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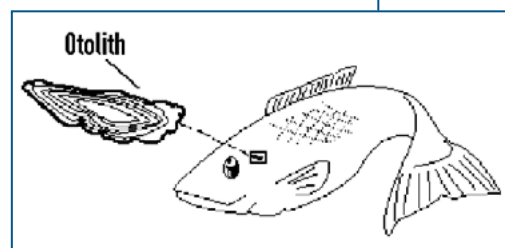




## Live stream

Chinook salmon grow to adults in the ocean but return to spawn in the streams where they hatched. PhD student Sean Brennan has helped develop a way to match individual salmon to their home streams long before they arrive to spawn. He uses markers laid down in salmon bones by the chemistry of the waters in which the salmon hatch and grow. His doctoral thesis research at the School of Fisheries and Ocean Sciences adds an important tool to those used by scientists and salmon managers.

The tool is the ratio of two isotopes of strontium, a chemical element found naturally in the Earth. Differences in rock types, their ages and how they weather create variations in the strontium isotopes picked up by water that flows across the rock. The unique strontium ratio of a stream is captured in the auditory structures, called otoliths, of young salmon swimming in the water.



Otoliths grow in rings, similar to trees, where the center rings represent the fish's younger life. By matching the isotope ratios in the inner rings with ratios in rivers and streams, Brennan can pinpoint the region and sometimes the tributary where each salmon was born.

"It's the difference in geology that then allows you to chemically fingerprint the river they came from and were headed back to," said Brennan.

Brennan does his isotope analysis at the University of Utah, which has the necessary laboratory. A new engineering facility being built at UAF will house its own lab capable of measuring strontium isotopes.

Brennan's project, funded by Alaska Sea Grant, is focused on chinook salmon in the Nushagak River, but he hopes this work will be continued to develop baseline data for all potential salmon hatching and rearing locations. Brennan believes these types of tools are important for maintaining salmon biodiversity and managing sustainable fisheries.





### National rifle tourney returns to UAF

UAF will host the NCAA Rifle Championships next spring for the second time in the school's history.

The championships will be held March 13–14, 2015.

“When we last hosted, in 2007, we were able to change the way championships were hosted by being the first to do the air rifle event in the gym,” said Dan Jordan, head rifle coach, in a news release announcing the season schedule.

As a result, more than 1,000 people attended the 2007 championships, an NCAA record.

The Alaska Nanooks have won the national rifle championships 10 times, most recently in 2008. The team placed second in the 2014 championships.



### Racing vet retires sled

Veterinarian Arleigh Reynolds won both the Anchorage Fur Rendezvous Open World Championship Sled Dog Race and the Open North American Championship in Fairbanks in early 2014, but he's retiring from racing to focus on his job as the associate dean of the new Department of Veterinary Medicine. Reynolds gave credit for the victories to his lead dog, Guts, who he said can't stand lagging behind other dogs. “She's the reason we won,” Reynolds told the *Anchorage Daily News* after the Rondo win.

Besides being a veteran musher, Reynolds holds both a doctor of veterinary medicine degree and a PhD in nutrition from Cornell University. He focuses on the relationship between nutrition and performance in sport dogs. The new veterinary program is a joint effort of the College of Natural Science and Mathematics and Colorado State University.



UAF photo by JR Ancheta.



### International pianists impress

Peter Friis Johansson, an acclaimed concert pianist from Denmark and Sweden, won the Alaska International Piano-e-Competition on July 12 in the Charles Davis Concert Hall.

The international competition, the first of its kind in Alaska, featured 22 of the best young pianists in the world competing for two weeks on the Fairbanks campus. The competition also featured a Yamaha Disklavier piano, which streams performance data via the Internet to other similar pianos across the world. The other Disklaviers reproduced, in real time, the precise keystrokes and pedal techniques of the performing musicians in Fairbanks.

Friis Johansson won \$30,000, an Alaska-made gold medallion and the opportunity to perform in Chicago and New York. He also won the privilege of returning to open the Fairbanks Symphony Orchestra's season on Sunday, Oct. 5.





## Butterfly bounty

Tens of thousands of preserved butterflies arrived at the UA Museum of the North this past spring. Renowned Alaska butterfly expert Kenelm Philip spent almost 50 years creating the collection before he passed away in March. About 90 percent of the collection will eventually go to the Smithsonian Institution, at Philip's request. The remainder will stay at the Museum of the North.

UAF photo by Theresa Bakker.

## DNA suggests polar bears survived past warm periods

Polar bears survived several warm periods during the past 1 million years when the Arctic had little or no ice, according to a DNA analysis by a group of scientists that includes Matthew Cronin, research professor of animal genetics with the School of Natural Resources and Extension in Palmer.

