

## EDUCATION

### **The 2024 Alaska Innovators Hall of Fame Building on foundations into new directions**

**By Alexandra Kay**

Three exceptional Alaskans are the newest inductees in the Alaska Innovators Hall of Fame. The Alaska State Committee on Research is honoring Tim Collett, Billy Connor, and Christine Resler for their work in hydrocarbons, transportation infrastructure, and innovation itself.

The committee is an advisory board formed within the University of Alaska system to promote “research and development as an enterprise and as an engine for economic development in Alaska.” To further that goal, it established the Alaska Innovators Hall of Fame in 2014, celebrating both individuals and inventions that “contribute to the state’s growing culture of ingenuity.”

Over the past decade, other honorees have included inventors who used spent brewing grains to power a steam boiler, one who invented a self-recording snow-depth probe, a man who created an innovation competition, and more.

A decade after the first nominees were inducted, the committee recently announced the class of 2024. Collett, Connor, and Resler were formally inducted at the Innovation Summit in Juneau last month.

#### **Critical Research into Methane Hydrates**

Tim Collett, a research scientist for the US Geological Survey since 1983, is recognized for his expertise in methane hydrate, a form of natural gas encased in ice crystals. Mark Myers, principal of Myenergies, nominated Collett, noting in his nomination packet that Collett’s decades of work have led to global and North Slope-specific advancement of the understanding of methane hydrates as both a future energy source and as an important environmental component to ocean, terrestrial, and atmospheric processes.

Myers writes: “Tim’s ongoing work has led to much more accurate assessments of the amount and distribution of methane hydrates and the economic viability of producing a transitional lower carbon energy source as well as the potential environmental impacts of methane hydrate dissociation during production and natural processes and a better understanding of the carbon cycle feedback loop caused by the increased dissolution of methane and associated CO<sub>2</sub> from hydrates trapped beneath warming oceans and permafrost.”

According to Myers, “Tim’s innovative work on gas hydrates is truly interdisciplinary, crossing the fields of geoscience, chemistry, physics, engineering, and environmental science. Notably for Alaska, Tim has played leadership roles in both the first resource assessments and hydrate drilling tests on the North Slope of Alaska. This includes the world’s first long-term flow test of methane hydrates, which is ongoing at Prudhoe Bay.”

When asked how he views himself as an innovator, Collett says, “In my case it’s building upon a foundation, but it’s basically doing something for the first time. In this case the topic of natural gas hydrates, it’s still unique today. An innovator takes the ability to build upon what’s there, but in this case there is very little. My master’s thesis had only two references, so to me it’s the

ability to build on knowledge but particularly the ability to build on knowledge from other fields to advance the knowledge of something that's very poorly known."

Of the predecessors whose work he built upon, Collett says, "The list is long. It's always a long list when you look at Alaska because of the legacy nature of some really unbelievable contributions of people, but to highlight the single individual I'd call a true mentor, I'd have to say it would be Alaskan geologist Ken Bird."

Collett recalls, "I was kind of unique. I came to the US Geological Survey right after I left Alaska. I was only 23, and Ken is really the person who taught me how to be a scientist and how to advance in the responsibilities you have as a scientist—but particularly in Alaska. He still does this today and is well into his eighties."

Collett notes that the innovator spirit is particularly important in Alaska. He says, "Alaska truly is the frontier. Innovation goes with the Alaska spirit; the frontier challenges, risk, and reward have always been great, so innovation has always been good there. Challenges are embraced and appreciated, and that leads to innovation."

### **Transportation Infrastructure Research**

Billy Connor, director of UAF's Arctic Infrastructure Development Center, was nominated by William Schnabel, dean of the UAF College of Engineering and Mines. In his nomination, Schnabel writes that Connor has a long and storied career in transportation and infrastructure research, particularly in arctic and sub-arctic conditions.

