Arielle L. Koshkin

Masters Candidate · Graduate Program of Hydrological Science

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Education

University of Nevada, Reno *Reno, NV*

MS Hydrological Sciences *2020 - present*

- Master's Advisor: Dr. Anne Nolin
- Committee: Ben Hatchett (DRI), Kat Bormann (ASO), and Scott Tyler (UNR)
- Thesis: Changes in Snow Hydrology after a Large Wildfire in a Snow-Dominated Watershed

Carleton College *Northfield, MN*

BA Biology, *cum laude* *2010 - 2014*

- Thesis advisor: Dr. Matt Rand
- Thesis: Is The Maternal-Fetal Conflict Hypothesis a Driver of Placental Evolution? Analysis of Interdigitation, Invasiveness, Brain Allometry and Life History Strategies of Eutherian Mammals

Scholarships & Grants

2021	**Robert E. Dickenson Scholarship**, University of Nevada, Reno	*$6,500*
2021	**Rich Taylor Endowed Scholarship**, University of Nevada, Reno	*$1,000*
2020	**Dean's Merritt Scholarship**, University of Nevada, Reno	*$10,000*

Research Experience

University of Nevada, Reno - Graduate Program of Hydrological Science *Reno, NV*

Advisor: Dr. Anne Nolin *2020-Present*

- Use a combination of fieldwork, remote sensing and modeling to preform a hydrological assessment of the impacts of the Creek fire on the seasonal snowpack of the Upper San Joaquin Watershed.

University of Colorado, Boulder - Dept. of Geology *Boulder, CO*

Advisors: Dr. Eric Smalls, Dr. Mark Raleigh *2019-2020*

- Conducted validation snowpack measurements at for the NASA SnowEx field campaign at two field sites (Niwot Ridge and Snodgrass) for over head flight equipped with remote sensing instruments.
- Simultaneously conducted field measurements for understanding how forest effects mountain snowpacks and water supply.
- Coordinated all field logistics; manage student researchers, and supervise data entry.

Institute of Arctic and Alpine Research *Boulder, CO*

Advisor: Dr. Diane McKnight *2015-2016*

- Independently processed water samples through a FlowCam 8000, to assess the diatom population in water samples to compare the primary production and residence time in summer and snowmelt period.
- Entered data with attention to detail from current and previous results into a 30-year database for future analysis and grant.
- Extracted chlorophyll-a to assess if it was a driver of dissolved organic matter (DOM) fluorescence following written protocol.

Carleton College- Dept. of Biology *Northfield, MN*

Advisor: Dr. Annie Bosacker *Winter 2012, 2014*

- Mentored undergraduate students in their research projects.
- Facilitated a weekly journal club to discuss the latest research taking place in each location to which we traveled.
- Conducted weekly research projects that observed different environmental factors that affected aquatic species abundance and distribution.

Carleton College- Dept. of Biology *Northfield, MN*

Advisor: Dr. Matt Rand *2013-2014*

- Investigated the dorsal crest expansion and lizard microanatomy of the dorsal crest via microscopy analysis.

Carleton College- Dept. of Environmental Science and Technology *Northfield, MN*

Advisor: Dr. Tsegaye Nega *Winter 2013*

- Investigated the intersection of conservation and development in agrarian societies through field interviews in Ethiopia and Tanzania.

Selected Work Experience

University of Nevada, Reno - Dept. of Geography *Reno, NV*

Teaching Assistant *Fall 2020*

- Assisted in teaching and grading laboratory sections for GEOG/GEOL 210: Introduction to Geospatial Information Systems.

Woza Soccer *Seattle, WA (remote)*

Associate Director *2016-2020*

- Independently opened new markets implementing my own strategy that resulted in 20% of overall sales.
- Created curriculum, and managed logistics, community partners, program leaders and a budget of $15,000 for our South Africa Leadership Program. Design and implement training for leaders covering topics of risk management, leadership, and course curriculum.
- Oversaw the scholarship Program from recruitment to registration. Managed all logistics for each of the 11 players and a budget of over $35,000.

