



2026 Young Innovator Award

BEST UNDERGRADUATE
INNOVATION DISCLOSURE

COPPER PIPE PIG

Innovators:

Kory Lamme | Stuart Lutton | Garrett
Martinez

- Developed by Kory Lamme, BS in Engineering, Stuart Lutton, MS student in Engineering, and Garrett Martinez, BS in Engineering.
- Copper Pipe Pig is a 3D-printed mechanical cleaning tool designed to work alongside standard chemical flushes in residential heating systems. By sweeping away debris that chemical flushes leave behind, it protects newly installed boilers from premature wear and extends system longevity.
- Modern high-efficiency boilers rely on tighter tolerances and are increasingly sensitive to small particulate buildup. The Copper Pipe Pig directly addresses this vulnerability, ensuring systems maintain peak performance and operational efficiency.
- Designed for simplicity, this mechanical pig enables low-cost manufacturing and straightforward distribution. It offers HVAC technicians an accessible, highly effective solution for thorough system maintenance.

2026 Commercialization Award

BEST OVERALL
INNOVATION DISCLOSURE

LISTENING TO ALASKA

Innovators:

Lynda McGilvary | Rebecca Lindsey |
GI Communications & Outreach teams



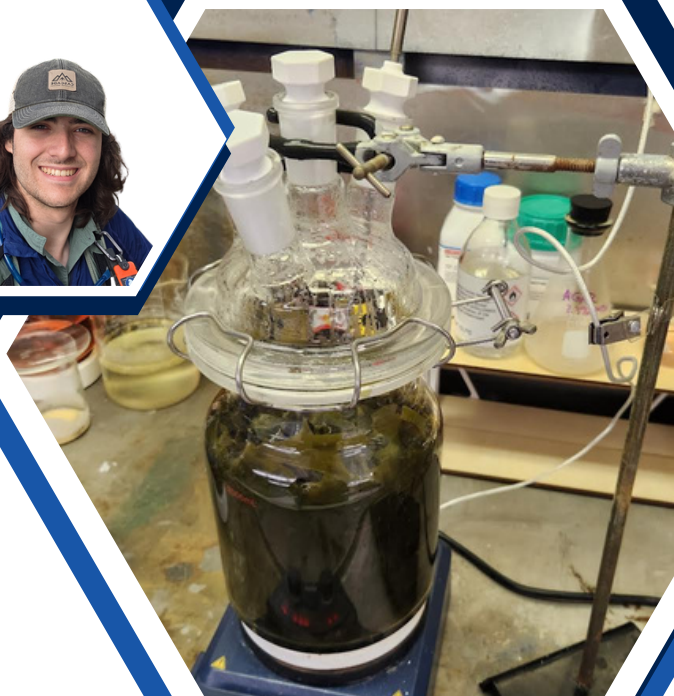
- Developed by Lynda McGilvary, the Education Outreach Director and Becky Lindsey, the Communication Director, for the GI, respectively.
- Produced an 18-minute live-action feature film designed for the new UAF Walt and Marita Babula planetarium which showcases UAF research and facilities. The film places the audience in the field with UAF and affiliated researchers conducting cutting-edge research.
- Research areas featured include archaeology, auroral research, paleontology, permafrost and seismology. The U.S. Army Cold Regions Research and Engineering Lab Permafrost Research Tunnel and Poker Flat Research Range, both featured in the film, are not generally open to the public. Filmgoers can see these dynamic research facilities and mission personnel during an active NASA sounding rocket campaign in an immersive theater setting.
- *Listening to Alaska* is available to University of Alaska facilities at no cost, and can be licensed by planetariums outside the university system for a fee.

2026
Impact Award
ALASKA SOCIAL IMPACT

ALASKAN KELP FOR 3D PRINTABLE PLA PRODUCTION

Innovator:

Gabriel Gray



- Developed by Gabriel Gray, BS in biochemistry graduate.
- This research demonstrated that Alaskan-grown kelp can serve as an effective feedstock for producing lactic acid, a precursor to polylactic acid (PLA) bioplastics used in 3D printing and compostable goods. Quantitative NMR spectroscopy confirmed that fermenting kelp sugars yields lactic acid, establishing a viable pathway for PLA synthesis.
- Using kelp over traditional land crops, like corn, provides sustainability advantages, i.e. it requires no fertilizers or irrigation while actively absorbing carbon dioxide and excess nutrients that cause algal blooms.
- This process supports Alaska's growing kelp mariculture industry by offering a new application for harvested kelp. Furthermore, the seaweed does not require energy-intensive drying or freezing before fermentation, and lower-grade kelp unsuitable for food can still be repurposed for PLA manufacturing.