Cronin thinks the polar bears' survival of previous warm periods should be factored into models predicting the species' response to current climate change.

"It seems logical that if polar bears survived previous warm, ice-free periods, they could survive another," he said.

Other researchers disagree, according to reporting by the *Anchorage Daily News*. **Steven Amstrup, '95**, a friend of Cronin's, was the lead scientist on the U.S. Interior Department's 2008 decision to list polar bears as "threatened." He said warming is much more abrupt this time, leaving today's bears less time to adjust. Today's polar bears are less genetically diverse and therefore potentially more susceptible to climate change, said the University of Buffalo's Charlotte Lindqvist.

Cronin acknowledged that suggesting the species could survive future warming is speculative. "But so is predicting they will not survive, as the proponents of the Endangered Species Act listing of polar bears have done," he said.

Bear illustration by Lisa Peñaflver.

## Pollock pills

Thanks to a new, cleaner purifying system, Alaska pollock oil is now in pill form, sold as 54° North Omega-3 with Vitamin D3 from American Marine Ingredients. The process was developed by Alex Oliveira, associate professor with the Alaska Sea Grant Marine Advisory Program in the School of Fisheries and Ocean Sciences. Pollock is by far the highest-volume fishery in Alaska, and using pollock livers to produce a high-purity nutraceutical makes environmental sense and increases the value of the fishery.

On the web:

<http://bit.ly/PollockPills>

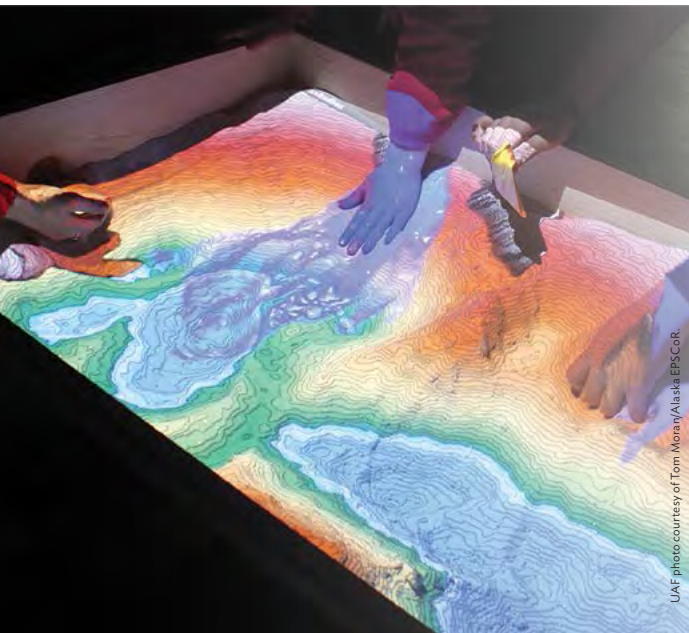


Photo courtesy of Wright estate.

## Longtime Alaskans leave scholarship legacy

Leonard and **Marjorie Wright, '58**, spent more than 25 years in Alaska. Marjorie earned her teaching degree from UAF and taught in North Pole, while Leonard established a construction business, and they maintained their ties with Interior Alaska after they moved Outside. Leonard passed away in 2007. When Marjorie died in 2013, their estate provided more than \$2.5 million to UAF to support student scholarships. It is one of the largest individual donations in the university's history.





## Drawing map lines in the sand

Employees at the Geographic Information Network of Alaska have built an “augmented-reality sandbox” to help people understand topographic maps.

A projector hangs above the traditional sandbox. When a person plays in the box — building up mounds or scooping out valleys — the projector lays down corresponding elevation lines such as those seen on paper maps. That helps people understand how to interpret traditional maps.

The sandbox, which appeared at local conferences earlier this year, was created by GINA’s Will Fisher, Greg Wirth and Dayne Broderson.

GINA, a research unit of the International Arctic Research Center, is building a new, high-resolution digital map of Alaska with a variety of geospatial data.

UAF photo courtesy of Tom Morley/Alaska EPSCoR.

## Short and sweet

It takes a lot of time and energy to make birch syrup, but master’s degree student Tricia Kent in the School of Natural Resources and Extension has developed a system that runs the sap through devices that suck out the water using reverse osmosis, making the process faster and cheaper. Even sweeter, the machine costs less than \$500 to build. Pancakes, anyone?



Photo courtesy of Evon Peter.

