Curriculum Vitae

Kendra Joy Dahmer

Department of Civil & Environmental Engineering
University of California-Berkeley

Current position

2023 - **Postdoctoral Scholar**
Civil & Environmental Engineering
University of California–Berkeley, CA US

Education

2018 - 2023 **PhD Comparative Biomedical Sciences**
Department of Pathobiological Sciences
School of Veterianary Medicine
University of Wisconsin–Madison, WI US

2015 - 2017 **BS Microbiology**
Dean's List, Honors, Magna Cum Laude
University of Wisconsin-Milwaukee, Milwaukee, WI US

2010 - 2012 **AA Emphasis in Sciences**
Golden West College, Huntington Beach, CA US

Research Experience

2023 - current **Postdoctoral Scholar**
Civil & Environmental Engineering
School of Engineering, University of California-Berkeley
- Environmental surveillance for soil-transmitted helminths and enteric pathogens
- Established surveillance methods for wastewater based epidemiology in LMICs
- Explored genetic drug resistance markers in human hookworm
- Advised by Amy Pickering

2018 - 2023 **Doctoral Research**
Department of Pathobiological Sciences
School of Veterinary Medicine, University of Wisconsin-Madison
- Characterized filarial parasite G protein-coupled receptors as novel drug targets
- Improved surveillance and diagnostic efforts for *Mansonella spp.* in Colombia
- Developed and optimized advanced high-content screening methods for parasitic and model nematodes
- Advised by Mostafa Zamanian

2017 - 2018 **Associate Microbiologist**
Wisconsin Veterinary Diagnostic Lab (WVDL)
School of Veterinary Medicine, University of Wisconsin-Madison
- Diagnostics for Transmissible Spongiform Encephalopathy (TSE) in Midwest deer
- Experience with tissue handling and preparation techniques, ELISA procedures, histotechnology, and immunohistochemistry
- Supervised by Dan Barr

2017 - 2018 **Undergraduate Fellowship**
American Society of Microbiology (ASM)
School of Freshwater Sciences, University of Wisconsin-Milwaukee
- Optimized PCR-based classification of *Escherichia coli* to determine pathogenicity risk to humans
- Collected and isolated bacterial samples from beach sands along Lake Michigan
- Advised by Sandra McLellan

2016 - 2017 **Undergraduate Research**
College of Letters and Science, University of Wisconsin-Milwaukee
- Molecular genetics and microbiology research focused on operon manipulation of bioluminescence in *Vibrio harveyi*
- Advised by Charles Wimpee

2016 **Undergraduate Research**
USDA Forage Research Center, University of Wisconsin-Madison
- Studied and identified putative genes responsible for self-reproductive incompatibility in *Trifolium pratense*
- Bioinformatic and phylogenetic analysis of forage crops and closely relate species
- Advised by Heathcliffe Riday

2012-2013 **Undergraduate Volunteer**
Department of Physical Science, Golden West College
- Prepared experimental setups for General Chemistry and Organic Chemistry labs
- Supervised by Joan Deniken

Publications

‡ Corresponding author(s) § Equal contribution
Citations: 45, h-index: 3 | Google Scholar link

Peer-Reviewed

10. Joel Edoux Eric Siko §, **Kendra Joy Dahmer** §, Zayina Zondervenni Manoharan, Ajithkumar Muthukumar, Heather K Amato, Christopher LeBoa, Michael Harris, Venkateshprabhu Janagaraj, Malathi Manuel, Tintu Varghese, Parfait Houngbegnon, Nils Pilotte, Bernadin Bouko, Souad Saidou, Adrian J.F. Luty, Rohan Michael Ramesh, Moudachirou Ibikounle, Sitara S.R. Ajjampur,Amy J Pickering‡. *Environmental surveillance of soil-transmitted helminths and other enteric pathogens in settings without networked wastewater infrastructure.* **PLoS Water** 2025; 4: e0000337

9. **Dahmer KJ**, Palma-Cuero M, Ciuoderis K, Patino C, Roitman S, Li Z, Sinha A, Hite JL, JP Hernandez-Ortiz, Osorio JE, Christensen B, Carlow CKS, Zamanian M‡. *Molecular surveillance detects high prevalence of the neglected parasite Mansonella ozzardi in the Colombian Amazon.* **The Journal of Infectious Diseases.** 2023;, jiad331, https://doi.org/10.1093/infdis/jiad331

8. **Gallo KJ**, Wheeler NJ, Elmi AM, Airs P, Zamanian M‡. *Pharmacological profiling of a Brugia malayi muscarinic acetylcholine receptor as a putative antiparasitic target.* **Antimicrob Agents Chemother.** 2023; :e0118822.

