

HANNAH GLESENER

EDUCATION

Ph.D., Biological Design

Expected Aug 2026

School for Engineering of Matter, Transport, and Energy

Arizona State University, Tempe, AZ

Current GPA: 4.0

Qualifying exam passed February 6, 2024

Comprehensive exam passed August 19, 2025

Bachelor of Science, Biological Sciences

Spring 2022

College of Natural Science and Mathematics

University of Alaska Fairbanks, Fairbanks, AK

Summa cum laude

GPA: 3.90

Bachelor of Arts, Communications

Spring 2015

Seattle Pacific University, Seattle, WA

GPA: 2.7

RESEARCH EXPERIENCE

Graduate Research Assistant

Aug 2022 – present

ASU Center for Health Through Microbiomes, Co-Advisors: Rosa Krajmalnik-Brown, PhD and Lee Voth-Gaeddert, PhD

- Become proficient as an interdisciplinary scientist at the entire research process from ideation, implementation, analysis, and dissemination of research
- Manage multiple projects and undergraduates in a collaborative international team environment
- Operate bioreactors monitoring the biotransformation of toxins by microbes isolated from the human gut microbiome
- Perform bioinformatic analysis of metagenomic data using SOL supercomputer, Bash Python, and R using standard and custom pipelines

REU Student, Research Assistant

Aug 2021 – July 2022

UAF Institute of Arctic Biology, Advisor: Ursel Schütte, PhD

- Optimize RNA extraction method for *Populus tremuloides*
- Characterize immune response of *P. tremuloides* to aggressive fungal canker using transcriptomics

Genomics Workshop Student Researcher

Spring 2022

UAF Institute of Arctic Biology, Advisor: Devin Drown, PhD

- Explore the future of Edge Computing Build and run a portable genomics device using a Nvidia Jetson GPU combined with Oxford Nanopore's MinION DNA sequencing device
- Use R programming to analyze data and visualize results

BLaST Undergraduate Research Experience

May 2021 – June 2022

UAF Biomedical Learning and Student Training, Advisor: Andrea Bersamin, PhD

"A Text Messaging Randomized Control Trial to Measure Improvement of Fruit and Vegetable Intake in Emerging Adults"

- Develop a text messaging intervention program to increase fruit and vegetable intake in undergraduate students at UAF
- Conduct focus groups, incorporate feedback, and implement program in Spring 2022

Undergraduate Research Assistant

Mar 2020 – Dec 2021

Institute of Arctic Biology, Center for Alaska Native Health Research, Biology and Wildlife Department, UAF, Advisor: Andrea Bersamin, PhD

- Assist Dr. Bersamin with various projects including but not limited to data entry for original research and an extensive literature review for a scoping review

TEACHING AND MENTORSHIP

Barrett Honors Project Committee Member

Haadia Tanveer and Darya Abdollahzadeh

Successfully defended March 2025

Project titled: *The Therapeutic Potential of Synbiotics for Gut Inflammation and Growth*

Promotion: *Analyzing AMR Genes and SCFA Profiles in Chicken Fecal Content*

Both students graduated May 2025

Benjamin Aguilar

Successfully defended March 2025

Project titled: *Pathogen Carriage and Inflammatory Markers: Exploring Gut Microbiota in Malnourished Populations*

Student graduate May 2025

Informal Undergraduate Mentorship

Iris Rose Smith

Summer 2025 -

Hannah Kunimoto

Summer 2025 -

Haadia Tanveer

Fall 2023-Spring 2025

Darya Abdollahzadeh

Fall 2023-Spring 2025

Benjamin Aguilar

Fall 2023-Spring 2025

Emeline Seegmiller

Fall 2023-Spring 2024

Blake Su

Fall 2023

Teaching Assistant

Aug 2021 – June 2022

UAF Department of Biology and Wildlife, Professor: Ursel Schütte, PhD

Beginnings in Microbiology, Fall 2021, Spring 2022

- Run labs, advise students who need help, grade labs, weekly professor meeting

Teaching Assistant

Jan 2021 – May 2021

UAF Department of Biology and Wildlife, Professor: Andrea Bersamin, PhD

Introduction to Human Nutrition, Spring 2021

- Run labs, advise students who need help, grade labs, weekly professor meeting

PUBLISHED PAPERS

Glesener, H., Voth-Gaeddert, L. E., & Krajmalnik-Brown, R. (2025). Gut Check: Can Probiotics Serve as a Microbial Intervention to Mitigate Toxin Exposure?. *The Journal of Nutrition*.

