Laura Ziegler

laura.c.ziegler@gmail.com – 801.317.7648 linkedin.com/in/laura-c-ziegler

https://mmm.mech.utah.edu/people/

Education

Mechanical Engineering MS, University of Utah

GPA: 4.0

May 2023

- Advisor: Dr. Ashley D. Spear
- Funded by the DOE Nuclear Energy University Program
- Relevant Coursework: Continuum Mechanics, Image Processing, Experimental Methods

Biomedical Engineering BS, University of Utah

GPA: 3.82

December 2020

Technical Skills

MATLAB	Python	LabVIEW
SOLIDWORKS (CSWA Certified)	Image Processing	HEDM Reconstruction

Professional Experience

University of Utah Multiscale Mechanics & Materials Laboratory

June 2021 – Present

3D Grain Mapping using High Energy X-ray Diffraction Microscopy

• Currently reconstructing high-energy X-ray diffraction (HEDM) data from the Advanced Photon Source to study microstructure and micromechanics of structural metals used in nuclear and aerospace applications

Fluor Idaho, LLC - Idaho National Laboratory

June 2020 – August 2020

Electronic Dosimeter Comparison Study

• Designed and performed experiments to compare two electronic dosimeters to prevent radiation overexposure to radiological workers

University of Utah Preclinical Imaging Core

May 2018 – January 2020

Tracing White Matter Pathways in an Alligator Brain (Senior Thesis)

- Published in Neuroscience Letters demonstrating that white matter pathways in alligator brains could be traced using diffusion tensor magnetic resonance imaging (DTI) to improve our understanding of DTI Bird X-ray Bone Density
- Segmented CT scans to analytically determine if bone density in birds can be calculated using X-rays to find an inexpensive alternative to diagnose osteoporosis.

University of Utah bioDesign Project

January 2019 – May 2020

Designed an Endotracheal Tube Attachment to Prevent Related Tracheal Injuries

• Combined programming, knowledge of electrical circuits, amongst other skills, to design and build an innovative medical device that could potentially prevent tracheal injuries

University Orthopaedics Research Lab

May 2019 – December 2019

Determining the Proteoglycan Concentration in Athletes

• Used segmentation and image registration techniques to determine the proteoglycan content in acetabular cartilage in collegiate athletes to prevent FAIS

Selected Awards

BD Bard Undergraduate Scholarship

August 2020 – December 2020

UROP Scholar

January 2019 – August 2019

• Undergraduate Research Opportunity Program scholar received by working in an imaging research lab

University of Utah Honors at Entrance Scholarship

August 2016 – May 2020