

ALEXANDRA N. STEPHENS

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EDUCATION

University of Texas, Institute for Geophysics, Austin, TX

Doctor of Philosophy in Glaciology

August 2022 – Present

University of Wisconsin, College of Engineering, Madison, WI

Bachelor of Science in Civil Engineering; GPA: 3.4

September 2017 – May 2022

RESEARCH EXPERIENCE

University of Texas, Institute for Geophysics – Glaciology Group

Advised by Dr. Ginny Catania, Professor

August 2022 – Present

- Processed ICESat-2 data to evaluate seasonal fluctuations in terminus position, velocity, and ice sheet thickness of west Greenland ocean-terminating glaciers
- Aim to improve projections of Greenland ice sheet mass loss by updating and further constraining transient calibration models using MITgcm package STREAMICE
 - Literary research to understand shortcomings of existing glacial adjoint models using transient calibration

University of Wisconsin, Fluid Mechanics and Environmental Processes Group

Advised by Dr. Nimish Pujara, Associate Professor, Co-Advised by Luke Zoet, Assistant Professor

January 2021 – May 2022

- Experimental and theoretical evaluation of the effects of wave action on glacial ablation
 - Ran experiments in wave flume at low temperature, collecting quantitative and qualitative data to model how a vertical ice sheet changes due to wave interactions
 - Built and tested wavemaker to validate simulated wave conditions
- Literary research and development of preliminary MATLAB model to describe the process of reoxygenation of hypoxic coastal marine environments through wave-mediated gas transfer

ACADEMIC PROJECTS

Fluid Mechanics and Environmental Processes Literature Review, April 2021

Modeling reaeration of hypoxic marine coastal environments: Literature review and preliminary modeling

Climate Change Governance Advocacy Project, April 2021

Advocating for the Yahara Watershed: Climate action through messaging, lobbying and non-violent direct action

Effective Industry Engagement in Collaboration with Indigenous Groups, December 2020

The Pebble Bay Project: An assessment of the potential actions of United Tribes of Bristol Bay

Indigenous Collaborative Co-Management Review, October 2020

Inuit sovereignty and the co-management of polar bears

EMPLOYMENT EXPERIENCE

American Transmission Company

Project Controls Analyst Intern, May 2020 – May 2022

- Developed PowerBI dashboards to make data more accessible to Project Managers, Field Crews, vendors, and company executives, including creating weekly reports mapping crew size and location for use during national outage emergencies
- Updated databases to include historical data in a more cohesive and user-friendly way

Alliant Energy

Distribution Engineering Intern, May 2019 – August 2019

- Created reports detailing safety of backfeeding electric substations
- Held meetings with superiors to discuss reports and solutions

United States Department of Agriculture Dairy Forage Research Center

Field Research Assistant, February 2018 – May 2022

- Handled and shipped valuable research seeds while managing organization and plant health within multiple greenhouses
- Responsible for driving federal government vehicles to agricultural sites across the state, fixed and maintained equipment, gathered data, harvested plants, and managed federal research fields

LEADERSHIP AND SERVICE

Engineers Without Borders

- **President**, May 2021 – May 2022
 - Coordination of executive board members and maintaining relationships with professional chapters, international offices, communities, and EWB headquarters to ensure the long-term success of international civil works projects implemented by students at UW-Madison
- **Vice President of Project Managers**, May 2020 – May 2021
 - Oversaw the logistics, communications, and leadership of five international civil works projects aimed to provide basic human rights for underprivileged communities while navigating COVID-19 pandemic conditions
- **Project Manager, Puerto Rico Project**, February 2018 – May 2020
 - Lead the design and installation of a \$165,000 25kW photovoltaic solar array in Puerto Rico for a shelter serving children removed from their homes due to neglect or abuse

Pet Partners, Certified Therapy Dog Handler

October 2015 – January 2019

- Trained a three-year-old Labrador to be a therapy animal while taking online courses to be tested and certified as a therapy team
- Volunteered weekly at a local library to read with children with learning disabilities

SKILLS

Technical

Python, MATLAB, Linux, GIS, Excel, PowerBI, CanvasX, SynerGI, EtaPRO

Languages

German – intermediate (reading, writing, speaking)

REFERENCES

Ginny Catania

Professor of Geological Sciences
University of Texas at Austin
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Lucas Zoet

Associate Professor of Geoscience
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Rebecca Heidelberg

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