



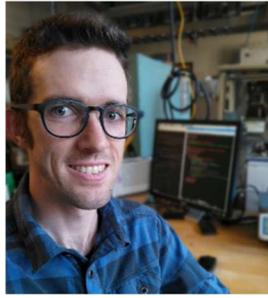
## **Distinguished Alum Speaker: Dr. Zoe Harrold (PhD 2014)**

As early as her junior year of high school Zoe recounted plans to earn a Ph.D. – though looking back she had no way of knowing where that nebulous vision would lead! Zoe began her academic journey as an undergraduate student at the University of Rochester, earning a B.S. in Environmental Science and a minor in Chemistry, while working in a lab and as a research assistant for a nonprofit focused on energy policy analysis.

Zoe's graduate school vision was to dive into water and heavy metal remediation, though she is fortunate to have landed at UW where she worked under Drew Gorman-Lewis as his first graduate student. This opened a whole world of science she didn't know existed, leading to her Ph.D. in geomicrobiology and low-temperature aqueous geochemistry, along with unforgettable fieldwork in Greenland with Ron Sletten.

Having fallen in love with alpine, snow, and ice environments Zoe went on to complete three post-docs, in Bozeman, Las Vegas, and Reno, studying the intersection of microbial growth, aqueous geochemistry, and minerals in these seemingly unforgiving environments. This path led to alpine fieldwork ranging from the peak of Mt. Rainer to the base of Canadian glaciers, and finally to the frontier of testing proto-type instrumentation capable of measuring the nano-scale motion of bacterial respiration as a method for life-detection beyond Earth.

After years of working in pure science, Zoe developed a desire to depart academia and re-direct her efforts to Earth-based applications. This led Zoe to open a business, Clear Horizons Consulting LLC, which has allowed her to embrace her ongoing work in California energy policy analysis, serve as an analytical chemist contractor for a startup battery recycling company, and provide consulting services in project development, grant seeking, and technical writing for non-profits in the Reno-Tahoe area. Going on 4 years as a small business owner, Zoe still gets to take on engaging and fulfilling challenges on a daily basis that include everything from critical assessments of quantitative model design and application, employee and contractor mentoring, program design, and business planning. While Zoe is no longer climbing mountains for work, this journey has allowed her to make the Sierra Nevada's her home range.



## **Graduate Student Speaker: Todd Anderson**

Todd Anderson is a doctoral candidate in Earth and Space Sciences. Todd's research delves into impacts to the upper atmosphere and lower ionosphere by space and terrestrial drivers, as well as variations in global-scale atmospheric electrical current systems. Using data from the World Wide Lightning Location Network, Todd maps signatures of enhanced ionization from solar flares, radiation belt electron precipitation, and other space weather phenomena; which disrupt radio waves emitted by lightning. These events impact both human infrastructure—by disrupting radio communications—and upper atmosphere ozone chemistry, with potentially significant implications for space weather inputs to climate models. In addition to this data analysis work, Todd has participated in several hardware projects, including validation of an electric field instrument for a sounding rocket experiment in 2015 and design, construction, validation and deployment of multiple electric field and conductivity instruments flown aboard stratospheric balloons in 2019-2021. After graduation, Todd plans to start a postdoctoral research position at Los Alamos National Laboratory, where he will investigate the source of intense radio emissions within lightning channels, as well as opportunities to use these emissions for ionosphere remote sensing and radio communication diagnostics.



## **Undergraduate Student Speaker: Anjali Manoj**

Anjali Manoj is receiving her Bachelor of Science in Earth and Space Sciences with Departmental Honors concentrating in Geoscience with the Engineering Geology capstone and a minor in Data Science. During her time at UW, Anjali has been very involved in the community at the Department level and the College level. She has been a member of GeoClub where she helped in the club's mission to create a community of students interested in Earth Sciences at UW and this year served as the club's Secretary. Anjali also served as the ESS Ambassador for the College of the Environment where she interacted with prospective and incoming students by connecting them to resources and guiding them as they explore student life at UW. She was involved in two research projects - one involving paleoclimate reconstruction from leaf fossils and another involving mapping alcoves on Mars. Both of these projects were presented at various platforms. Anjali currently works as a Lab and Outreach Assistant for the Pacific Northwest Seismic Network where she is part of various outreach efforts to raise awareness about Earthquake Risk and Preparedness in PNW communities. After graduation, Anjali hopes to work in the industry ideally in a role where she can apply the extensive geoscience and GIS skills she has gained through this degree to understand how the geology of the region affects and influences communities and the built environment.