7. Wheeler NJ, Ryan KT, **Gallo KJ**, Henthorn CR, Ericksen SS, Chan JD, Zamanian M‡. *Multivariate chemogenomic screening prioritizes new macrofilaricidal leads.* **Commun Biol.** 2023; 6(1):44.

6. Wheeler NJ, **Gallo KJ**, Garncarz EJ, Ryan KT, Chan JD, Zamanian M‡. *wrmXpress: A modular package for high-throughput image analysis of parasitic and free-living worms.* **PLoS Negl Trop Dis.** 2022; 16(11):e0010937

5. Airs PM, Vaccaro K, **Gallo KJ**, Dinguirard N, Heimark ZW, Wheeler NJ, He J, Weiss K, Schroeder NE, Huisken J, Zamanian M‡. *Spatial transcriptomics reveals antiparasitic targets associated with essential behaviors in the human parasite Brugia malayi.* **PLoS Pathog.** 2022. 18(4):e1010399.

Methods

4. **Gallo KJ**, Zamanian M‡. *High-throughput image-based drug screening of Caenorhabditis elegans movement, development, and viability.* **Protocol Exchange** 2022. doi.org/10.21203/rs.3.pex-2018/v1

3. Wheeler NJ, Zamanian M‡, Ryan KT, **Gallo KJ**. *Bivariate, high-content screening of Brugia malayi microfilariae.* **Protocol Exchange** 2022. doi:10.21203/rs.3.pex-1916/v1

2. Wheeler NJ, Zamanian M‡, Ryan KT, **Gallo KJ**. *Multivariate screening of Brugia spp. adults.* **Protocol Exchange** 2022. doi:10.21203/rs.3.pex-1918/v1

Manuscripts in Preparation

1. HK Amato§, GJ Israel§, JEE Siko§, **KJ Dahmer**, ZZ Manoharan, A Muthukumar, C LeBoa, M Harris, V Janagaraj, M Manuel, T Varghese, P Houngbegnon, N Pilotte, B Bouko, S Saïdou, AJF Luty, RM Ramesh, Judd Walson, AJ Pickering‡, M Ibikounlé‡, SSR Ajjampur‡. *Impact of a community-wide mass drug administration intervention on environmental reservoirs of soil-transmitted helminths: a multi-country environmental surveillance study.* expected 2025