2026 Inspiration Award

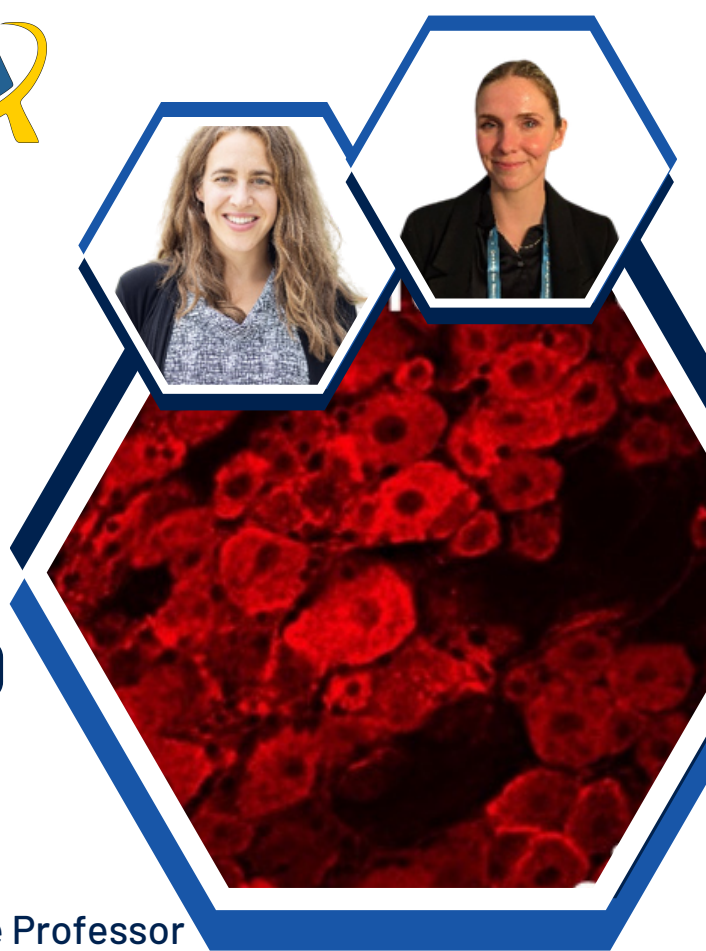
BEST FACULTY INNOVATION DISCLOSURE

RECOMBINANT PROTEIN EXTRACTION METHOD

Innovators:

Maegan Weltzin | Lahra Weber

- Developed by Dr. Maegan Weltzin, Associate Professor in Chemistry & Biochemistry Dept., and Lahra Weber, PhD in Biochemistry.
- A novel, gentle process provides a rapid, scalable platform for producing complex, fully formed, active, and ready to use, biomedical proteins. By eliminating wasteful manufacturing steps and preventing product loss, it allows biopharmaceutical companies to test new life-saving therapies quickly and economically.
- This streamlined extract-and-wash method runs in standard, low-cost bacteria, drastically reducing equipment and processing expenses. It eliminates the need for multi-million-dollar specialized machinery and expensive chemicals, alleviating costs for drug development.
- The proteins are proven to function effectively in live systems tested on human stem-cell-derived nerve models demonstrating that the generated proteins reliably target and safely enter them, and perform as intended.



