CA, Khandelwal S, Fowler VG Jr, Thaden JT, Conlon BP, Parsons JB. Loss of O-antigen due to wbbL mutations is common and associated with increased mortality in Escherichia coli bloodstream infections. Sci Adv. 2026 Jul 3;12(27):eaec4661. doi: 10.1126/sciadv.aec4661. Epub 2026 Jul 1. PMID: 42384788.

4. Chaki SP, Kahl-McDonagh MM, Neuman BW, Taylor LA, Fischer RSB, **Hanson BM**, Hardy MS, Culpepper JA, Boerwinkle E, Zuelke KA. Longitudinal genomic surveillance of SARS-CoV-2 in a university microcosm reflects global evolutionary trends. Microbiol Spectr. 2026 Jul 7;14(7):e0086026. doi: 10.1128/spectrum.00860-26. Epub 2026 Jun 15. PMID: 42296398.

5. Deka N, Brauer AL, Connerton K, **Hanson BM**, Walker JN, Armbruster CE. Pangenome analysis of Proteus mirabilis reveals lineage-specific antimicrobial resistance profiles and discordant genotype-phenotype correlations. Antimicrob Agents Chemother. 2026 Jul;70(7):e0176825. doi: 10.1128/aac.01768-25. Epub 2026 May 29. PMID: 42210697.

6. Odem MA, Simbassa SB, Alvarez CF, Jeilu O, Simar SR#, Bosserman R, Dutta S, Galdamez W, Ayele H, **Hanson BM**, Proctor DM, Krachler AM. Shiga toxin increases intestinal transit to displace resident microbes and facilitate pathogen colonization. PLoS Pathog. 2026 Mar;22(3):e1014104. doi: 10.1371/journal.ppat.1014104. eCollection 2026 Mar. PMID: 41911313.

7. Duran Ramirez JM#, Armbruster CE, **Hanson BM**, Walker JN. Genomics reveal Staphylococcus aureus persists during long-term urinary catheterization despite antimicrobial therapy and catheter exchanges. Nat Commun. 2026 Jan 13. doi: 10.1038/s41467-025-68081-w. PMID: 41530149.

8. Ayele H#, Jo J, Begum K, Hu C, Le TM, Alam MJ, Eubank TA, Haidacher SJ, Horvath T, **Hanson BM***, Garey KW*. A randomized phase 1 study investigating gut microbiome changes with moxifloxacin vs. oral vancomycin: implications for *Clostridioides difficile* risk. J Infect Dis. 2025 Oct 13;jiaf512. doi: 10.1093/infdis/jiaf512. PMID: 41081530.

9. Jiang J, Komarow L, Hill C, Boutzoukas AE, **Hanson B**, Arias CA, Bonomo RA, Evans S, Doi Y, Satlin MJ, Weston G, Cober E, Valderrama-Beltran SL, Mendoza SS, Liu Z, Fries BC, Tambyah PA, Chambers HF, Fowler VG Jr, van Duin D, Kreiswirth BN, Chen L. Molecular Epidemiology and Clinical Characterization of Carbapenemase-Producing Enterobacter Species From an International Cohort. J Infect Dis. 2025 Jul 11;231(6):1489-1501. doi: 10.1093/infdis/jiae616. PMID: 39667036.

10. Simar SR[#], Tran TT, Rydell KB, Atterstrom RL, Sahasrabhojane PV, Dinh AQ^, Schettino MG, Slanis HS, Deyanov AE, DeTranaltes AM, Axell-House DB, Miller WR, Munita JM, Tobys D, Seifert H, Biehl LM, Zervos M, Suleyman G, Kaur J, Warzocha V, Rosa R, Cifuentes RO, Abbo LM, Shimose L, Liu C, Nguyen K, Miller A, Shelburne SA, **Hanson BM***, Arias CA*. Clinical and Genomic Characterization of Recalcitrant Enterococcal Bacteremia: A Multicenter Prospective Cohort Study (VENOUS). J Infect Dis. 2025 Jul 8;. doi: 10.1093/infdis/jiaf358. PMID: 40629152.