Presentations

Talks: 5, Posters: 8

13. *Environmental surveillance tools for monitoring community-level soil-transmitted helminth prevalence.* American Society of Tropical medicine and Hygiene (ASTMH). New Orleans, LA. November 2024. **(Poster)**
12. *Molecular surveillance detects high prevalence of the neglected parasite Mansonella ozzardi in the Colombian Amazon.* Molecular Helminthology (MolHelm2023). Madison, WI. June 2023. **(Poster)**
11. *War on worms: Surveillance strategies and the pursuit of novel drug targets for human filarial parasites.* Biological Science Department. UW-Eau Claire. April 2023. **(Invited Talk)**
10. *Characterizing antiparasitic targets and improving surveillance strategies for human filarial nematodes.* Pathobiological Sciences (PBS). School of Veterinary Medicine, UW-Madison. December 2022 **(Seminar)**
9. *Characterization of a filarial nematode muscarinic acetylcholine receptor as a putative antiparasitic target.* National Diversity in STEM (NDiSTEM). San Juan, PR USA. October 2022 **(Poster)**
8. *Improving resources for surveillance and study of the neglected parasite Mansonella.* Midwest Neglected Infectious Diseases (MNID). South Bend, IN USA. August 2022 **(Poster)**
7. *Functional characterization of parasitic nematode aminergic receptors as drug targets.* Parasitology and Vector Biology (PVB). Virtual. May 2021 **(Seminar)**
6. *Functional profiling of G protein-coupled receptors as candidate anthelmintic targets using "parasitized" Caenorhabditis elegans.* American Society of Tropical medicine and Hygiene (ASTMH). Virtual. November 2020 **(Poster)**
5. *Exploiting a model organism to characterize parasite receptor drug targets.* Pathobiological Sciences (PBS). School of Veterinary Medicine, UW-Madison. October 2020 **(Seminar)**
4. *Exploiting a model organism to characterize receptor drug targets.* Parasitology and Vector Biology (PVB). Virtual. August 2020 **(Seminar)**
3. *Tissue-Specific Heterologous Expression of Filarial Parasite G Protein-Coupled Receptors (GPCRs) in Caenorhabditis elegans.* World Association for the Advancement of Veterinary Parasitology (WAAVP). Madison, WI USA. July 2019. **(Poster)**
2. *Genetic Polymorphisms between Escherichia coli Isolates from Beach Sand and Linkage to Survival Characteristics.* American Society for Microbiology (ASM) Microbe. Atlanta, GA USA. June 2018 **(Poster)**
1. *Locating the S-RNase gene associated with self-incompatibility in Trifolium pratense (Red Clover) on linkage group one.* Undergraduate research symposium. Madison, WI USA. May 2016. **(Poster)**

Grants & Proposals

Environmental surveillance of albendazole resistance markers in human infective helminths using dual amplicon metabarcoding
(NIH NIAID) Diversity Supplement
Role: Postdoc | 2024-2026 | Total Direct Costs: $262,267

Functional characterization of parasitic nematode aminergic receptors as novel drug targets
(NIH) PVB T32
Role: Trainee (PhD Fellow) | 2019-2021 | Total Direct Costs: ~$100,000

Teaching

INTEG SCI 660, University of Wisconsin-Madison
Course Title: Research Mentor Training
Summer 2022: Course Record co-instructor

Mentoring

Zach Heimark, Academic Researcher (2018 - 2020)
- Oversaw and taught molecular laboratory techniques
- Taught *C. elegans* maintenance protocols
- Presented research at multiple conferences

Abdifatah Elmi, Undergraduate Researcher (2018 - 2019)
- Graduate of UW-Madison Biology department
- Presented a poster at the undergraduate research symposium
- Credited author on Gallo et al 2022 for data acquisition and method writing

Zamzam Nur, Undergraduate Researcher (2021 - 2023)
- Graduate of UW-Madison
- Mentored in *C. elegans* maintenance and high-throughput imaging assays
- Enrolled in Medical School at UW-Madison

Natalia Betancourt, Undergraduate Researcher (Colombia) (2023)
- Supervised during field surveillance of vector-transmitted parasites
- Enrolled in CBMS PhD program at UW-Madison

Caitlin Monica Subijanto, Undergraduate Researcher (2024 - 2025)
- Taught best practices in data curation and complex analysis
- Enrolled in public health master program at UC-Berkeley
- Will be a credited author on Dahmer et al 2026

Zayina Zondervenni Manohara, Research Scientist (India) (2023 - current)
- Mentored in data curation and organization
- Taught best practices for preparing publications for peer-review
- Is a credited author on Siko, Dahmer et al 2024

Joel Siko, PhD student (Benin) (2023 - current)
- Taught skills in data wrangling, analysis and figure making using R
- Reviewed abstract and poster submissions for conferences
- Co-first author on Siko, Dahmer et al 2024

Bioengineering BioESP, Undergraduate Researchers (Summer 2025)
- Mentored two freshman undergraduates from underrepresented background
- Taught essential and advanced molecular laboratory techniques
- Student will present research on drug resistance in helminths and pathogenic bacteria

Professional Affiliations

2024 - Present	**American Society of Tropical medicine and Hygiene (ASTMH)**
2018 - Present	**Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)**, Outreach Chair for UW-Madison chapter (2018-2023)

Service and Outreach

UAW 4811:

2024-2026: Postdoc recording secretary at UC-Berkeley, elected

Soil-Seq:

2024-2025: Guest lecturer, teaching high school students about drug resistance and environmental sampling

The Badger Herald:

2023: Interviewed for an article about cryopreservation.

