Faculty Research Spotlights

Our Faculty Spotlight series recognizes UAA faculty whose research and creative work reflect a deep commitment to students and to Alaska's present and future. These faculty not only advance knowledge in their fields, but also invest time and care in mentoring students, creating opportunities and addressing questions and challenges that matter to Alaska. Their work helps prepare the next generation of scholars, professionals, and leaders while contributing meaningfully to Alaska's social, cultural, environmental, and economic well-being.

Paddy Sullivan, Ph.D.

Dr. Patrick Sullivan is director of the Environment and Natural Resources Institute. He leads interdisciplinary research on ecosystem processes across Alaska's rapidly changing northern landscapes. His work bridges ecology, dendrochronology, hydrology, and atmospheric science to understand how environmental change influences ecosystem function, from boreal forests to Arctic tundra.

Dr. Sullivan is dedicated to mentoring the next generation of ecologists and environmental scientists. He actively involves graduate students in every stage of research, from field sampling and instrument deployment to data analysis and publication.

Micah Hahn, Ph.D., MPH

Dr. Micah Hahn is an associate professor of environmental health in the Institute for Circumpolar Health Studies. Her research focuses on the health impacts of climate change. One of her recent projects was designed to address persistent health equity gaps in Alaska by co-developing practical tools with and for communities most affected by wildfire smoke and intersecting climate hazards.

"I love working on this project because it links new advances in science with community needs and can support daily decision-making in Alaska to help keep people safe during wildfire season. Also, working with an incredible team of community partners, state agencies, and researcher to co-produce this project has been an effective way to make sure that the tools we develop are useful on the ground."

Raghu Srinivasan, Ph.D.

Dr. Raghu Srinivasan is an associate professor and chair of the Mechanical Engineering Department. He also serves as director of the Environment Degradation Laboratory. His research focuses on the atmospheric corrosion of metals in cold regions, an area with limited studies despite its real-world importance. To address this gap, he established a network of outdoor corrosion test sites across Alaska, including Anchorage, the Port of Alaska, Fairbanks, and Kodiak. These sites allow for long-term monitoring of corrosion behavior under conditions such as snow, ice, and airborne salts.

A key innovation in his work is the design of an adjustable and modular corrosion test track that simultaneously collects corrosion and meteorological data. His research has since contributed foundational insights for improving corrosion modeling in Arctic and sub-Arctic environments.

Angelia Trujillo, DNP, MSN, WHNP-BC, AFN-C, DF-AFN

Dr. Angelia Trujillo is a professor with UAA's School of Nursing. She also currently practices as a women's health nurse practitioner and has worked as a forensic nurse examiner with adult, adolescent, and child sexual assault victims. Dr. Trujillo founded the Alaska Comprehensive Forensic Training Academy (ACFTA) in 2019 and has served as the lead faculty since that time. ACFTA is designed to bridge critical gaps in Alaska, which faces some of the highest rates of interpersonal violence in the United States, with rural and underserved communities often lacking access to forensically trained health care professionals who can adequately identify, document, and respond to the needs of victims. In addition, Dr. Trujillo has worked with Senator Murkowski's office on the inclusion of legislation to support forensic training for health care providers under the newly reauthorized Violence Against Women's Act in 2022.

UAA Office of Research NEWS

Spring 2026

Message from the Vice Chancellor

Spring is a season of renewal, growth and momentum, and that spirit is on full display across the research and creative activity community at the University of Alaska Anchorage.

In this issue of newsletter, you'll see powerful examples of UAA faculty, staff and students advancing discovery, creativity, and impact. From recent awarded projects, to student research successes and faculty spotlights, to highlights from our events, working groups, and professional development opportunities, this newsletter reflects the energy and excellence of our community.

As you move through this newsletter, I encourage you to pause on a spotlight, look forward to new events to attend, reach out to a colleague whose work inspires you, or consider how your own work might connect with others across campus. Research thrives when it is visible, shared and supported. This issue is a testament to that collective effort.

I look forward to what we will continue to build together this spring. Thank you for the outstanding work you do on behalf of UAA and the communities we serve.

Warm regards,

Aaron Dotson, UAA Vice Chancellor for Research

Connection, Curiosity and Collaboration Inspired

The Fall semester was an energizing and productive time for the UAA Office of Research, marked by strong engagement, creative exploration, and renewed connections across campus. From faculty-led discussions to interactive events and emerging conversations around artificial intelligence, the semester highlighted UAA's commitment to collaboration, innovation and discovery. Keep reading to find out how the UAA Office of Research is inspiring connection, curiosity, and collaboration across our network of campuses.

About the UAA Office of Research

At UAA, we understand the importance of being on the cutting edge of theoretical and applied research in health, engineering, and the physical and social sciences. We value the impact of our undergraduate and graduate researchers, and we create many opportunities for students to work closely with highly qualified faculty in state-of-the-art labs that are built to address some of the Arctic's most pressing problems. We do this because we firmly believe that the path forward for Alaska and the world will be driven by our students - by curiosity, passion, and belief in a brighter tomorrow.

Contact us

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UAA UNIVERSITY of ALASKA ANCHORAGE

Kaylen Hall accepting the 2025 Murdock Poster Prize for Environmental Science/Geology from Aaron Putzke, Vice President of Scientific Research at the Murdock Trust.