11. Javornik Cregeen S, Tisza MJ, **Hanson B**, Cook M, Surathu A, Schneider R, Wu J, Short K, Domakonda K, Hopkins L, Ross MC, Petrosino JF, Deegan J, Stadler LB, Boerwinkle E, Maresso A. Sequencing-Based Detection of Measles in Wastewater: Texas, January 2025. Am J Public Health. 2025 Jul;115(7):1115-1119. doi: 10.2105/AJPH.2025.308146. Epub 2025 May 8. PMID: 40340466.

12. Martínez JRW, Alcalde-Rico M, Jara-Videla E, Reyes J, Carvajal LP, Rincon S, Ríos R, Diaz L, Quesille-Villalobos A, Riquelme-Neira R, Rivas L, Moustafa AM, **Hanson B**, Undurraga EA, Olivares-Pacheco J, García P, Araos R, Planet PJ, Arias CA, Munita JM. Geographic divergence of methicillin-resistant Staphylococcus aureus ST5-SCCmecI in the aftermath of a major earthquake and tsunami: impact of a plasmid harboring heavy metal resistance genes. mBio. 2025 Apr 9;16(4):e0366924. doi: 10.1128/mbio.03669-24. Epub 2025 Mar 19. PMID: 40105358.

13. Boutzoukas AE, Dai W, Cober E, Abbo LM, Komarow L, Chen L, Hill C, Satlin MJ, Grant M, Fries BC, Patel G, McCarty TP, Arias CA, Bonomo RA, van Duin D, and the **ARLG and MDRO Network Investigators**. Carbapenem-resistant Enterobacterales in solid organ transplant recipients. Am J Transplant. 2025 Apr;25(4):848-859. doi: 10.1016/j.ajt.2024.10.020. Epub 2024 Nov 9. PMID: 39522694.

14. Chen X, Balliew J, Bauer CX, Deegan J, Gitter A, **Hanson BM**, Maresso AW, Tisza MJ, Troisi CL, Rios J, Mena KD, Boerwinkle E, Wu F. Revealing patterns of SARS-CoV-2 variant emergence and evolution using RBD amplicon sequencing of wastewater. J Infect. 2024 Nov;89(5):106284. doi: 10.1016/j.jinf.2024.106284. Epub 2024 Sep 26. PMID: 39341403.

15. **Hanson BM**^, Tisza MJ^, Clark JR, Wang L, Payne K, Ross MC, Mena KD, Gitter A, Javornik Cregeen SJ, Cormier J, Avadhanula V, Terwilliger A, Balliew J, Wu F, Rios J, Deegan J, Piedra PA, Petrosino JF, Boerwinkle E, Maresso AW. Sequencing-Based Detection of Avian Influenza A(H5N1) Virus in Wastewater in Ten Cities. N Engl J Med. 2024 Sep 26;391(12):1157-1159. doi: 10.1056/NEJMc2405937. Epub 2024 Sep 11. PMID: 39259887.
^ Co-first authorship

16. Boutzoukas AE, Mackow N, Giri A, Komarow L, Hill C, Chen L, Doi Y, Satlin MJ, Arias C, Wang M, Mora Moreo L, Herc E, Cober E, Weston G, Patel R, Bonomo RA, Fowler V, van Duin D, **MDRO Network Investigators**. Increased mortality in hospital- compared to community-onset carbapenem-resistant enterobacterales infections. J Antimicrob Chemother. 2024 Sep 5;. doi: 10.1093/jac/dkae306. PMID: 39236214.