Catalysts for Science Policy (CASP):

2022: Memorandum for Wisconsin State Legislator.
Policy Recommendations for Advancing the Transition of Gene Therapy Technology from Basic Research to Clinical Applications. Prepared by: Emma Eisenbraun, Jordan York, Austin Hall, Tyler Beames, **Kendra Gallo**

2019: Facilitate global climate policy simulation for the National Science Policy Symposium (NSPS)

Diversity, Equity and Inclusion Advisory Committee:

2021-2023: Graduate students representative for Comparative Biomedical Sciences program

Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS):

2019, 2022: Science Expeditions, DNA and model organisms
2019: Darwin Days, DNA extraction activity
2019: Food drive, 1,500 meals
2018-2023: Outreach chair, elected

Science and Medicine Graduate Research Scholars (SciMed GRS):

2021-2023: Student Executive Committee, elected representative
2019: Critical Mass, mentor for high school students
2019: Minorities in agriculture, natural resources, and related sciences (MANRRS), mentor
2018, 2019: Nuestro Mundo, Science outreach nights

World Association for the Advancement of Veterinary Parasitology (WAAVP):

2019: session chair, Nematode Molecular Tools, Resistance I

Honors & Awards

2022-2023: Science and Medicine Graduate Research Scholars (SciMed-GRS) Dissertator Fellowship, University Wisconsin-Madison ($33,000)
2023: Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Travel Scholarship ($2,000)
2022-2023: Science and Medicine Graduate Research Scholars (SciMed-GRS) Dissertator Fellowship, University Wisconsin-Madison ($33,000)
2021: Ford Foundation Predoctoral Fellowship Program, University Wisconsin-Madison (Honorable Mention)
2019: National Science Foundation Graduate Research Fellowships Program (NSF-GRFP) (Honorable Mention)
2018-2019: Science and Medicine Graduate Research Scholars (SciMed-GRS) Fellowship, University Wisconsin-Madison ($41,000)
2017-2018: American Society of Microbiology (ASM) Undergraduate Research Fellowship, University Wisconsin-Milwaukee ($8,000)
2017: Ruth I Walker Tuition Scholarship, University Wisconsin-Milwaukee ($4,045)
2017: Natural Science Minority Scholarship, University Wisconsin-Milwaukee ($625)
2017: Lawton Scholar Award, University Wisconsin-Milwaukee ($1,250)

Formal Training

Health Science Data Carpentry Workshop:
Gained exposure to data skills relevant to my research
Data wrangling, management and organization, encoding data frame utilities and functions, statistics
openRefine, R (dplyr, ggplot), Rmd, SQL

Software carpentry:
Gained exposure to more advanced computational skills relevant to my research
Automation, version control, plotting and programing using Unix shell, Python, Git, GitHub, jupyter

Research Mentor Training:
Developed skills to be an efficient and effective mentor
Penned a mentoring philosophy and mentor-mentee agreement to guide research expectations

Equity in STEM for All Genders:
Gained knowledge and tools to identify bias in academic and research settings
Implemented strategies to make campus more LGBTQ+ inclusive through intervention and advocacy
Identified ways that gender bias influences and impacts training and career outcomes for STEM trainees

Field Experience

Come, Benin | March 2024, October 2024, May 2025
Project management
Developed methods for latrine sludge sample collection
Trained lab staff in latrine sludge and wastewater sample processing and DNA extractions

Vellore, India | June 2024
Project management
Oversaw environmental sample collection
Provided training and expertise in molecular surveillance

Puerto Nariño, Colombia | January 2023
Organized and mediated sample collection from study participants
Determined locales for traps to incriminate vectors responsible for endemic virus and parasite transmission
Acquired GPS data for remote communities in our study region

Entomology 875: Field Ecology | 2019
Explored the theory of ecological communities
Identified major challenges in developing experimental and analytical approaches to effectively test competing mechanisms of community assembly