

# Jackson Vaughn

## RESEARCH EXPERIENCE

### **Master's Thesis, Clean Lab, Bristol**

09.09.2024 - Present

Supervisors: Prof. Dr. Laura Robinson, Prof. Dr. Erica Hendy, Dr. Joseph Stewart

#### **Working Title: "Controls Over the Geochemistry of Galapagos Stylasterids"**

Sampled and analyzed over 50 modern Stylasteridae (biogenic carbonate) corals, varying in species, taken from the Galapagos using ICP-MS analysis. Analyzed the trace element composition and mineralogy of the samples and compared this with their respective hydrographic parameters to identify potential relationships. Assessed the potential use of Stylasterids as paleo-oceanographic proxies. Investigated the resistance of Stylasterid corals to ongoing ocean acidification. Will continue to develop a biocalcification model to correct proxies for vital effects on trace element incorporation into the carbonate skeleton and provide insights into biomineralization mechanisms.

### **Sensor Development, Workshop, Bristol**

01.01.2025 - Present

Assisting a collegial PhD student in her research on peatlands by designing and building a low-cost CO<sub>2</sub> flux sensor for field deployment.

### **Lab Assistant, BOSCORF, NOC, Southampton**

11.11.2024 - 13.11.2024

Assisted in Galapagos sediment core analysis and archival.

### **Bachelor's Thesis, Ocean Lab, Bremen**

03.11.2022 - 31.08.2023

Supervisor: Prof. Dr. Michael Bau

#### **Title: "Rare Earth Element and Yttrium Partitioning in Modern Microbialites from Lake Eyasi, Tanzania"**

Collected major and trace element data of Holocene-aged microbialites (biogenic carbonate), and analyzed aforementioned data through the use of Python scripts. Compared sample data to that of their respective ambient water. Suggested hypotheses regarding their relationships while assessing the potential to use microbialites as a geochemical proxy for the ambient water in which they were formed.

### **Assistant Scientist, AWI, Bremerhaven**

08.02.2022 - 01.10.2022

Supervisor: Prof. Dr. Jelle Bijma

Assisted in preparing enhanced weathering experiments involving the application of basalt to agricultural land and performed subsequent field work including taking *in situ* measurements of soil pore water pH and conductivity. Assisted in sample preparation for laboratory analysis of dissolved inorganic carbon and organic alkalinity of aqueous samples. Assisted in the maintenance of an experiment to investigate olivine dissolution under shear stress in aqueous environments. Wrote a research proposal for a greenhouse experiment to test the rate of dissolution of basalt powder in soil with and without organic matter, and supervised said experiment.

## REFERENCES

Dr. Joseph Stewart

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Dr. Erica Hendy

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Nationality: United States of America

## SKILLS

- ❖ Data analysis
- ❖ Python
- ❖ Trace element analysis
- ❖ ICP-MS analysis
- ❖ LaTeX

## EDUCATION

**University of Bristol — Bristol, United Kingdom**

*Master of Science by Research: Geology*

Sep 2024 - Present, Expected Graduation July 2025

**Jacobs University Bremen — Bremen, Germany**

*Bachelor of Science: Earth and Environmental Science*

Sep 2020 - June 2024

**Decatur High School —**

Decatur, GA, USA

August 2016 - May 2020

## LANGUAGES

**English: Native**

**German: Advanced (C1)**

