

Investing in Alaska's Energy Future

ACEP Summer Internship Program

About ACEP



The Alaska Center for Energy and Power (ACEP) fosters innovative solutions to Alaska's energy challenges and is a gateway for energy-related activity at the University of Alaska Fairbanks.

Partners



Research + Programs include

- Marine Energy
- Power Systems Integration
- Solar Technologies
- Grid Edge Technology
- Cybersecurity
- Education & Workforce Development

What We Do

- Technical assistance
- Innovative partnerships
- Industry-sponsored research
- Testing facilities
- Publications



Research Areas



Marine Energy

The Pacific Marine Energy Center at UAF (PMEC-UAF) provides practical and innovative solutions for hydrokinetic power generation to help meet Alaska's energy challenges through applied research.



Power Systems Integration

The Power Systems Integration program collaborates with local, regional and national stakeholders to increase the resilience of power systems and reduce energy costs and emissions across Alaska and beyond.



Grid Edge

The Grid Edge program seeks to explore a range of distributed energy resources to unlock local, sustainable, healthy and cost-effective energy resources available to all.

Test facilities



Energy Technology Facility

The Energy Technology Facility (ETF) houses state-of-the-art laboratories, equipment and infrastructure to support ACEP's applied research, including the Power Systems Integration laboratory and the hydrokinetics high-bay. The ETF is located on the UAF campus just west of the powerplant off Tanana Loop E.



Tanana River Hydrokinetic Test Site

River test site for the study of hydrokinetic power generating devices, related technologies, and to characterize the river environment under realistic Alaska river conditions

[Learn more about the Tanana River Hydrokinetic Test Site](#)



Power Systems Integration Laboratory

A state-of-the-art facility designed to emulate an isolated hybrid-diesel grid system on the same scale as a village power system. Allows for scenario simulation, testing weather data from community weather stations, and more.

[Learn more about the Power Systems Integration Laboratory](#)



Solar Photovoltaic Test Site

Located on the UAF campus, the Solar Photovoltaic test site characterises solar PV performance at high latitudes and in cold regions.

[Learn more about the Solar Photovoltaic Test Site](#)

Education & Workforce Development Program

Program goals:

1. Connect Alaska's Energy Workforce
2. Elevate Community Energy Leaders
3. Develop Applied Energy Education

Program lead: Annalise Klein Gerlach

- Masters in education
- Background in science teaching, teacher coaching, curriculum development, culturally responsive science, place-based learning



Energy Leadership Accelerator (ELA) Program

Short Courses at ACEP 

place-based learning | applied energy research | innovation beyond the lab



Internship program at a glance

- 10-week paid summer internship for undergraduates in the US
- Based in Fairbanks and Anchorage
- Matched with an ACEP faculty mentor on a research project (1:1 or 2:1)
- Weekly stipend (or hourly wage)
 - Fairbanks: flights + lodging covered
- 180+ interns hosted since 2008
- Since 2024, over 150 applicants annually



Program strands

AUSI (ACEP Undergraduate Summer Internship): general applied energy research, Funded by Office of Naval Research + various research grants

NSF REU (Research Experiences for Undergraduates): students on their first research experience, Funded by the National Science Foundation

Utility Research Partnerships: research collaborations with Alaska utilities / industry partners and ACEP researchers, Funded by Office of Naval Research + various research grants



What does a summer look like?

Multi-day in person orientation

Hands-on project work under a faculty mentor
(fieldwork, labs, coding, data, community engagement)

Cohort activities: orientation, ACEP "Flash Talks," Energy Round Tables, field trips, professional development

Final products:

- Public presentation (recorded, on ACEP Youtube channel)
- Article for the ACEP newsletter
- Mentor determined deliverables

Example project areas: hydrokinetic test site, cybersecurity training modules, digital twin modeling for rural communities, waste-to-energy feasibility



Lessons learned

How do we attract students from Alaska?

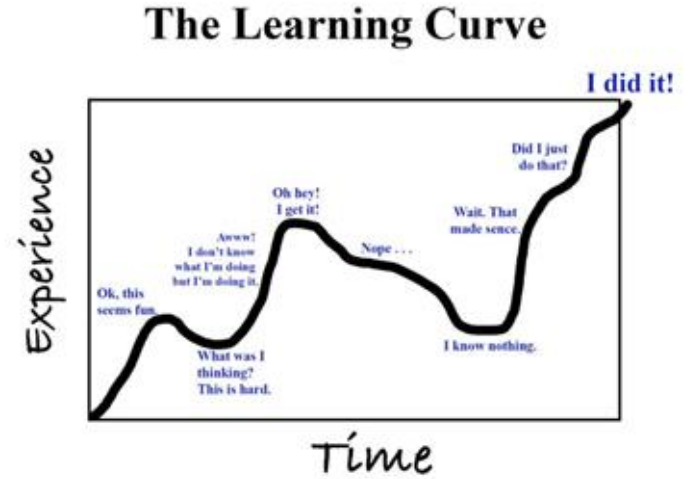
- Relational referrals, aggressively network within the UA system (student organizations, clubs, professors)
- For 2027: early decision deadline?

Mentor training + resources are important!

- Learning curve, personal strengths, cultural considerations

Managing the humans requires \$ for a reason.

- Find your golden hearted, detail oriented people and support them 100%!



Building a holistic cohort

“I think having an internship program that’s more interested in selecting students with passion and genuine interest, versus a purely GPA based selection process, creates a more interesting cohort, and rewards curiosity.”



2026 ACEP Summer Intern

Workforce goals + impact



Create opportunities for students from Alaska to work on meaningful projects in their home state, connecting them into a professional network and job opportunities after they graduate.

- Direct pipeline into Alaska's energy sector: engineering, policy, utilities, research
- Interns come from Alaska and out of state: we want students to stay/return to work in Alaska!

Emma Kehoe

Talkeetna, AK

Physics Major, Human
Biology Minor

Colorado College,
graduating spring 2027.

*Motivated in bringing
affordable energy to remote
Alaskan Communities.*

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Variable Pitch Profile Turbine Development

Mentor: Ben Loeffler



Photos by Yuri Bult-Ito ACEP

Sigrid Miller

Fairbanks

Mechanical engineering,
minor in Tribal Governance

UAF

[My LinkedIn](#)

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- Energy solutions for rural Alaska

Microgrid Lessons Learned: From Alaska to the World

Magnus de Whitt



Learn more

2027 application will open in late November.

Questions or collaboration ideas?

Reach out to Annalise: asklein@alaska.edu

- Be a utility research partner
- Develop your own internship program- we're happy to advise!
- Join our listserv for sharing other opportunities with applicants