## Alumnus named vice chancellor

**Evon Peter, ’98**, was selected in July to serve as UAF’s vice chancellor for rural, community and Native education.

Peter holds a bachelor’s degree from UAF in Alaska Native studies and is completing a master’s degree in rural development. He began his professional career coordinating UAF’s Yukon Flats Center in 1998. He since has served in various leadership positions in Native and nonprofit groups.

Peter succeeds Bernice Joseph as vice chancellor. The position oversees the College of Rural and Community Development, which includes all of UAF’s rural campuses and sites, as well as the Community and Technical College.

## Far-CITed

In the still-new, sometimes intimidating world of online learning and collaboration, two professors stand out for their innovations and enthusiasm. The Chancellor’s Program for Innovation in Technology and Elearning, or CITE, gave the Google Glass Award (which included an actual Google Glass) to Rob Prince, assistant professor of journalism, for his project combining several individual courses into a film production lab. Rorik Peterson, associate professor of mechanical engineering, won the \$1,000 Innovation Incentive for his work with the CITE Fellows online community, where he freely shares his suggestions for new teaching techniques and technologies, and is equally free in asking for feedback on thorny issues he encounters in the classroom.







By Sam Bishop



Photo courtesy of Chukchi Campus.

Autumn Barr, of Kiana, stands in the center of the podium after winning the Inupiaq Spelling Bee during the 2014 Chukchi Olympics at the Chukchi Campus in March. Kirk Koenig (right), of Kivalina, won second place. Corilyn Adams, of Noatak, won third.

A spelling bee can intimidate even expert English speakers, but imagine one held in the Inupiaq language. Can you spell “sibxibnaqtuq”?

Um, the definition, please?

That would be “difficult.”

Fortunately, the winner of the first Inupiaq Spelling Bee at the Chukchi Campus in Kotzebue this past spring found the challenge a little easier because of her upbringing.

Autumn Barr, 16, grew up in a bilingual household in the Northwest Alaska village of Kiana. Her mom, Helena Barr, teaches Inupiaq at the school. Her grandmother, Viola Barr, also taught the language there before retiring.

So when the spelling bee judges gave Autumn the word that earned her the first-place prize, she knew how to spell it.

“It was a pretty easy word. It was ‘uvva,’ meaning ‘here,’” Autumn said.

Autumn was the top speller among a dozen contestants in the bee, held during the first Chukchi Olympics in Kotzebue this past March.

These Olympics were for the mind, not the body.

Siikauraq Whiting, a grants administrator at Chukchi Campus, dreamed up the idea after attending the 2013 World Eskimo-Indian Olympics, an annual athletic competition held in Fairbanks.

“I had just got back from WEIO and I was also meeting with our staff about a way to market our campus to young people,” Whiting said.

An academic Olympics seemed like one way to do it, so she got started. The event could help the college, Whiting thought, but she wanted to create it for another reason: “So the kids could get recognition for being smart.”

Small grants from UAF’s People’s Endowment, the Northwest Arctic Borough, the Aqquaq Trust and the Red Dog Mine helped with the expenses.

To attract participants, the college scheduled the Olympics during the annual high school basketball tournament

in Kotzebue, when many students and their families visit the regional hub village.

It worked. About 200 kids entered the Olympic events, which included contests in math, poetry, general knowledge and computer gaming.

Some people wondered about the academic relevance of gaming, Whiting said, but she argued to keep it. The event attracted boys, who in general are less likely to go to college, she said.

“It’s all about thinking outside the box,” she said.

Autumn appreciated all the effort put into the Olympics.

“I’d like to thank her for starting this,” she said of Whiting.

While Autumn won the bee, she doesn’t feel fluent in Inupiaq yet. She said she understands a lot when people

speak, but she has trouble expressing her own thoughts in the language.

“That’s pretty difficult,” she said. “I want to learn more and how to speak it more, like the sentences.”

The bee was the Chukchi Olympics’ premier event, Whiting said. While Autumn captured the first place prize, Kirk Koenig of Kivalina and Corilyn Adams of Noatak had to engage in an extended spell-off to earn their respective second- and third-place titles.

“It was kind of a long, drawn-out process, which made it kind of exciting,” Whiting said. “We had it live-streamed on our district website. There were basketball players in the cafeteria watching.”

That was success in itself. Honoring student athletes is important, Whiting said, but “it was good to recognize kids that are actively involved in academics.”

For Autumn, the visit to Kotzebue brought recognition in both realms — besides winning the spelling bee, she helped the Kiana High School girls win the regional basketball championship. When she stepped onto the spelling bee’s medal podium for a round of applause in the gymnasium, she wore her basketball jersey.

## CAN YOU SPELL “SIBXIBNAQTUQ”?