Elizabeth B. Wright

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Graduate Research Associate *April 2023 - Present*
Department of Neuroscience
University of Arizona

EDUCATION & TRAINING

University of Arizona, Tucson, AZ *August 2019 - Present*
PhD, Neuroscience
Thesis Advisor: Martha Bhattacharya, PhD
"Investigating the role of transmembrane 184B (TMEM184B) in endosomal acidification"

Bradley University, Peoria, IL *August 2015 - May 2019*
Bachelor of Science in Biochemistry and Psychology
Research Advisor: Timothy Koeltzow, PhD
"Establishing a model of adolescent Post-Traumatic Stress Disorder (PTSD)"

TECHNICAL SKILLS

Molecular and Assay Techniques: Microarrays, luminescence reporter assays, RNA sequencing, transfection/transduction, molecular cloning, PCR/qPCR, nucleic acid & protein extraction/purification

Cell Culture & Maintenance: Primary neurons, hiPSCs, fibroblasts, immortalized mammalian cell lines, differentiation, expansion, cryopreservation

In Vivo: Animal models, behavioral tests, injections, surgeries, genotyping, tissue fixation, sectioning

Biochemical Analysis & Imaging: Western blotting, SDS-PAGE, affinity chromatography, confocal microscopy, fluorescence/live imaging, image analysis (ImageJ)

Collaboration & Data Communication: Cross-functional teamwork, data analysis (GraphPad Prism/SPSS), visualization, scientific writing, and experimental design

PUBLICATIONS

Wright, E.B., Larsen, E.G., Padilla-Rodriguez, M., Langlais, P.R., Bhattacharya, M.R.C. (2025). Neuronal endolysosomal acidification relies on interactions between transmembrane protein 184B (TMEM184B) and the vesicular proton pump. *bioRxiv.* https://doi.org/10.1101/2025.02.01.635992

Wright, E.B.*, Larsen, E.G.*, Hart, H., Bhattacharya, M.R.C. (2023). Transmembrane protein 184B (TMEM184B) promotes expression of synaptic gene networks in the mouse hippocampus. *BMC Genomics*. https://doi.org/10.1186/s12864-023-09676-9

Larsen, E.G., Cho, T.S., McBride, M.L., Feng, J., Manivannan, B., Madura, C., Klein, N.E. **Wright, E.B.**, Garcia-Verdugo, H.D., Jarvis, C., Khanna, R., Hu, H., Largent-Milnes, T.M., Bhattacharya, M.R.C. (2022). Tmem184b is necessary for IL-31 induced itch. *Pain*. doi: 10.1097/j.pain.0000000000002452

CONFERENCE PRESENTATIONS

Wright, E.B., Larsen, E.G., Roessle, C.M., Yahiku, Z.A., Bhattacharya, M.R.C. (2024) TMEM184B promotes endosomal acidification and mTORC1 activity through interactions with the v-ATPase. Presented at the Cell Biology of the Neuron Gordon Research Conference, Waterville Valley, NH.

Wright, E.B.*, Larsen, E.G.*, Hart, H., Bhattacharya, M.R.C. (2023). Transmembrane protein 184B (TMEM184B) promotes expression of synaptic gene networks in the mouse hippocampus. Presented at the annual Arizona Alzheimer's Consortium, Phoenix, AZ.

Larsen, E.G.*, **Wright, E.B.***, Hart, H., Bhattacharya, M.R.C. (2022). Transmembrane protein 184B (TMEM184B) promotes expression of synaptic gene networks in the mouse hippocampus. Presented at the annual Society for Neuroscience Meeting, San Diego, CA.

Wright, E.B., Larsen, E.G., Janezic, E., Wickstead, E.S., Tucker, G.C., Bhattacharya, M.R.C. (2022). TMEM184B Controls Neuronal Vesicular pH via V-ATPase Interactions. Presented at the Cell Biology of the Neuron Gordon Research Conference, Waterville Valley, NH.

Larsen, E.G., Cho, T.S., McBride, M.L., Feng, J., Manivannan, B., Madura, C., Klein, N.E. **Wright, E.B.**, Garcia-Verdugo, H.D., Jarvis, C., Khanna, R., Hu, H., Largent-Milnes, T.M., Bhattacharya, M.R.C. (2021). TMEM184B is necessary for IL-31 induced itch. Presented at the Annual Society for Neuroscience Meeting (Virtual).

Wright, E.B., Ruyle, M.T., Cheline, B.C., Mercado, J.M. & Koeltzow, T.E. (2018). Establishing a model of PTSD in adolescent rats. Presented at the Annual Society for Neuroscience Meeting, San Diego, CA.

Wright, E.B., Ruyle, M.T., McMillan, S.D., & Koeltzow, T.E. (2018) Establishing a model of PTSD in adolescent rats. Psi Chi Poster Session, *Program, 275*. Eighty-Ninth Annual Meeting, Midwestern Psychological Association, Chicago, IL.

Wright, E.B., Garrison, A.L., O'Russa, J.P. & Koeltzow, T.E. (2017). Establishing a modified model of PTSD in adolescent rats. Presented at the Annual Meeting of the Faculty for Undergraduate Neuroscience at the Society for Neuroscience Meeting, Washington, D.C.

TEACHING

Brain Communication Networks Teaching Assistant, **University of Arizona**, Tucson AZ, Spring 2021

- Organized and facilitated laboratory sessions, including the design and execution of student experiments.
- Independently led lab sessions and provided supervision to students.
- Assisted students in troubleshooting computational analyses using R software.

Behavioral Neuroscience Teaching Assistant, **Bradley University**, Peoria, IL, Fall 2018

- Provided tutoring to psychology and biology majors on course material.
- Conducted review sessions to support student preparation for exams.
- Assisted in the organization and facilitation of the sheep brain lab practical.

HONORS AND AWARDS

- 2023-2024 Achievement Rewards for College Scientists Nominee for the Department of Neuroscience
- Society for Neuroscience Trainee Professional Development Award, 2021
- Graduate and Professional Student Council Travel Grant, 2021
- College of Liberal Arts and Sciences Summer Undergraduate Research and Artistry Fellow, 2018
- Spring Undergraduate Psi Chi Research Grant, 2018
- Mund-Lugowksi Department of Chemistry and Biochemistry John H. Shroyer Scholarship, recipient, April 2017-2018
- Nominated for Barry Goldwater Research Scholarship, 2018
- Special Emphasis Program Grant at Bradley University to fund travel to SfN, 2017
- Thomas F. O'Grady Experiential Learning Endowment Fund, Dept. of Psychology, 2017

UNIVERSITY & COMMUNITY SERVICE

Letters to a Pre-Scientist, STEM Professional, August 2024 – present

University of Arizona Graduate and Professional Student Council, Grant Reviewer, August 2021-present

University of Arizona NSCS, Assessment Grading Assistant, May 2021

ACTIVITY

Graduate Women in Science, member, 2023-present

Nu Rho Psi, member, 2017-present

- President of Bradley University's Nu Rho Psi executive board, 2018-2019
- Vice President of Bradley University's Nu Rho Psi executive board, 2017-2018

Psi Chi, member, 2017-present

- Compliance Officer for Bradley University's Psi Chi executive board, 2018-2019
- Public Relations and Secretary/Treasurer Officer for Bradley University's Psi Chi executive board, 2017-2018