17. Hoyer EA, Joseph M, Dunn J, Weiner HL, Dimachkieh A, Flores AR, Sanson MA, Ayele H[#], **Hanson BM**, Kaplan SL, Vallejo JG, McNeil JC. Increasing Incidence of Streptococcus anginosus Group Intracranial Infections Associated With Sinusitis, Otitis Media, and Mastoiditis in Children. Pediatr Infect Dis J. 2024 Aug 1;43(8):e261-e267. doi: 10.1097/INF.0000000000004346. PMID: 38621168.

18. Egge SL, Rizvi SA, Simar SR[#], Alcalde M, Martinez JRW, **Hanson BM**, Dinh AQ[#], Baptista RP, Tran TT, Shelburne SA, Munita JM, Arias CA, Hakki M, Miller WR. Cefiderocol heteroresistance associated with mutations in TonB-dependent receptor genes in Pseudomonas aeruginosa of clinical origin. Antimicrob Agents Chemother. 2024 Jul 12;:e0012724. doi: 10.1128/aac.00127-24. PMID: 38995033.

19. Gao Y, Kim K, Vitrac H, Salazar RL, Gould BD, Soedkamp D, Spivia W, Raedschelders K, Dinh AQ[#], Guzman AG, Tan L, Azinas S, Taylor DJR, Schiffer W, McNavish D, Burks HB, Gottlieb RA, Lorenzi PL, **Hanson BM**, Van Eyk JE, Taegtmeyer H, Karlstaedt A. Autophagic signaling promotes systems-wide remodeling in skeletal muscle upon oncometabolic stress by D2-HG. Mol Metab. 2024 Jun 21;86:101969. doi: 10.1016/j.molmet.2024.101969. PMID: 38908793.

20. Condic N, Amiji H, Patel D, Shropshire WC[#], Lermi NO, Sabha Y, John B, **Hanson B**, Karras GI. Selection for robust metabolism in domesticated yeasts is driven by adaptation to Hsp90 stress. Science. 2024 Jul 26;385(6707):eadi3048. doi: 10.1126/science.adi3048. Epub 2024 Jul 26. PMID: 39052788.

21. Ankrah PK, Bock A, Ruffin F, **Hanson BM**, Arias CA, Maskarinec SA, Parsons J, Fowler VG, Thaden JT. Persistent gram-negative bloodstream infection increases the risk of recurrent bloodstream infection with the same species. Clin Infect Dis. 2024 Feb 15:ciae068. doi: 10.1093/cid/ciae068. PMID: 38366610.

22. Axell-House DB, Ashley PA, Egge SL, Tran TT, Pedroza C, Zhang M, Dinh AQ[#], Simar SR[#], Sahasrabhojane PV, Miller WR, Shelburne SA, **Hanson BM**, Arias CA. Clinical Features and Genomic Epidemiology of Bloodstream Infections due to Enterococcal Species Other Than Enterococcus faecalis or E. faecium in Patients With Cancer. Open Forum Infect Dis. 2024 Jun;11(6):ofae288. doi: 10.1093/ofid/ofae288. PMID: 38835498.

23. Axell-House DB, Simar SR[#], Panesso D, Rincon S, Miller WR, Khan A, Pemberton OA, Valdez L, Nguyen AH, Hood KS, Rydell K, DeTranaltes AM, Jones MN, Atterstrom R, Reyes J, Sahasrabhojane PV, Suleyman G, Zervos M, Shelburne SA, Singh KV, Shamoo Y, **Hanson BM**, Tran TT, Arias CA. LiaX is a surrogate marker for cell-envelope stress and daptomycin non-susceptibility in Enterococcus faecium. Antimicrob Agents Chemother. 2024 Mar 6;68(3):e0106923. doi: 10.1128/aac.01069-23. PMID: 38289081.

24. Parsons JB, Sidders AE, Velez AZ, **Hanson BM**, Angeles-Solano M, Ruffin F, Rowe SE, Arias CA, Fowler VG Jr, Thaden JT, Conlon BP. In-patient evolution of high-persister *Escerichia coli* strain with reduced in vivo antibiotic susceptibility. Proc Natl Acad Sci USA. 2024 Jan 16;121(3):e2314514121. doi: 10.1073/pnas.2314514121. PMID: 38190524.

