

BRAE M BIGGE

✉ brae.bigge@gmail.com ☎ (316) 469-8900

🐦 @BiggeBrae in www.linkedin.com/in/braembigge 🌐 www.braebigge.com

EDUCATION

- Geisel School of Medicine at Dartmouth College, Hanover, New Hampshire** 2020 - 2022
PhD in Biochemistry and Cell Biology
- University of Kansas Medical Center, Kansas City, Kansas** 2017 - 2020
Graduate Student in Cell Biology
- Wichita State University, Wichita, Kansas** 2012 - 2017
Bachelor of Science in Biochemistry-Chemistry

RESEARCH EXPERIENCE

Graduate Research Assistant, Dartmouth College

- Developed and led project to understand the biochemical and functional characteristics of the Arp2/3 complex and the actin cytoskeleton in *Chlamydomonas reinhardtii*
- Effectively visualized data with GraphPad Prism, R, and Adobe Illustrator and presented work both verbally and in writing
- Designed and optimized assays for an unusual model system including immunofluorescence, immunoprecipitation, western blot, organelle isolation, and others
- Imaged experiments using spinning disk confocal, airyscan confocal, laser scanning confocal, DIC/Phase contrast, widefield fluorescence, and TIRF microscopy
- Analyzed data using ImageJ/FIJI, Nikon Elements, and Zeiss Zen
- Probed protein function using molecular cloning, PCR, DNA and RNA isolation, and algal and bacterial transformation and expression
- Performed sequence and structure studies using Geneious, BLAST, MEGA, AlphaFold, UCSF Chimera, and other software
- Mentored 6 students and collaborated with scientists from my lab and others on 3 projects leading to publications

Undergraduate Research Assistant, Wichita State University

- Collaborated on project to understand myopalladin's role in cardiac muscle function
- Purified protein fragments using a bacterial expression system
- Performed co-sedimentation assays to measure actin binding and bundling

RELEVANT WORK EXPERIENCE

- Dartmouth College** 2021
Graduate Teaching Assistant
- Delivered polished and clear lectures regarding cell biology techniques, assisted students with lab activities, met with students during office hours, and graded assignments and tests (virtually)
- Wichita State University Disability Services** 2017
Tutor
- Translated and tutored visually impaired student in biochemistry and medicinal chemistry
- Scribe America/CEP America** 2015-2016
Emergency Department Medical Scribe
- Observed interactions in the emergency department and accurately described them in precise detail in medical charts
- Wichita State University Honors College** 2014 - 2016
Honors Undergraduate Fellow
- Recruited new students and organized events and project to retain current students
 - Mentored other honors students as they started college

AWARDS AND HONORS

- University of Kansas Madison and Lila Self Graduate Fellow
- Poster presentation awards (2)
- Kansas Idea Network for Biomedical Research Excellence Scholar

VOLUNTEER WORK

- Letters to a Prescientist, *Letter writer and mentor*
- Sinochips Diagnostics, *Data entry volunteer for COVID testing*
- Kansas Big Brothers Big Sisters, *Mentor*
- Kansas DNA Day and Expanding Your Horizons, *Mentor*
- Wichita State University Summer Research Institute, *Mentor*

SKILLS

Cell Biology

- Algal cell culture, media preparation, and aseptic technique
- Assay development
- Immunoassays (immunofluorescence, immunoprecipitation, and western blot)
- Microscopy (spinning disk confocal, airyscan confocal, laser scanning confocal, DIC/Phase contrast, widefield fluorescence, and TIRF microscopy)
- Image analysis (ImageJ/FIJI, Nikon Elements, and Zeiss Zen)

Molecular Biology

- Molecular Cloning
- PCR
- DNA and RNA isolation
- Bacterial and algal transformation and expression

Bioinformatics

- Sequence studies (Geneious, BLAST, MEGA, and ApE)
- Structural studies (AlphaFold, UCSF Chimera, Modellar, and Pymol)

Data visualization and presentation

- Data visualization (GraphPad Prism, R, and Adobe Illustrator)
- Written and oral communication (Microsoft office)

Interpersonal Skills

- Leadership, mentoring/teaching, and collaboration
- Organization, time management, and attention to detail
- Idea development and troubleshooting
- Adaptability