

STEPHANIE BIERLY

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EDUCATION

B.S. Susquehanna University, Biomedical Sciences May 2021
Graduated Summa Cum Laude, University and Departmental Honors
Minored in Chemistry

ADMINISTRATIVE EXPERIENCE

The Pennsylvania State University, University Park, PA 2021 to current
Research Technologist I, Ganda Laboratory

- Managed budget totaling over one million dollars for entire laboratory
- Maintained laboratory protocols and standard operating procedures for all equipment
- Provided feedback and input on scientific publications and grant proposals for projects completed in the laboratory and with collaborators
- Worked directly with principal investigators to submit grants to USDA-NIFA, NIH, CDC, and internally to the university

The Pennsylvania State University, University Park, PA 2022 to 2023
Temporary Lab Manager, Kapur Laboratory

- Developed a system for laboratory and administrative organization and upkeep to train future lab employees
- Assisted in preparation of international shipment of supplies to collaborator labs in various African countries in accordance with national and university policies

Coursera.org, Online December 2022
Google Project Management Certificate

- Completed the 6-course certification on project management
- Generated documents for a mock project to practice and demonstrate skills learned

RESEARCH EXPERIENCE

The Pennsylvania State University, University Park, PA 2021 to current
Research Technologist I, Ganda Laboratory

- Performed various laboratory experiments including DNA extraction and assays
- Analyzed 16S rRNA microbiome data using R and bash scripts
- Implemented organization systems into the day-to-day functioning of the laboratory
- Maintained a cleanly work environment in the laboratory with multiple lab members
- Collaborated with members of other internal and external laboratories on various research projects

- The Pennsylvania State University**, University Park, PA 2022 to 2023
Temporary Lab Manager, Kapur Laboratory
- Worked directly with undergraduate researchers to determine best method for DNA extraction of bacterial DNA from bovine milk samples
 - Performed PCR on DNA from bovine milk samples and prepared for sequencing on the Illumina MiSeq platform
- Susquehanna University**, Selinsgrove, PA 2020 to 2021
Senior Capstone Research
- Completed 14-week research project on using siRNA to manipulate gene expression of Pointed P2 in *Drosophila*
 - Presented research findings to Susquehanna University faculty and students orally and as a written thesis
- Susquehanna University**, Selinsgrove, PA 2018
Honors Project Research
- Researched how to increase frequency of polled gene in personal herd
 - Presented findings at Sophomore Paper Presentations and Poster Exhibit

HONORS AND AWARDS

- 2023 Research Professional Staff Award** 2023
Award given by the College of Agricultural Science at Penn State for contributions to the college's research enterprise.
- Center For Dairy Excellence Research On-Farm Intern** 2020
Completed a 10-week research project on a dairy farm in Pennsylvania with final presentation.
- Pennsylvania Runner-Up Miss Agriculture USA Queen** 2020
- Susquehanna University Student Shepherdess** 2019
Primary caretaker for sheep rented by Susquehanna University for grazing under their ten-acre solar array.

REFEREED PUBLICATIONS (ORCID ID: 0000-0003-3921-9168)

- Gaeta, N.C., de Sá Guimarães, A.M., Timenetsky, J., **Clouser, S.**, Gregory, L., and Ganda, E. The first *Mycoplasma ovipneumoniae* recovered from a sheep with respiratory disease in Brazil – draft genome and genomic analysis. *Veterinary Research Communication* **46**, 1311–1318 (2022). <https://doi.org/10.1007/s11259-022-09972-x>
- Bierly, S.**, VanSyoc, E., Miles, A., Gaeta, N., Westphalen, M., Felix, T., and Ganda, E. Effects of feeding rumen-protected oleoresin Capsicum on rumen and gut microbiome of growing beef and dairy steers. (*Under Review*).

Bierly, S., Andreen E., Laksmi, K. S., Soder, K., Ganda, E., Microbial analysis of continuous culture fermenters with differing methods of inoculation and different diets (*In Preparation*).

Kenney, S., Seibel, S., Chung, T., **Bierly, S.**, Van Syoc, E., Sapre, A., Miles, A., Kovac, J., Ganda, E., rhAMR: A comprehensive and cost-effective resistome profiling method. (*In Preparation*).

Ransom, E., **Bierly, S.**, Ganda, E. Exploring the Relevance of Gender in Agriculture for Antimicrobial Resistance: A Case Study of PA Dairy Farms. (*In Preparation*).

Fonseca, A., Kenney, S., VanSyoc, E., **Bierly, S.**, Dini-Andreote, F., Silverman, J., Boney, J., Ganda, E. Longitudinal characterization of the effect of probiotics and essential oils on broilers' microbiome and performance. (*In Preparation*).