## **College of the Environment Class of 2023 Gift**

### ***Honoring College of the Environment Class of 2023 Graduates***

*In appreciation of the 2023 College of the Environment graduating class, the College is partnering with the Campus Sustainability Fund to help fund the Resiliency Tunnel Project for the UW Farm, a student powered urban farm that provides locally grown produce to UW and the greater community through local partners and the UW Food Pantry. This gift will help fund the construction of a high tunnel, a USDA-approved method for season extension, to protect crops and extend the production season by multiple months. This project will incorporate small scale solar and rainwater catchment systems and provide an educational space for the community. We are excited to support this project and the increased sustainability of our Husky community.*

### **ESS Diversity Statement**

*The Department of Earth and Space Sciences (ESS) values diverse experiences and perspectives, the constructive expression of ideas, and the promotion of intellectual curiosity, creativity, and respect. We also believe that science is richer and the community is more vibrant when a diverse group of people is involved. We are proud of our efforts to recruit and support the success of students, staff, and faculty from all walks of life, regardless of their identity or background. We welcome everyone to ESS.*

# Program

Dean's Welcome

Professor Maya Tolstoy  
*Dean, College of the Environment*

Chairs Welcome

Professor Eric Steig  
*Chair, Earth and Space Sciences*

Guest Speaker

Dr. Zoe Harrold  
*Earth and Space Sciences Alum*

Graduate Student Speaker

Dr. Todd Anderson  
*ESS Graduate Student*

Conferral of Graduate Degrees

Professor Fangzhen Teng  
*ESS Graduate Chair*

Undergraduate Student Speaker

Anjali Manoj  
*ESS Undergraduate Student*

Undergraduate Slideshow

ESS Student Photos

Conferral of Undergraduate Degrees

Professor Drew Gorman Lewis  
*ESS Undergraduate Chair*

## Doctor of Philosophy

Todd Anderson

Andrew Hoffman

Gemma O'Connor

Cassandra Bringham

Annika Horlings

Nick Wogan

Benjamin Hills

Tianyi Huang

## Master of Science

Richard Derek  
Anderson

Sam Bartish  
Anita Lynn Bauer

Joshua Kjartan  
Kristoffersen

David Reid Bailey

Katelyn Card

## **Bachelor of Arts & Bachelor of Science**

Isaac Bendon

Cassandra Brigham

Parker M Bumstead

Jacob Matthew Burrow

Reese Carroll

Angeline Kathleen

Cartwright

Lance Cheng

Amorette Chiossi

Mariama Darboe

Lochlainn Charles

DiMarco

Griffin Mccallum

Easthouse

Jillian Rose Florent

Olivia Beth Fraser

Hannah Rose Greaney

Andrew Erik Guilford

Elliott S Hansen

Jacob Brooks Holtzclaw

Keenan Atwood Jenkins

Sandra Jensen

Fengming Jiao

Graham Johnson

Sarah Elizabeth Kahle

Maya Taylor Kalsta-  
Watkins

Ava Kamm

Sungjin Kang

James Viet Le

Nicle Le

Rosie Lee

Jay Li

Dani Lodangco

Julia Macray

Justin Mak

Anjali Manoj

Heather Rose Maran

Kimberly Martinez

Ian McLennan

Abbey Moore

Jay Burgess Mudambi

Cody James Murphy

Ryan Sloan Naff

Grayson Marshall

Myers Ohnstad

Mary Orrand

Ally Payne

Selena Amita Pol

Audrey Quincieu

Marquis Richardson

Caity Rigg

Francesca Elizabeth  
Skene

Jessie So

Colin T Spring

Brijenna Renee  
Stackpole

Sabastian Alexander  
Stanton

Amanda Syamsul

Abigail Fox Sylvester

Yadira Velazquez

Linh Vu

Zhengyang Wang

Nicholas Adam Wolf

Jin Jyh Yeh

Matthew Young