Tanveer, H., **Glesener, H.**, Su, B., Bolsinger, B., Krajmalnik-Brown, R., & Voth-Gaeddert, L. E. (2025). Evaluating Methods for Aflatoxin B1 Monitoring in Selected Food Crops Within Decentralized Agricultural Systems. *Toxins*, 17(1), 37.

Montenegro-Benthancourt, G., **Glesener, H.**, Torres, O., Seegmiller, E., Rohloff, P., & Voth-Gaeddert, L. E. (2024). Practices of maize handling and nixtamalization to reduce fungal toxin exposure in rural Guatemala. *Journal of agriculture and food research*, 18, 101512.

Glesener, H., Abdollahzadeh, D., Muse, C., Krajmalnik-Brown, R., Weaver, M. A., & Voth-Gaeddert, L. E. (2024). X-ray Irradiation Reduces Live *Aspergillus flavus* Viability but Not Aflatoxin B1 in Naturally Contaminated Maize. *Toxins*, 16(8), 329.

Cheng, Q., **Glesener, H.**, Montenegro, G., Torres, O., Miller, A. C., Krajmalnik-Brown, R., ... & Voth-Gaeddert, L. E. (2023). Assessment of aflatoxin exposure, growth faltering and the gut microbiome among children in rural Guatemala: protocol for an observational prospective cohort and bioreactor simulations. *BMJ Paediatrics Open*, 7(1).

ORAL & POSTER PRESENTATIONS

Glesener, H., Dorn, N., Krajmalnik-Brown, R., and Voth-Gaeddert, L.E. Gut microbial metabolic responses to solvent-dependent delivery of aflatoxin B1 in batch bioreactors. Poster presentation at: Biodesign Fusion 2025; April 2025; Phoenix, AZ.

Aguilar, B., **Glesener, H.**, Tako, E. and Voth-Gaeddert, L.E. Pathogen Carriage and Gut Inflammation in Chronically Malnourished Pediatric Populations. Poster presentation at: Biodesign Fusion 2025; April 2025; Phoenix, AZ.

Abdollahzadeh, D., Tanveer, H., **Glesener, H.**, and Voth-Gaeddert, L.E. The Potential of AGP Substitutes to Mitigate the Threat of AMR Resistance: Analyzing AMR Genes in Broiler Fecal Content. Poster presentation at: Biodesign Fusion 2025; April 2025; Phoenix, AZ.

Tanveer, H., Abdollahzadeh, D., **Glesener, H.**, Tako, E. and Voth-Gaeddert, L.E. Therapeutic Potential of Synbiotics for Recovery from Gut Inflammation and Growth Outcomes in Broiler Chickens. Poster presentation at: Biodesign Fusion 2025; April 2025; Phoenix, AZ.

Glesener, H., Dorn, N., Krajmalnik-Brown, R., and Voth-Gaeddert, L.E. Solvent-dependent aflatoxin B1 delivery does not elicit strong gut microbial metabolic responses in batch bioreactors. Poster presentation at: Annual ASM AZ/SNV Branch Meeting; April 2025; Flagstaff, AZ.

Glesener, H., Tanveer, H., Abdollazedah, D., Seegmiller E., Su B., Krajmalnik-Brown, R., and Voth-Gaeddert, L.E. Assessing Household Nixtamalization Parameters to Remove Aflatoxin B1. Poster presentation and rapid fire talk at: Biodesign Fusion 2024; April 2024; Phoenix, AZ.

Glesener, H., Weaver, M., Abdollazedah, D., Krajmalnik-Brown, R., and Voth-Gaeddert, L. E. X-ray irradiation of *Aspergillus flavus* and Aflatoxin B1 contaminated maize. Oral presentation at: American Chemical Society Spring 2024; March 2024; New Orleans, LA.