25. Jo J, Hu C, Begum K, Wang W, Le TM, Agyapong S, **Hanson BM**, Ayele H[#], Lancaster C, Jahangir Alam M, Gonzales-Luna AJ, Garey KW. Fecal pharmacokinetics and gut microbiome effects of oral omdacycline versus vancomycin in healthy volunteers. J Infect Dis. 2024 Jan 12;229(1):273-281. doi: 10.1093/infdis/jiad537. PMID: 38051631.

26. Oghuan J, Chavarria C, Vanderwal SR, Gitter A, Ojaruega AA, Monserrat C, Bauer CX, 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 of Mpox virus in a city with low prevalence of Mpox disease: an environmental surveillance study. Lancet Reg Health Am. 2023 Nov 24;28:100639. doi: 10.1016/j.lana.2023.100639. eCollection 2023 Dec. PMID: 38076410.

27. **Hanson BM^**, Walker JN^, Hunter T[#], Simar SR[#], Duran Ramirez JM[#], Obernuefemann CLP, Parikh RP, Tenenbaum MM, Margenthaler JA, Hultgren SJ, Myckatyn TM. A prospective randomized clinical trial to assess antibiotic pocket irrigation on tissue expander breast reconstruction. Microbiol Spectr. 2023 Sep 27;:e0143023. doi: 10.1128/spectrum.01430-23. PMID: 37754546.
^ Co-first authorship

28. Wang M, Ge L, Chen L, Komarow L, **Hanson B**, Reyes J, Cober E, Alenazi T, Zong Z, Xie Q, Liu Z, Li L, Yu Y, Gao H, Kanj SS, Figueroa J, Herc E, Cordova E, Weston G, Ananth Tambyah P, Garcia-Diaz J, Kaye KS, Dhar S, Munita JM, Salata RA, Vilchez S, Stryjewski ME, Villegas Botero MV, Iovleva A, Evans

S, Baum K, Hill C, Kreiswirth BN, Patel R, Paterson DL, Arias CA, Bonomo RA, Chambers HF, Fowler VG, Satlin MJ, van Duin D, Doi Y. Clinical Outcomes and Bacterial Characteristics of Carbapenem-Resistant Acinetobacter baumannii Among Patients from Different Global Regions. Clin Infect Dis. 2023 Sep 20;. doi: 10.1093/cid/ciad556. PMID: 37738153.

29. Cuello L, Alvarez Otero J, Greenwood-Quaintance KE, Chen L, **Hanson B**, Reyes J, Komarow L, Ge L, Lancaster ZD, Gordy GG, Schuetz AN, Patel R. Poor sensitivity of the MALDI Biotyper MBT Subtyping Module for detection of *Klebsiella pneumoniae* carbapenemase (KPC) in *Klebsiella* species. Antibiotics (Basel). 2023 Sep 20;12(9):1465. doi: 10.3390/antibiotics12091465. PMID: 37760762.

30. Boutzoukas AE, Komarow L, Chen L, **Hanson B**, Kanj SS, Liu Z, Salcedo Mendoza S, Ordoñez K, Wang M, Paterson DL, Evans S, Ge L, Giri A, Hill C, Baum K, Bonomo RA, Kreiswirth B, Patel R, Arias CA, Chambers HF, Fowler VG, van Duin D; Multi-Drug Resistant Organism Network Investigators. International epidemiology of carbapenemase-producing *Escherichia coli*. Clin Infect Dis. 2023 Aug 22;77(4):499-509. doi: 10.1093/cid/ciad288. PMID: 37154071.

