ANNAPURNA C. POST-LEON

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EDUCATION

University of Utah *August 2021 – present*
PhD in Biology

Reed College *August 2016 – May 2020*
B.A. in Biology

RESEARCH EXPERIENCE

Graduate Research Assistant August 2021 – present
University of Utah *Salt Lake City, UT*

- In conjunction with advisor, Dr. William Anderegg, designed three-part research project exploring the effects of wildfire on tree drought acclimation ability at three spatial scales
- Set plots for mortality assessment and physiological data collection within the 2018 416-Burro Fire Complex in the San Juan National Forest, CO
- Collected physiological data on the effects of recent fire burns on drought acclimation and heat tolerance in two tree species, subalpine fir and Engelmann spruce, in the San Juan National Forest
- Developed and began carrying out growth chamber experiment on effects of prior fire or drought exposure on drought acclimation ability in Ponderosa pine seedlings

Post-Baccalaureate Research Assistant September 2020 – July 2021
Reed College *Portland, OR*

- Analysed remote sensing and physiology data for bigcone Douglas-fir, a rare conifer native to the mountains of southern California
- Wrote manuscript based on results of analyses (now published in *Frontiers in Forests and Global Change*)
- Assisted with physiological data collection for the Smart Trees Project, a collaboration with Portland State University

Post-Baccalaureate Summer Research Fellow June 2020 – August 2020
Reed College *Portland, OR*

- Summer research in the lab of Dr. Aaron Ramirez
- Explored long-term trends in fog and the effects of fog on canopy greenness at 24 sites along the Pacific west coast
- Worked closely with another student to use R to analyse remote sensing data and NOAA weather station data

Undergraduate Senior Thesis in Biology September 2019 – May 2020
Reed College *Portland, OR*

- Collaborated with Dr. Aaron Ramirez to create a hypothesis-based research proposal for a yearlong experimental thesis
- Explored the hypothesis that some Pacific Northwest tree species can absorb water through bark to mitigate drought stress
- Used academic literature to develop and execute laboratory protocols to test hypothesis
- Wrote and successfully defended thesis to interdisciplinary panel of professors in May 2020

DAAD RISE Germany Summer Research Internship in Forestry May 2019 – August 2019
University of Göttingen *Göttingen, Germany*

- Worked with PhD candidate Amani Lwila on his dissertation project on the effects of tree species composition on root biomass and area in managed forests in Germany
- Collected and prepared soil samples, identified roots by species, and imaged roots

Undergraduate Summer Research Fellow June 2018 – August 2017
Reed College *Portland, OR*

- Carried out fieldwork with Dr. Aaron Ramirez on the drought physiology of mature bigcone Douglas-fir in southern California, as well as on the drought physiology of bigcone Douglas-fir seedlings in the Reed College greenhouse
- Explored the effects of elevation and aspect on bigcone Douglas-fir drought stress

Marttala Memorial Herbarium Summer Research Fellow June 2017 – August 2018
Reed College *Portland, OR*

- Prepared specimens for the Reed herbarium
- Learned to prepare, mount, and access herbarium specimens left to Reed College by the late alumnus Vernon Marttala

MENTORSHIP & TEACHING EXPERIENCE

Graduate Teaching Assistant: Ecosystem Ecology January 2022 – May 2022
University of Utah *Salt Lake City, UT*

Teaching assistant for Dr. David Bowling's in-person Ecosystem Ecology course (BIOL 5490)

- Graded exam questions and homework assignments, and helped facilitate class discussions
- Held review sessions before each exam
- Under the guidance of Dr. Bowling, developed and taught two lectures on drought and wildfire

Graduate Teaching Assistant: Global Environmental Issues August 2021 – December 2021
University of Utah *Salt Lake City, UT*

- Teaching assistant for Dr. William Anderegg's online undergraduate Global Environmental Issues course (BIOL 3460) and in-person companion seminar, Diversity and Justice in Global Environmental Issues (BIOL 3490)
- Graded exam questions, homework assignments, and research papers
- Provided support and coordination for project-based community engaged learning (CEL) component of course