PRESENTATIONS

Presenter is underlined

Lyimo, B., Mayenga, C., Lyimo, S., Munuo, L., Malkiadi, D., Abdalla, A., Mlewa W., Bierly, S., Box, E., Gleasner, C., Li, L., Byukusenge, M., Cattadori, I., Ganda, E., Middlebrook, E., Radzio-Basu, J., Bartlow, A., Hudson, P., Mathew, C., Makondo, Z., Fair, J., Kapur, V., Buza, J., Katani, R., "Effect of Brucella spp. Infection on the milk microbiome in cattle and goats: implications for disease transmission," Conference of Research Workers in Animal Diseases, Poster Presentation, January 2024.

Wolff, J., Kenney, S., Bierly, S., Katani, R., Ganda, E., "An Evaluation of Manual DNA Extraction Procedures from Bovine Milk," Eberly College of Science Undergraduate Research Symposium, Poster Presentation, October 2023.

Seibel, S., Kenney, S., Chung, T., Bierly, S., Van Syoc, E., Sapre, A., Miles, A., Kovac, J., Ganda, E., "rhAMR: massive parallel amplicon sequencing of the resistome," World AMR Congress, Poster Presentation, September 2023.

Ransom, E., Bierly, S., Ganda, E., "Human and Ethical Dimensions of Antimicrobial Resistance: Decision-Making and Pharmaceutical Use Among Livestock Farmers in Pennsylvania and Kenya," Rural Sociological Society Annual Meeting, August 2023.

Lection J., Jimenez E., Zarei P., Bierly S., Spring J., Martinez M., Barragan A., Ganda E., "Effects of parturition acetylsalicylic acid administration on reproductive microbiome in postpartum Holstein dairy cattle," *Journal of Dairy Science*, 2023 106(Supp. 1): 434, American Dairy Science Association Annual Meeting, Ottawa, ON, CA, June 2023.

Kenney, S., Seibel, S., Chung, T., Bierly, S., Van Syoc, E., Sapre, A., Miles, A., Kovac, J., Ganda, E., "rhAMR: A comprehensive and cost-effective resistome profiling method," National Institute of Antimicrobial Resistance Research and Education, Poster Presentation, May 2023.

Bierly, S., Kenney, S., Ganda, E., “Doubling Down on *Salmonella* Dublin: Prevention and Management on Dairies,” Ag Progress Days, Oral Presentation (Broadcast to PCN), August 2022.

Bierly, S., Vivekanand, P., “siRNA Targeting and Silencing of Pointed P2 in *Drosophila* and Implications for Technique Application to Human Disease” Susquehanna University Biology Senior Capstone Presentations, Oral Presentation, November 20, 2020.

Bierly, S., Tobin, T., “Analysis of breeding for the polled gene in my Milking Shorthorn dairy herd,” Susquehanna University Honors Presentations, Poster Presentation, November 2018.

COMPUTER SKILLS

Data Analysis: R, R Studio, Python, Bash, dada2,

Applications: Microsoft Office, Microsoft Access, Microsoft OneNote, Asana, Trello, WordPress, Bluehost, Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Zoom, Microsoft Teams, Buffer, Slack, Canva, Atom, Spyder, GitHub

General: email communications, webpage monitoring and design, social media management, data management, data visualization, inventory tracking

PERSONAL SKILLS

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|---------------------|-----------------------|
| - Problem solving | - working as a team |
| - critical thinking | - project management |
| - organization | - leadership |
| - time management | - adaptability |
| - flexibility | - attention to detail |
| - multi-tasking | - empathy |

RESEARCH SKILLS

Animal Related Research

Mouse, chicken, dairy, horse

Handling, sampling, necropsy, behavioral assessment

Microbiology

Culture, physiological and molecular analysis, aseptic technique

Immunology

ELISA

Amplicon Library Preparation

DNA extraction, PCR amplification, gel electrophoresis, 16S library prep

COMPLETED TRAININGS

Yearly Biosafety, CITI Program, Pennsylvania State University

Expires: December 2023

Shipping of Regulated Biological Material, CITI Program, Pennsylvania State University

Expires: December 2023

Responsible Conduct of Research, CITI Program, Pennsylvania State University

Expires: N/A

Chemical Waste Management, Penn State University Learning Resource Network

Expires: June 2024

Laboratory and Research Safety, Penn State University Learning Resource Network

Expires: June 2024

Working with Mice in Research Settings, CITI Program, Pennsylvania State University

Expires: N/A

Working With Horses in An Agricultural Research Setting, CITI Program, Pennsylvania State University

Expires: N/A

Working with Cattle in Agricultural Research Settings, CITI Program, Pennsylvania State University

Expires: N/A

Biomedical Human Subjects Research (IRB) Course, CITI Program, Pennsylvania State University

Expires: October 2024

Animal Care and Use for Researchers Not Involved in Survival Surgery, CITI Program, Pennsylvania State University

Expires: March 2024

PROFESSIONAL AFFILIATIONS

AVBS Building Committee, 2022-Current

Third Floor Representative

American Society for Microbiology, 2022-2023

General Membership

Pennsylvania Farm Bureau, 2021-2022

General Membership