Crested Butte Land Trust *Crested Butte, CO*

Outreach and Communications Coordinator *2017-2019*

- Effectively communicated the mission, stewardship projects, and the importance of land conservation to Crested Butte community, stakeholders, visitors, and donors.
- Managed and designed all print and online communications including website, newsletter, monthly email blasts, and mailings and edit grant proposals.
- Developed and implemented new strategies to further educate donors and the public on the importance of conserving land including weekly education days during the summer.

Self-Employed *Boulder, CO and Seattle, WA*

Science/Math Tutor *2015-2017*

- Worked one-on-one with middle and high school students in math and science. Responsible for finding clients, scheduling, and designing curriculum.

The High Mountain Institute *Leadville, CO*

Environmental Science and Wilderness Faculty *2014-2015*

- Created and taught a classroom and field based high school science course focused on climate change, ecology and geology of the Colorado mountains while mentoring a science intern.
- Effectively made decisions that took into consideration logistics and safety of the group in remote wilderness areas, and taught leadership, feedback and effective communication skills on multi-week backpacking trips.

Overland Summers *Williamstown, MA*

Field Instructor *2012-2014*

- Led youth wilderness travel trips, ranging from 11 to 25 days for ages 12-18. Taught leadership skills, including teamwork, self-confidence, and determination.
- Managed a budget up to $ 10,000 per trip, all logistics, and the safety of 12 students in remote wilderness environments.

Carleton College- Dept. of Biology *Northfield, MN*

Teaching Assistant *2011-2014*

- Held office hours to assist with lab reports and problem sets for Energy Flow in Biological Systems.
- Assisted professor in the lab, answered student questions, and prepared solutions.

Presentations

2021. **Koshkin, A.**, Nolin, A, & Bormann, K., Quantifying the Hydrological Impacts of a Large Wildfire In Snow-Dominated Watershed. Presentation: American Geophysical Union Fall Meeting, New Orleans, LA.

2021. (Invited) **Koshkin, A.** & Nolin, A., Quantifying the Hydrological Impacts of a Large Wildfire In Snow-Dominated Watershed. Presentation: Airborne Snow Observatory Annual Meeting, Mammoth, CA (Online).

2020. Nolin, A., Greenwald, A., Gleason, K. and **Koshkin, A.**.Snow Albedo in Forested Regions. Poster: American Geophysical Union Annual meeting, San Francisco, CA (Online).

2020. **Koshkin, A.**, Effects of a Burned Forest on Snow Albedo Directly After a Severe Fire. Poster: Student World Water Forum, Reno, NV (Online).

Computer & Other Related Skills

Remote Sensing: Google Earth Engine (GEE), Arc GIS, experience with NASA remote sensing platforms (LANDSAT, MODIS).

Fieldwork: Proficient with snow measurements including federal sampler, snow density pits, magna probe, Spectral Evolution field spectrometer, GPS technology, and snowmobile driving.

Physical-Based Modeling: SnowModel.

Computer Skills: Experienced in RStudio, ArcGIS, QGIS, Google Earth Engine, Github, and Microsoft Office Suite.

Graphic Design: Adobe Creative Suite and Wix website editor.

Outreach & Professional Development

Service and Outreach

2021-2022	**Curriculum Committee-Graduate Program of Hydrological Science** , Committee Member	*Reno, NV*
2020-2022	**UNR Unlearning Racism in the Geosciences (URGE)**, Pod Member	*Reno, NV*
2021-2022	**Colloquium Committee-Graduate Program of Hydrological Science**, Committee Member	*Reno, NV*
2019-2022	**Undergraduate Admission Interviewing Committee, Carleton College**, Interviewer	*Remote*

Development and Workshops

CUASHI *Morgan, UT*

Snow Measurement Field School *Winter 2022*

- Week-long field school focused on the fundamentals of snow measurements and snow remote sensing.
- Awarded $500 grant to attend the course.

University of Washington *Seattle, WA (Online)*

NASA SnowEx Hackweek Week *Summer 2020*

- Week-long data jam exploring and learning about Snow-Ex data.This workshop was a combination of python and git hub tutorials, mini research projects and presentations on SnowEx.

University of Nevada, Reno *Reno, NV*

Elements of Research Computing *Fall 2020*

- Three-day, hands-on workshop introducing users to the basics of RStudio and Python.

Professional Memberships

American Geophysical Union (AGU)