Glesener, H. and Schütte, U. Characterizing the immune response of trembling aspen to an aggressive fungal pathogen in Interior Alaska. Poster presented at: 2022 URSA Research and Creative Activity Day; April 2022; Fairbanks, AK.

Brown, J., **Glesener, H.**, Pemberton, E., White, O., Wrenn, D., and Drown, D. Portable Genomics Hackathon for pathogen detection. Poster presented at: 2022 URSA Research and Creative Activity Day; April 2022; Fairbanks, AK.

Glesener, H. and Schütte, U. Optimizing RNA extraction from trembling aspen bark to characterize plant immune response to an aggressive fungal canker. Poster presented at: 2021 American Society for Microbiology Alaska Branch Meeting; November 2021; Fairbanks, AK.

AWARDS/GRANTS

Biodesign Institute Travel Grant \$500	October 2025
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2025 Microbiome SMRT Grant for HiFi shotgun metagenomics Value \$10,000	September 2025
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University Graduate Fellowship \$1000	Summer 2025
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ASU GSG Outstanding Research Award for Spring 2025 \$750	April 2025
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ASU GPSA Publication Grant \$1200	August 2024
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<i>Honorable mention</i> , NSF Graduate Fellowship Research Program	April 2024
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Biodesign Institute Travel Grant \$500	March 2024
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ASU GPSA Travel Grant \$950	January 2024
University Graduate Fellowship \$500	Summer 2023
ASU GPSA Career Development Grant \$950	August 2023
Dean's Fellowship ASU School for Engineering of Matter, Transport, and Energy \$35,000 yearly stipend, 4 years	Fall 2022
Outstanding Undergraduate Student in Biological Science	May 2022
Dan Glass Memorial Award for UAF URSA Poster Presentation \$1000	April 2022
Chancellor's List	Spring 2022, Fall 2021, Spring 2021, Fall 2020, Summer 2020
Undergraduate Research and Scholarly Activity Spring Award \$2500	Spring 2022
NSF Research Experience for Undergraduates	Summer 2021
BLaST Summer Research Award \$5000	Summer 2021

PROFESSIONAL SERVICE AND MEDIA COVERAGE

Service

Graduate and Alumni Affairs Committee Member	Jan 2024 - present
- Serve the Biological Design PhD Program by planning graduate student events, organizing seminars, serving on student panels, and publishing a newsletter	
GPSA Research Grant Reviewer	Sept 2023 – present
- Review research proposals for graduate students across ASU once a month as a volunteer of the Graduate Student Professional Association	
GPSA Travel Grant Reviewer	Jan 2023 – Fall 2024
- Review travel proposals for graduate students across ASU once a month as a volunteer of the Graduate Student Professional Association	

Media Coverage

Biodesign Beat internal newsletter of the Biodesign Institute	Sept 2024, March 2025, April 2025
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“ASU researchers help control cancer-causing poison in corn”

COMMUNITY INVOLVEMENT

City of Phoenix Park Steward

July 2022 – present

- Maintain walking and biking trails in the Phoenix North Mountain Park
- Serve at one-off park events to facilitate the participation of the public in Phoenix Parks

Biodesign 20th Anniversary Health and Wellness Team

Nov 2023 – Dec 2024

- Implement wellness competition and track points
- Execute planned health & wellness events with team
- Run a monthly, science-themed book club

Nucleate Arizona Leadership Team

Jan 2023 – June 2024

- Serve as Director of Communications (Jan '23 – Dec '23) and Director of Strategy (Jan '24 – June '24)
- Weekly meet with other members of the leadership team to build the Arizona chapter of Nucleate, a student focused 501(c)(3) that empowers early student involvement in biotech
- Create event marketing materials, assist with logistics and implementation of plans for Nucleate outreach events

Fairbanks Food Bank

Jun 2020 – Jun 2022

- Volunteer on weekends to pack and distribute federally funded food program boxes, for rural Alaska and the greater Fairbanks community, and to train new volunteers

SOCIETY STUDENT MEMBERSHIP

American Chemical Society

2024 -

American Society for Microbiology

2022 -