

ANNAPURNA C. POST-LEON

School of Biological Sciences, University of Utah, Salt Lake City, UT
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EDUCATION

University of Utah

PhD in Biology | GPA: 4.00

August 2021 – present

Defense expected May 2026

Reed College

B.A. in Biology | GPA: 3.39

August 2016 – May 2020

RESEARCH EXPERIENCE

Doctoral Research

Advisor: Dr. William Anderegg

August 2021 – present

University of Utah, Salt Lake City, UT

- Three-chapter dissertation exploring the effects of wildfire and smoke on tree physiology
- Manuscript for chapter 1 of dissertation submitted, data collection for chapter 2 nearly complete
- Additional projects exploring temporal shifts in physiology after wildfire and impacts of wildfire on tree rings and wood anatomical traits

Post-Baccalaureate Research Assistant

Supervisor: Dr. Aaron Ramirez

September 2020 – July 2021

Reed College, Portland, OR

- Wrote and published first-author paper combining remote sensing and physiology data to explore the impacts of wildfire and drought on bigcone Douglas-fir
- Assisted with tree physiological data collection for the Portland State University Smart Trees Project

Post-Baccalaureate Summer Research Fellow

Supervisor: Dr. Aaron Ramirez

June 2020 – August 2020

Reed College, Portland, OR

- Summer research project using remote sensing and NOAA weather station data to explore long-term trends in fog and the effects of fog on canopy greenness at 24 sites along the Pacific west coast

Undergraduate Senior Thesis in Biology

Advisor: Dr. Aaron Ramirez

September 2019 – May 2020

Reed College, Portland, OR

- Research-based undergraduate thesis exploring whether Pacific Northwest tree species absorb water through bark to mitigate drought stress
- 67-page thesis written and successfully defended to interdisciplinary panel of professors in May 2020

DAAD RISE Germany Summer Research Internship in Forestry

Supervisor: Amani Lwila

May 2019 – August 2019
University of Göttingen, Göttingen, Germany

- Collected and prepared soil samples, identified and imaged roots for PhD candidate Amani Lwila's dissertation on the effects of tree species composition on root biomass and area in German forests

Undergraduate Summer Research Fellow

Supervisor: Dr. Aaron Ramirez

June 2018 – August 2018

Reed College, Portland, OR

- Ecophysiological fieldwork on drought physiology of bigcone Douglas-fir in southern California
- Explored the effects of elevation and aspect on bigcone Douglas-fir drought stress

Marttala Memorial Herbarium Summer Research Fellow*Supervisor: Dr. Keith Karoly*

June 2017 – August 2017

Reed College, Portland, OR

- Prepared, mounted, and electronically databased herbarium specimens for the Reed herbarium

MENTORSHIP & TEACHING EXPERIENCE

Graduate Research Supervisor*Advisor: Dr William Anderegg*

June 2022 – present

University of Utah, Salt Lake City, UT

- Supervised and informally mentored multiple undergraduate research assistants
- Taught students ecophysiological techniques, data analysis, helped with writing applications for funding

Graduate Teaching Assistant: Global Environmental Issues*Instructor: Dr William Anderegg*

Fall 2024 & Fall 2021

University of Utah, Salt Lake City, UT

- Graded exams, homework assignments, and research papers; held exam review sessions
- In 2024 only, created and taught 5 lectures

Graduate Teaching Assistant: Ecosystem Ecology*Instructor: Dr. David Bowling*

Spring 2022

University of Utah, Salt Lake City, UT

- Graded exams and homework, held exam review sessions, facilitated class discussions
- Developed and taught two lectures on drought and wildfire

NearPeer Mentor*Supervisors: Dr. Aaron Ramirez & Dr. Hannah Prather*

February 2020 – March 2020

Reed College, Portland, OR

- Mentored middle-school student for science fair project exploring the differences in hydraulic conductivity between conifers and angiosperms

Science Outreach Teacher*Supervisor: Presence O'Neal*

September 2018 – March 2020

Reed College, Portland, OR

- Taught curriculum focused on climate science to fourth and fifth graders in public Portland schools

Undergraduate Teaching Assistant: Leaves to Landscapes Lab*Instructor: Dr. Aaron Ramirez*

Fall 2019

Reed College, Portland, OR

- Helped plan both day and overnight camping field trips, explained ecological and botanical concepts to students, assisted with equipment set-up and class project data collection, graded field quizzes

Undergraduate Teaching Assistant: Introductory Chemistry Lab*Instructor: Dr. Danielle Cass*

Spring 2019

Reed College, Portland, OR

- Assisted weekly with equipment and materials set-up, graded lab notebooks, explained course concepts

Writing Tutor*Reed College Writing Center*

September 2019 – May 2020

Reed College, Portland, OR

- Worked individually with students to help them construct strong, grammatically correct arguments for academic papers in variety of subjects