"Over the course of his career, Billy has fostered innovative approaches and practices related to arctic infrastructure," says Schnabel. "One example of such innovation is the development of a testing kit and methodology for assessing the effectiveness of palliative treatments for road dust. Dust control is a persistent challenge along unpaved roadways throughout Alaska, especially in remote regions. Not only does fugitive dust result in the loss of surface aggregate and require more frequent maintenance, but the emissions themselves restrict sight distances and diminish the air quality proximal to the roadways. In other words, dusty roads are more than a mere annoyance in rural Alaska; they represent a persistent challenge that has budgetary and potential health impacts."

According to Schnabel, over the course of several years, Connor "worked with collaborator Dave Barnes to develop a methodology for testing palliative treatments intended to combat fugitive dust emissions. That methodology, called the Dustfall Column test, is now being used by the ADOT&PF [Alaska Department of Transportation and Public Facilities] and remote communities in a broad effort to combat fugitive dust emissions across the state."

Dust control isn't the only example of Connor's innovative excellence. Schnabel adds, "[H]e has championed innovation more broadly in numerous related engineering applications. Recent examples include techniques for insulating roadway and airport embankments, development and testing of low-cost remote weather information systems, improved techniques for constructing roads and airfields on permafrost, and co-creation of a design manual for ice road construction."

Schnabel's commendation ends by saying, "In his role as a research leader, Billy Connor has developed his own innovations, as well as championed innovation in his research teams. The fingerprints of his body of work will be scattered throughout Alaska's infrastructure for decades to come."

## **Building an Innovation Culture**

Christine Resler, the president and CEO of ASRC Energy Services (AES), was nominated by Gwen Holdmann, associate vice chancellor for research, innovation, and industry partnerships at UAF. In her nomination, Holdmann calls Resler “an esteemed visionary and trailblazer within the energy industry.”

Holdmann writes, “Christy has played a pivotal role in shaping Alaska's business and innovation landscape through her transformative leadership, embodying a narrative of inspiration and significant contributions. Furthermore, her unwavering dedication extends beyond her professional endeavors, as demonstrated by her role as an adjunct faculty member at UAF, where she imparts her invaluable insights and expertise through the highly acclaimed course, the Art of Innovation.”

Holdmann, a Hall of Fame innovator herself, goes on to note that Resler’s leadership at AES is “about shaping the future of energy in Alaska and ensuring a sustainable and innovative path forward.” She adds, “Over the past five years, Christine has led an inspiring effort to define AES's business culture, involving over a thousand employees in a three-phase workshop experience. The result? A genuine and coworker-curated set of values that earned AES the 2019, 2020, and 2021 Global Supplier Award from ConocoPhillips. Her focus on collaboration and continuous improvement has been the bedrock of AES's sustained growth in a competitive environment.”

Resler says that, while there are many people who have been mentors of sorts over the years, if she had to choose one person who inspired her, it would be Mike Pearce, president of Smith International, a drill bit company owned by SLB (formerly Schlumberger). “I thought about Mike as a leader—a really good leader—and I realized over time that he wasn’t just a leader. He was an innovator, and he taught me how to give people a seat at the table in order to cultivate innovation,” says Resler.

Resler doesn’t think of innovation as a product. “For me it’s about creating a procedure, a process, or a product—it’s something that creates value or benefit,” she says. “It doesn’t have to be a product. It can be a way of working or creating a process, and that’s the way I position innovation in the class that I teach at UAF.”

Resler notes that innovation is particularly important in Alaska in part because of the state’s remote location and its limited electrical grid and infrastructure. “There are few places with as many people and as much industry that don’t have those things. We have to think about how to stay alive during a 1,000-mile dog sled trip or in a place with no back up energy,” she says. “Our location means we have to be innovative, and we also have to be creative to keep the economics of the state strong.”

Resler says that people need to be both open-minded and more comfortable with the idea of failure as a means to move on to the next idea. “We also have to do more to recognize and celebrate innovators and to realize that the core industries of oil and gas can be innovative,” she says. “We do these things better up here, and I think Alaska deserves credit for that.”

### **PULL QUOTE OPTIONS:**

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