

Curriculum Vitae

Education

Ph.D. in Biophysics

Minor in Life Sciences Communication

University of Wisconsin - Madison, Madison, WI

2016 – 2023

2017 – 2018

Post-Baccalaureate Coursework in Biology, GPA 4.0

University of California Berkeley Extension, Berkeley, CA

Peralta Community Colleges, Oakland and Berkeley, CA

2011 – 2015

2014 – 2015

2011 – 2014

Bachelor of Applied Science, Sound Arts, Salutatorian, GPA 3.8

SAE Institute, Emeryville, CA

University of California Santa Cruz, Santa Cruz, CA (transferred credit)

2004 – 2009

2006 – 2009

2004 – 2005

Research Experience

Postdoctoral Researcher, McClean Lab, University of Wisconsin - Madison

Engineering microbial interactions, interdomain conjugative transfer of DNA, optogenetics, spatial patterning of populations, population modeling

2023 – 2024

Graduate Researcher, McClean Lab, University of Wisconsin - Madison, WI

Engineering microbial interactions, interdomain conjugative transfer of DNA, optogenetics, spatial patterning of populations, population modeling

2018 – 2023

Graduate Researcher, Record Lab, University of Wisconsin - Madison, WI

Prokaryotic transcription initiation, promoter biophysics

2017 – 2018

Research Associate, 10x Genomics, CA

Illumina sequencing technician, sample preparation and instrument diagnostics

2015 – 2016

Staff Research Associate, Vincent J Coates Sequencing Lab, University of California, Berkeley, CA

Illumina sequencing sample preparation

2015 – 2016

Sequencing Technician, California Pacific Medical Center, CA

Sequencing for mitochondrial DNA samples, age-related metabolic research

2015

Staff Research Associate, Children's Hospital Oakland Research Institute, CA

Human Leucocyte Antigen (HLA) associations with age-related macular degeneration (AMD), 454 sequencing

2012 – 2014

Teaching and Mentorship

Assistant Professor of Biochemistry, University of Wisconsin – Stevens Point

2024 - Present

CIRTL Teaching-as-Research Certificate, University of Wisconsin – Madison

Developed, implemented, and analyzed materials for introductory Physics course at Ripon College, targeting effects of Case-Based Learning on student motivation at PUIs, through the Delta Internship for implementing data into instruction

2022 – 2023

Undergraduate student mentorship, University of Wisconsin – Madison

Training and collaboration with five undergraduate students, between two labs

2017 – 2021

Student Instructor, University of Wisconsin - Madison

Exploring Service in Science: Freshman seminar on community engagement in the sciences, part of WISCIENCE Service Fellows program

2018

Teaching Assistant, University of Wisconsin - Madison

Biophysical Chemistry: senior level undergraduate section

2017

SAT/ACT Tutor, Eureka Review

2011 – 2012

Teaching Assistant, SAE Institute

Western Civilization, Sociology, Psychology, Popular Culture

2006 – 2009

Publications

Stindt, KR, McClean, MN (2024). “Tuning interdomain conjugation to enable in situ population modification in yeasts. *mSystems* 9:e00050-24.

Scientific
Article

Stindt, KR, Morales, NM, McClean, MN (2022). “Give and Take in the Exometabolome.” *Nature Microbiology*, Apr 7(4):484–485

News & Views

Lauterjung, KR, Morales, NM, McClean, MN (2020). “Secrete to Beat the Heat.” *Nature Microbiology*, Jul 5(7):883–884

News & Views

Lauterjung, KR, et. al. (2019). “Protecting Soil Resources by Improving the Wisconsin Farmland Preservation Program.” *Journal of Science Policy & Governance*, vol. 15

Policy Memo

Tranah, GJ, Katzman, SM, **Lauterjung, KR**, ... and Cummings, SR (2018). “Mitochondrial DNA m.3243A > G heteroplasmy affects multiple aging phenotypes and risk of mortality.” *Scientific Reports*, vol. 8

Scientific
Article

Presentations

“Tuning Interdomain Conjugation Toward <i>in situ</i> Population Modification in Yeast” Talk & Poster, International Conference on Microbiome Engineering, Berkeley, CA	2023
“Optimizing Transkingdom Conjugation” Talk, Biophysics Colloquium, University of Wisconsin – Madison	2021
“Transkingdom Conjugation in Synthetic Consortia” Short Talk, Center for Complex Biological Systems, University of California, Irvine	2020
“Transkingdom Conjugation in Synthetic Consortia” Short Talk, Biophysics Colloquium, University of Wisconsin - Madison	2019
“In vivo effects of discriminator sequences on transcription initiation in <i>E. coli</i> ” Poster, Biophysical Society Conference, San Francisco, CA	2018
“In vivo effects of discriminator sequences on transcription initiation in <i>E. coli</i> ” Poster, Biophysics Colloquium, University of Wisconsin - Madison	2017
“In vivo effects of discriminator sequences on transcription initiation in <i>E. coli</i> ” Poster, Gibbs Conference on Biological Thermodynamics, Carbondale, IL	2017

Awards and Fellowships

Systems Biology: Foundations for Interdisciplinary Careers Travel award and fellowship (NIH/NIGMS)	2020
Molecular Biophysics Training Program T32 traineeship (NIH/NIGMS)	2019 – 2020 2017 – 2018
WISCIENCE Public Service Fellows	2017 – 2018
Salutatorian Graduate, SAE Institute	2009

Research Skills

- Prokaryotic and eukaryotic molecular biology
- Fluorescence microscopy
- Flow cytometry and cell sorting
- MATLAB image processing, computation, model fitting
- Genetic engineering, including λ red recombineering in bacteria, cloning, and yeast homologous recombination
- Dynamic cell systems ODE modeling
- *in vitro* prokaryotic transcription, including fast-mixer kinetics
- Mitochondrial genetics, including age-related disorders and phenotypes
- Amplicon 454 and Illumina sequencing

Professional and Social Development

- Biophysics Program Steering Committee, student representative (2019 – present)
- Catalysts for Science Policy (student organization), Treasurer (2019 – 2020) and member since 2018
- Perpetual Notion Machine (local science radio), engineer and producer (2018 – present)
- Biophysical Society Student Chapter (student organization), Treasurer and Co-Founder (2019)
- WISCIENCE Public Service Fellow (2017 – 2018)
- Life Science Communications Minor (2017 – 2018)

Outreach and Volunteerism

- Citizen science testing long-term health of Silver Creek in Ripon, WI
- With Catalysts for Science Policy, organized community events for science policy, including those emphasizing effects on underrepresented groups. Helped start podcast “In a Perfect Policy” with same focus
- WI Science Festival and “Saturday Science” event outreach, as organizer and participant for youth engagement, including personal tours of lab space and research for science club students
- “Junior Science Café” events with junior high students, discussing barriers to entering science. Focus on personalization of scientists and breaking perceptual norms
- Engineering, production, and hosting for Madison local radio (WORT) shows for science (“Perpetual Notion Machine”) and literature (“Radio Literature”), on volunteer basis
- With the Coalition for Concerned Medical Professionals in Oakland, CA, advocated for patients without medical insurance, including payment options, facilitating care, providing transportation and food for those with low income