NearPeer Mentor February 2020 – March 2020
Reed College *Portland, OR*

- Volunteered to mentor a middle-school student in the pilot rollout of the NearPeer Mentorship Program
- Presented my thesis research to students and their families and was matched up based on interest
- Worked with my mentee to design and carry out a science fair project relevant to my thesis that she was interested in, exploring the differences in hydraulic conductivity of conifers and angiosperms
- Explained basic concepts behind plant water movement to mentee
- Showed mentee how to take hydraulic conductivity measurements of plant stems

Science Outreach Teacher September 2018 – March 2020
Reed College *Portland, OR*

- Taught a place-based, age-appropriate curriculum focused on the science and impacts of climate change to fourth and fifth graders at disadvantaged schools in Portland
- Taught as first a team member and then a lead on two- and three-person student teaching teams
- As a lead teacher, organized and planned lessons and led weekly prep meetings prior to each lesson

Leaves to Landscape Laboratory Teaching Assistant September 2019 – December 2019
Reed College *Portland, OR*

- Assisted weekly with laboratory and field research projects for Leaves to Landscapes, an upper-level course in plant ecology taught by Dr. Aaron Ramirez
- Helped plan overnight camping trips, explained ecological and botanical concepts to students, assisted with equipment set-up and class project data collection, and graded field quizzes

Introductory Chemistry Laboratory Teaching Assistant January 2019 – April 2019
Reed College *Portland, OR*

- Helped weekly with students' laboratory experiments for introductory chemistry
- Assisted with equipment and materials set-up, graded lab notebooks, and explained chemistry concepts
- Gained experience working with other undergraduate students and explaining scientific concepts in multiple ways

Writing Tutor September 2019 – May 2020
Reed College *Portland, OR*

- Individual tutoring for undergraduate students at Reed College
- Worked closely with students to help them construct strong arguments for academic papers in a wide variety of fields
- Proofread students' papers for grammatical, structural, and content errors

FELLOWSHIPS & AWARDS

Milton L. Fischer Memorial Field Research Award June 2020 – August 2020
Reed College

Competitive fellowship offered through the Reed College Biology Department for summer field research

DAAD RISE Germany Summer Research Internship May 2019 – August 2019
University of Göttingen

Internationally competitive fellowship offered through the DAAD RISE Germany program to fund summer science and technology internships in Germany for undergraduate students from the US, Canada, Ireland, and the UK.

Arch and Fran Diack Student Field Research Award June 2018 – August 2018
Reed College

Competitive fellowship offered through the Reed College Biology Department for undergraduate summer field research

Marttala Memorial Herbarium Summer Research Fellowship June 2017 – August 2017
Reed College

Fellowship offered through the Reed College Herbarium for undergraduate students to learn how to prepare herbarium samples left to the College by alumnus Vernon Marttala

ACADEMIC COMMENDATIONS

Commendation for Excellence in Scholarship *2019 – 2020 academic year*

Commendation for Excellence in Scholarship *2018 – 2019 academic year*

Commendation for Exceptional Performance on Junior Qualifying Exam *Spring 2019*

PUBLICATIONS

Post-Leon, AC, Dryak M, Zhu E, De Guzman ME, Salladay R, Moritz MA, AML Parkinson, and Ramirez AR. 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, **Post-Leon AC**, Ammer C, and Mund M. 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**.

PRESENTATIONS

"Wildfire in the western US"
Weber State University (invited seminar) *February 17, 2023*

"Wildfire Affects Forest Responses to Drought in Southwestern Colorado, USA"
American Geophysics Union Fall 2022 Meeting (poster) *December 16, 2022*

"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*

SKILLS

Computer Programs	R Statistical Packages, QGIS, HTML, LaTeX
General Research	Academic writing, protocol development, data analysis, collaboration, mentorship, teaching, presenting
Plant Physiological Measurements	Water potential using pressure chamber, gas exchange using LiCor and leaf porometer, chlorophyll fluorescence using fluorometer, hydraulic conductivity using Sperry apparatus, pressure-volume curves, vulnerability curves, thermotolerance curves, soil coring, tree root species identification