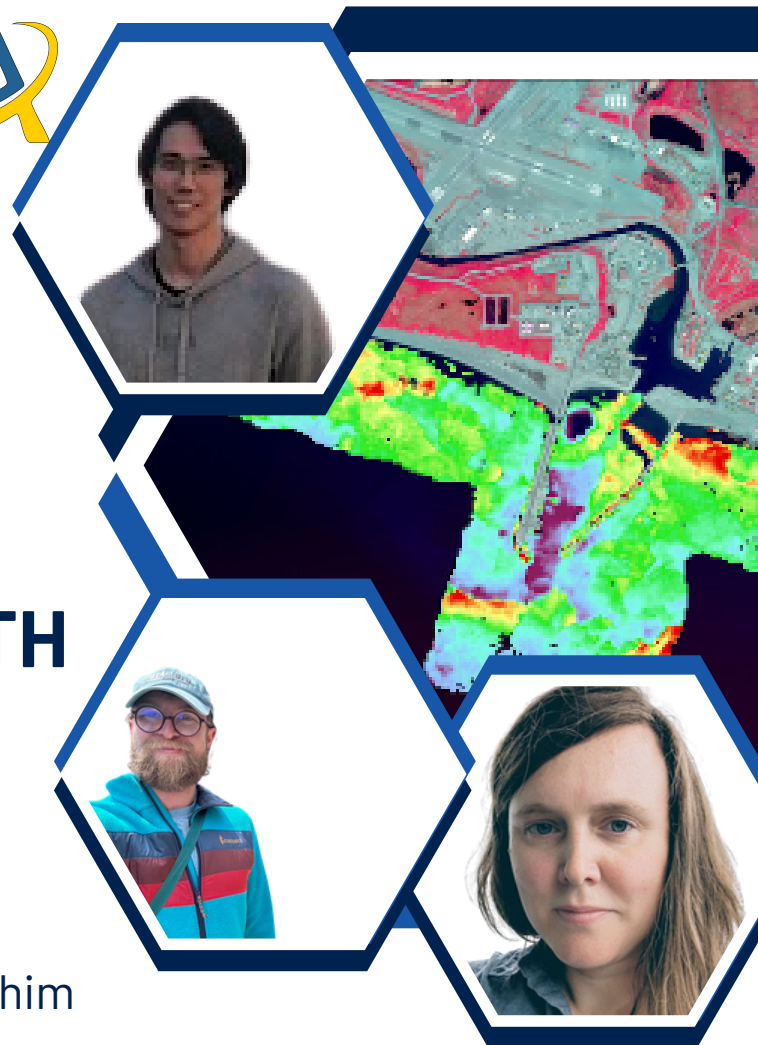
2026 Tomorrow's Innovator Award

BEST GRADUATE/POST-GRAD
STUDENT INNOVATION DISCLOSURE

ENHANCING ARCTIC DECISION-MAKING WITH INTERPRETABLE AI BATHYMETRY

Innovator:

Barrett Flynn | Logan Borger | Erin Trochim



- Developed by Barrett Flynn and Logan Borger, PhD students in Earth System Sciences at the Institute of Northern Engineering (INE), respectively, and Dr. Erin Trochim, Research Assistant Professor in INE.
- Developed the first attenuation-constrained physics-informed neural network (PINN) for satellite-derived bathymetry, validated in turbid Arctic water.
- Using PINNs, a full season of satellite imagery was combined to estimate stable seafloor depth and changing water clarity turning turbidity from an error source into a diagnostic constraint.
- A Kolmogorov-Arnold Networks, an emerging AI architecture built from simple learnable functions, was used to retrieve depth predictions that are transparent and physically explainable.
- The team has been accepted into the NSF National ICORPS program with this business thesis under the name FathomWave Geospatial.



FathomWave
Geospatial

2026
Creative Award

BEST STAFF DISCLOSURE

ARCTIC EXHAUST HOOD

Innovators:

Tate Barhaug | Gabriel Gray



- Developed by UAF Makerspace Manager Tate Barhaug and Makerspace Network Lab Technician Gabriel Gray.
- The Arctic Exhaust Hood replaces standard 6-inch ventilation hoods that fail in Alaska's extreme cold. The redesigned hood features a reinforced wall structure and straight-sloped geometry to maximize durability and prevent snow buildup common on conventional rounded vents.
- An integrated one-piece mesh screen effectively blocks pests and debris, eliminating the fragile, separate metal components used in traditional designs.
- At the request of Ventilation Solutions, the hood was engineered for quick installation into existing systems. It was CAD designed, prototyped, and cold-room tested entirely in-house at the UAF Makerspace before returning to Ventilation Solutions for commercial distribution, demonstrating how the Makerspace network turns real-world challenges into commercial products.



2026 INNOVATIONS, DISCLOSURES & ENTREPRENURIAL ACTIVITIES AWARDS I.D.E.A. Awards

Creative Award

ARCTIC EXHAUST HOOD

Innovators: Tate Barhaug | Gabriel Gray



Inspiration Award

RECOMBINANT PROTEIN EXTRACTION METHOD

Innovators: Maegan Weltzin | Lahra Weber



Commercialization Award

LISTENING TO ALASKA

Innovators: Lynda McGilvary | Rebecca Lindsey | GI Communications & Outreach teams



Alaska Impact Award

ALASKAN KELP FOR 3D PRINTABLE PLA PRODUCTION

Innovator: Gabriel Gray



Tomorrow's Innovator Award

ENHANCING ARCTIC DECISION-MAKING WITH INTERPRETABLE AI BATHYMETRY

Innovator: Barrett Flynn | Logan Borger | Erin Trochim



Young Innovator Award

COPPER PIPE PIG

Innovators: Kory Lamme | Stuart Lutton | Garrett Martinez

