Curriculum Vitae

Kendra J. Gallo

Department of Pathobiological Sciences
School of Veterinary Medicine
University of Wisconsin–Madison

Kdahmer@wisc.edu
Kendra_Gallo
KendraGallo.github.io
www.github.com/KendraGallo
Google Scholar

Analytically minded molecular parasitologist with collaborative field experience implementing global and public health programs. Expertise in data acquisition, analysis, and visualization. Driven to refine my skills in disease ecology and epidemiology. I am passionate about science as it relates to one-health, policy, and climate change.

Current position

2018 - 2023 **Doctoral Candidate**
Comparative Biomedical Sciences Program
Department of Pathobiological Sciences
University of Wisconsin–Madison, WI US

Education

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

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

Research Experience

2018 - 2023 **Doctoral Research**
Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison
- Characterizing filarial parasite G protein-coupled receptors as novel drug targets
- Improving surveillance and diagnostic efforts for *Mansonella spp.* in Colombia
- Developing and optimizing advanced high-content screening methods for filarial 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: 17, h-index: 3 | **Google Scholar link**

5. **Gallo KJ**, Palma-Cuero M, Ciuoderis K, Roitman S, Li Z, Sinha A, JP Hernandez-Ortiz, Osorio JE, Christensen B, Carlow CKS, Zamanian M‡. *Improving resources for the surveillance and study of the neglected parasite Mansonella in the Colombian Amazon.*
In preparations. 2023.

4. **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.

3. 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.

2. 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

1. 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

- **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

- 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

- 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

Presentations

Talks: 5, Posters: 6

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)**

Teaching

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

Undergraduate Mentoring

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

Professional Affiliations

2018 - **Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)**
- Member
- Outreach Chair for UW-Madison chapter

Service and Outreach

Catalysts for Science Policy (CASP):

2022: Memo 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- : 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- : Outreach chair, elected

Science and Medicine Graduate Research Scholars (SciMed GRS):

2021- : 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

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 (Honroable Mention)
2019-2021: National Institute of Health Parasite and Vector Biology Training Grant (NIH-PVB-T32), University Wisconsin-Madison ($40,000/year)
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 graduate 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 graduate research
Automating tasks, version control, plotting and programing in Python, using interactive coding platforms
Unix shell, Python, Git, GitHub, jupyter

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