

Education

Pennsylvania State University: M.Sc. Geosciences and Operations Research (*Projected May 2025*)
University of Colorado Boulder: B.Sc. Civil Engineering. Cum Laude. **3.76 cumulative GPA**

Work Experience

2022- Wright Water Engineers, Summer Engineering Intern

- Researched and co-authored an ASCE journal article (in review) regarding current engineering practices being implemented to manage water related impacts of climate change.

2022- RockSol Consulting, Summer Engineering Intern

- Constructed custom AutoCAD storm sewer parts list, enabling faster and standardized drafting. Researched, modeled, analyzed, and proposed drainage systems for Denver projects.
- Inspected and reported site conditions from several drainage sites in Denver.

2021- Colorado Department of Transportation, Summer Hydraulic Engineering Intern

- Developed hydrologic models and 2-D hydraulic models of ten culverts along Colorado State Highway 138, as well as designed and proposed the appropriate culvert replacements.
- Investigated and recorded conditions before and after the 2021 Poudre Canyon post-fire flood.

2020-2021- Undergraduate Researcher, University of Colorado Boulder

- Assistant Researcher on a Sustainable Water Sanitation and Hygiene Systems project, studying rural water service delivery in Uganda in order to ensure reliable water access for poor communities.

Scholarships and Achievements

National Science Foundation Graduate Research Fellowship - Awarded to promising researchers.

PSU Earth and Environmental Systems Institute Scholarship - For interdisciplinary researchers.

Milo S. Ketchum Award- Given to the most outstanding Civil Engineering graduating senior.

University of Colorado Chancellors scholarship - Awarded for academic excellence and achievement.

CU Boettcher Semifinalist scholarship - awarded to Boettcher Scholarship semifinalists.

Kiewit Design-Build scholarship - awarded to exemplary Engineering students.

Westfall Scholarship - awarded fall 2021 for excellence in Civil Engineering at CU Boulder.

Professional and Academic Conference Endowment - awarded to outstanding conference presenters

Donald Mackison Endowment Fund - Earned first place in the Mackison engineering writing contest.

Conference Publications

Spangler, Ava A, Javernick-Will, Amy, Linden, Karl, "Breaking Down the Breakdown Problem", *National Conference for Undergraduate Research*, Apr. 12, 2021.

Spangler, Ava A., Spendier, Katherine, "Analysis-Based Calibration of a Manual Coil Winding Machine", *Amer. Phys. Soc. Four Corners Conf.*, Fort Collins, Colorado, Oct. 20, 2017.

Classes Taken

- GEOSC 500 - Issues in Geoscience
- STAT 415- Mathematical Statistics
- GEOSC 452 - Hydrogeology
- GEOSC 497 - Data Visualization
- BE 487 - Simulation Modeling for Water Resource Management
- OR 590 - Operations Research Colloquium
- CE 561 - Surface Hydrology

Technical Skills

- Python
- GitHub
- Linux
- High Performance Computing and Shell Scripting
- Watershed and Surface Water Modeling using WMS, SMS, HEC HMS, SWMM and HY-8
- Lab Safety and OSHA 10 certified.
- Stream Gauging and Trail work
- Advanced AutoCAD

Extracurriculars and Leadership Experience

Association of Women Geoscientists Executive Board, 2024 - present

- Director of events planning and organization for AWG sponsored activities at Penn State

Penn State Graduate Colloquium Committee, 2024 - present

- Organizing and coordinating the department colloquium for showcasing graduate student research

CU Engineering Fellow, 2022 - 2023

- Academically successful and service-oriented students who encourage excellence through focused peer academic support. Selection as a Fellow is one of the College's highest undergraduate honors.

Kiewit Design-Build scholarship program member - 2021- 2023

- Selective extracurricular program partnership with Kiewit, intended to build well-rounded engineers through mentorship programs, site visits, industry exposure, and educational enhancement.

CU Freestyle Ski Team Member, University of Colorado Boulder, 2019 - 2020

- Daily training managed in addition to engineering course load.