A sea otter in Homer, Alaska. Credit: James Evans, UAA

Brian DiMento and intern Elizabeth Gruen collecting water samples. Credit: James Evans, UAA

Daniel Nichols, Justice Darby, and Kenneth Sparks with their data collection device. Credit: Mat-Su College

Student Researchers in the News

November, 2025

A fantastic group of UAA undergraduate students showcased their original research on a variety of critical topics at this years Murdock College Science Research (MCSR) Conference in Vancouver, Washington:

Kaylen Hall, Department of Geological Sciences

2025 Murdock Poster Prize Winner - Climate changes drive hydrogeochemical responses in a NW Greenland Watershed

Yonatan Rosenberg, Department of Biological Sciences

Culturing and Directed Evolution: New Microbes for Enhanced Metal Resistance

Aidan J. Efird, Department of Chemistry

Exploration of photochemical pathways for the degradation of Rotenolone

David Kim, Department of Biological Sciences

Island isolation and genetic divergence in the Pacific Wren of St. Paul Island, Alaska

Aidan Pavia, Department of Chemistry

Co-solvent effects on the reaction of molybdate and hydrogen peroxide to produce singlet oxygen: Reaction conditions for indirect photochemical reaction modeling

October, 2025

Ana Velasquez, a master's candidate in biology, defended her thesis, 'Short-term Effects of Tag Implantation in Sea Otters', on Oct. 28. While attaching collars or internal tags to animals is a common method in wildlife biology for gathering data, Velasquez sought to understand how the act of tagging itself can affect the behavior and health of sea otters. After analyzing the data, Velasquez found that several otters experienced fevers within three days of having tags implanted, likely as a result of "an acute-phase response or inflammatory reaction" from the surgery. She also determined from the data that the otters were diving less following the surgery, "showcasing a change in their ability to acquire food which would have been energetically costly given their high metabolism."

September, 2025

Student intern from Research Experiences for Undergraduates (REU) **Elizabeth Gruen** assisted Brian DiMento, Ph.D., a research professional in the UAA Department of Chemistry, to determine the extent to which 6PPD-quinone poses a threat to Alaska's silver salmon by collecting water samples from Chester Creek and other streams near UAA's Anchorage campus. Gruen's work "vastly improved the amount of data we have on 6PPD-quinone in the local watersheds," said DiMento. "She's been getting lots of great data — great, but bad, in that we're finding [6PPD-quinone] in lots of places, especially during rain events."

August, 2025

A team of students and faculty from Mat-Su College and the main UAA campus in Anchorage watched as a Terrier-Orion sounding rocket launched into space from NASA's Wallops Flight Facility in Virginia back in June. The rocket's payload included a device designed by the team that was used to measure the mass of the Earth. The team consisted of UAA students **Justice Darby, Walter Nage**l, and **Kenneth Sparks**, and a faculty advisor Dan Nichols, Ph.D., associate professor of physics at Mat-Su College. The opportunity came as part of NASA's RockSat-C program, which allows students to design experiments to fly aboard sub-orbital rockets.

Visit www.uaa.alaska.edu/news/archive/2025/ for full featured research articles.

Staff and faculty at 2025 Research Round-Up. Credit: Brett Rawalt, UAA

Students and faculty at 2025 Scary Scholars. Credit: James Evans, UAA

Events, New Additions and Annual Favorites

Interactive events throughout the fall highlighted UAA's vibrant research community while fostering new connections across campus.

NEW Research Round-Up: Fast Chats for Future Collaborations kicked off the fall semester with a research networking event built around rotating round-table discussions. This fast-paced format encouraged researchers to share ideas, learn about one another's work, and make new connections across disciplines. The event created space for meaningful conversations and future collaborations.

Scary Scholars, an annual Halloween-themed favorite, returned for its fourth year. The event featured more than 25 research, creative, and scholarly activity works across all disciplines and departments. This year students were gladly welcomed to take part for the first time in sharing their work and engaging with faculty researchers!

NEW The SEEK Scavenger Hunt, a two-week campus-wide competition to find publicly displayed, scholarship awarded research posters and artwork around campus, was a great addition to share the amazing research and creativity at UAA. In collaboration with UAA Facilities and Campus Services, over 71 missions were created across campus for students, faculty, staff, and visitors to engage and win prizes.

Faculty Research and Creative Activity Seminars and Working Groups

These two gatherings are designed for UAA faculty, staff, and invited students involved in research and creative activity. The groups meet weekly on Tuesdays from 12-1:30 p.m. in room 413 of the Engineering & Industry Building on UAA's main campus.

Faculty Research and Creative Activity Seminar (FRACAS), *12-12:30 p.m.* - This semester's FRACAS sessions welcomed various faculty researchers to share works in progress, outcomes, and learn from one another across disciplines. Speakers included:

- Dr. Andrew Harnish, *Catalyzing Research with AI*
- Dr. Daniel Nichols, *RockSat-C: A NASA-Sponsored Program*
- Associate Professor Jessica Ross, *Why Indigenous Research is Essential to Our Learning*
- Drs. Angelia Trujillo and Kathi Trawver, *ACFTA: Forensic Training to Bridge Health Care Gaps for Victims in Alaska*

View the FRACAS Spring 2026 Calendar

Faculty Research and Creative Activity Working Group (FRWG), *12:30 - 1:30 p.m.* - Fall meetings encouraged faculty researchers to explore how artificial intelligence can support research and creative activity. Sessions emphasized shared learning and experimentation with different emerging AI tools, remaining focused on ethical use, practical workflows, and experimentation.

View the FRWG Spring 2026 Calendar

Scan the QR code to access the FRACAS Spring calendar and sign up to lead an upcoming session!

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