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E. CONTINUING MEDICAL EDUCATION

1. Myckatyn TM, Duran Ramirez JM, Walker JN, **Hanson BM**. Management of biofilm with breast implant surgery. Plast Reconstr Surg. 2023 Nov 1;152(5):919e-942e. doi: 10.1097/PRS.0000000000010791. Epub 2023 Oct 23. PMID: 37871028.

F. CONFERENCE PROCEEDINGS (*Corresponding author)

1. Hourcade JP, Chrischilles EA, Gryzlak BM, **Hanson BM**, Dunbar DE, Eichmann DA, Lorentzen RR. Design lessons for older adult personal health records software from older adults. Proceedings of 6th International Conference on Universal Access in Human-Computer Interaction, held as part of HCI International. Lecture Notes in Computer Science, 6766, 176-85.

G. REVIEWS AND EDITORIALS (*corresponding author)

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H. BOOKS AND BOOK CHAPTERS

1. Thapalia D, **Hanson BM**, Kates AE, Klostermann CA, Nair R, Wardyn SE, Smith TC. Zoonoses – Infections Affecting Humans and Animals. 1st ed. Zoonotic Diseases of Swine: Food-borne and Occupational Aspects of Infection. 2015: Springer Netherlands.

RELEVANT MEDIA EXPOSURE

A. PRINT AND WEBSITES

1. Date: September 19, 2024
   Publication: Medpage Today
   Website: https://www.medpagetoday.com/infectiousdisease/surveillance/111909

2. Date: July 16, 2024
   Publication: ARLG Quarterly Newsletter Q3 2024
   Website: https://arlg.org/geno-stellar-an-interview-with-blake-hanson-phd/

3. Date: May 23, 2024
   Publication: Bloomberg
   Website: https://www.bloomberg.com/news/articles/2024-05-23/bird-flu-outbreak-in-dairy-cows-is-more-widespread-sewage-tests-suggest

4. Date: May 22, 2024
   Publication: CNN
   Website: https://www.cnn.com/2024/05/22/health/bird-flu-wastewater-monitoring-texas/index.html

5. Date: May 21, 2024
   Publication: Clinical & Engineering News
   Website: https://cen.acs.org/biological-chemistry/US-CDC-begins-tracking-influenza/102/web/2024/05

6. Date: May 16, 2024
   Publication: MedPage Today
   Website: https://www.medpagetoday.com/special-reports/exclusives/110169

7. Date: May 16, 2024
   Publication: LA Times
   Website: https://www.latimes.com/environment/story/2024-05-16/texas-researchers-identify-bird-flu-in-wastewater-of-nine-cities-filling-in-cdc-data-gaps

8. Date: April 15, 2021
   Publication: Texas Monthly – A DNA zoo maps the mysteries of all creatures great and small
   Website: https://www.texasmonthly.com/news-politics/dna-zoo-baylor-college-medicine-houston/

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   Publication: ASM-TMC COVID-19 101 – Debunking Myths
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10. Date: May 24, 2018
    Publication: Oxford Nanopore News
    Website: https://nanoporetech.com/about-us/news/london-calling-day-1-morning-writeups
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11. Date: February 11, 2016
    Publication: YouTube – Oxford Nanopore Technologies
    Website: https://www.youtube.com/watch?v=AWElbgV9uAg

12. Date: January 14, 2016
    Publication: we-ha.com
    Website: http://we-ha.com/jackson-laboratories-will-kick-of-discussion-series-on-family-health/

13. Date: January 7, 2016
    Publication: Hartford Courant
    Website: http://www.courant.com/community/west-hartford/hc-west-hartford-childrens-museum-partnership-0108-20160107-story.html

14. Date: January 4, 2016
    Publication: West Hartford Patch
    Website: http://patch.com/connecticut/westhartford/jackson-laboratory-lead-public-discussion-human-microbiome-family-health

B. TELEVISION

1. Date: June 14, 2024
   Publication: Fox 26 Morning News
   Topic: Interpretation and implications of H5N1 detection in wastewater in Texas