FELLOWSHIPS & AWARDS

Wilkes Dissertation Fellowship <i>University of Utah</i> Award: \$30,000	Fall 2025 - Spring 2026
Riser Fieldwork Travel Award <i>University of Utah</i> Award: \$500	October 2024
A. Herbert Gold and Marian W. Gold Scholarship <i>University of Utah</i> Award: \$2500	September 2023
Kurt Gerstle Fellowship <i>Colorado Mountain Club Foundation</i> Award: \$2000	May 2023
NSF Graduate Research Fellowship Program: Honorable Mention <i>National Science Foundation</i> Award: \$0	April 2023
Milton L. Fischer Memorial Field Research Award <i>Reed College</i> Award: \$5300	Summer 2020
DAAD RISE Germany Summer Research Internship <i>DAAD RISE Germany</i> Award: €2250 + travel	Summer 2019
Arch and Fran Diack Student Field Research Award <i>Reed College</i> Award: \$4800	Summer 2017
Marttala Memorial Herbarium Summer Research Fellowship <i>Reed College</i> Award: \$4500	Summer 2018

PUBLICATIONS

Post-Leon, AC; and WRL Anderegg. Divergent shifts in hydraulic versus carbon acquisition functional traits after wildfire in four Rocky Mountain tree species. *Submitted to Plant, Cell & Environment*.

Levine, J; and Zahnd, C; L Blanchard; J Fickle; T Lengyel; M Liu; **AC Post-Leon**; C Wu; H Xu; L Yang; and WRL Anderegg. Variable impacts of forest treatments on mortality and carbon following disturbance. *In prep*.

Post-Leon, AC; M Dryak; E Zhu; ME De Guzman; R Salladay; MA Moritz; AML Parkinson; and AR Ramirez. 2022. Integration of landscape-level remote sensing and tree-level ecophysiology reveals drought refugia for a rare endemic, bigcone Douglas-fir. *Frontiers in Forests and Global Change* **5**.

Lwila, AS; **AC Post-Leon**; C Ammer; and M Mund. 2023. Site properties, species identity, and species mixture affect fine root production, mortality, and turnover rate in pure and mixed forests of European Beech, Norway spruce, and Douglas-fir. *Ecological Indicators* **147**.

CONFERENCE POSTERS & PRESENTATIONS

“Differential impacts of wildfire versus prescribed fire on ponderosa pine drought physiology”

Association for Fire Ecology 11th Congress (talk accepted for special session) *December 2025*

“Forest recovery after fire: Postfire shifts in xylem hydraulic traits over time in ponderosa pine”

Ecological Society of America Annual Meeting (planned) *August 2025*

- “Species-specific impacts of wildfire on xylem resistance to embolism in western North American forests”**
Xylem International Meeting *March 2025*
- “Wildfire affects tree physiological traits in southwestern Colorado, USA”**
Gordon Research Conference on Multiscale Plant Vascular Biology (poster) *June 2024*
- “Impacts of smoke on tree physiological health at Fishlake National Forest, Utah”**
Association for Fire Ecology 10th Congress *December 2023*
- “Wildfire affects tree physiological responses to drought in southwestern Colorado, USA”**
Ecological Society of America Annual Meeting *August 2023*
- “Wildfire Affects Forest Responses to Drought in Southwestern Colorado, USA”**
American Geophysics Union Fall 2022 Meeting (poster) *December 16, 2022*

OTHER PRESENTATIONS

- “Wildfire affects tree physiology in southwestern Colorado”**
University of Utah, School of Biological Sciences Scientific Speaking *November 14, 2024*
- “Form, Function, and Forest Memory”**
University of Utah Science and Literature Symposium (invited talk) *April 10, 2024*
- “Wildfires and Climate Change in the Western US”**
Utah Prison Education Program (guest lecture) *March 25, 2024*
- “Impacts of smoke on tree physiological health at Fishlake National Forest, Utah”**
University of Utah, School of Biological Sciences Scientific Speaking *February 2, 2024*
- “Wildfire affects tree drought physiology”**
University of Utah, School of Biological Sciences Scientific Speaking *April 13, 2023*
- “Wildfire in the Western US”**
Weber State University (invited seminar) *February 17, 2023*
- “Effects of Fog on Coastal Vegetation Health in Washington, Oregon, and California”**
Reed College Summer Research Lightning Talks *August 28, 2020*
- “Barking Up the Right Tree: Bark Water Uptake in Bigleaf Maple, Douglas-fir, and Coast Redwood”**
Students Talking About Research, Reed College Biology Department *February 21, 2020*
- “Wildfire, Drought, Forests, and Climate Change”**
University of Göttingen Department of Forestry *August 12, 2019*
- “Effects of Elevation and Aspect on Seasonal Drought Response in Bigcone Douglas-fir”**
Reed College Summer Research Poster Session *August 31, 2018*

ACADEMIC SERVICE & LEADERSHIP

- Co-Chair, Graduate Student Advisory Committee** *2024 – 2025 academic year*
- Reviewer, Water Resources Research** *2024*

SKILLS

Computer Programs

ENVI Geospatial Analysis Software, GitHub, Google Earth Engine, HTML, ImageJ, L^AT_EX, Python, R Statistical Packages, QGIS

General Research

Academic writing, collaboration, data analysis, editing, mentorship, presenting, protocol development, teaching

Plant Physiology Methods

Chlorophyll fluorescence, gas exchange, hydraulic conductivity (Sperry apparatus method), leaf thermotolerance (chlorophyll fluorescence method), pressure-volume curves, soil coring, tree coring, tree root identification, vulnerability curves (centrifuge and drydown methods), water potential, wood anatomy