



AUBREY KELBAUGH, M.S.

PROFESSIONAL BIOGRAPHICAL OUTLINE

BACKGROUND

Ms. Kelbaugh received a Bachelor of Science in Neuroscience from Temple University, and a Master of Science in Biomedical Engineering from Drexel University. At Drexel University, she contributed to the mechanical analysis of foam liners utilized in military-grade helmets via quasi-static loading and unloading experiments. In addition, she took several graduate level courses in the mechanical engineering department at Drexel University.

EDUCATION

- Master of Science in Biomedical Engineering, Drexel University, Philadelphia, Pa, March 2018
- Bachelor of Science in Neuroscience, Temple University, Philadelphia, Pa, May 2015

PROFESSIONAL EXPERIENCE

May 2018 – Present | ARCCA, Incorporated | Biomechanist

January 2018 – March 2018 | Drexel University's Dynamic Multifunctional Materials Laboratory | Graduate Research Engineer

- Characterized the quasi-static deformation of foam liners utilized in military-grade helmets to facilitate the development of next-generation military equipment with the goal of reducing the risk of mild traumatic brain injury among soldiers.
- Conducted stress and strain analytics on foams under compressive forces using cameras and digital image correlation to assess the microscopic mechanism of deformation.
- Collaborated with the Office of Naval Research, Team Wendy, Sandia National Laboratory, and Brown University to maintain long-term research interests in developing military protective equipment from multifaceted perspectives.

August 2016 – May 2017 | Temple University's College of Science and Technology: Chemistry | Adjunct Professor

- Provided theoretical background lectures and proctored chemistry laboratory experiments to sophomore and junior level undergraduate students.
- Emphasized the importance of laboratory safety, proper use of laboratory equipment, and independent thinking, while providing students with the building blocks necessary to expand and challenge their understanding of chemistry via experimentation and complimentary calculations.

October 2015 – June 2016 | Siepser Laser Eyecare | Ophthalmic Technician

- Conducted diagnostic measurements for long-term patient monitoring that included visual fields, optical coherence tomography, wave scans, orb scans, fundus photos, and disc photos.
- Recorded diagnoses, prognoses, and medications during medical appointments and surgical evaluations to ensure patient chart accuracy and documentation.



**August 2014 – May 2015 | Temple University School of Medicine: Pathology and Laboratory Medicine
| Undergraduate Research Scientist**

- Administered a modified conditioned place preference paradigm to show the reinforcing effects of natural and unnatural stimulants after segmentation and regeneration of planarians to contribute to the scientific understanding of drug addiction at a cellular level.
- Optimized immunohistochemistry technique through numerous exploratory trials to evaluate stem cells and regeneration in planarians by fluorescence microscopy.

**August 2013 – May 2014 | Temple University's Neurochemistry and Cognition Laboratory
| Undergraduate Research Scientist**

- Administered a set-shifting learning paradigm to rodents for exploration of executive functioning in an Alzheimer's disease model to evaluate the potential for compensatory mechanisms in young compared to aged rodents.
- Collected cortical tissue to quantify proteins associated with Alzheimer's disease via ELISA and Western blotting.