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CNSM Undergraduate Stanley Edwin proves that a person’s heart is just as important as the mind in getting a degree

By Leona Long
Marketing Coordinator for the Interior Aluetians Campus

Stanley Edwin’s path to higher education has been paved with ice.

His first winters as a University of Alaska Fairbanks student began at 6 a.m. with a three-mile walk in bone-chilling cold, usually dipping down to 50 below, to the university’s center in Fort Yukon. His evening classes ended around 9 or 10 p.m. with another three-mile trek home.

By the light of a kerosene lamp, Edwin built a fire to take the edge off the bitter cold and thaw enough water for a late-night meal of tea and soup. This routine would continue for several winters until he earned two associate’s of applied science degrees.

During these frigid journeys, Edwin began to ponder more complicated questions than his childhood curiosities like why the compass from the Cracker Jacks box always pointed north. “I always question and seek answers, strive to understand why and how things work the way they do,” says Edwin. “I would ask my father, the Chief of the Dranjik Gwich’in, when I was very young, why does the sun and moon rise from across the river and sit behind the hill by the graveyard? Why do the wolves upriver howl in the evening?”

About 15 years ago, when Jennifer Carroll, who was working as UAF’s Interior–Aleutians Campus’s Fort Yukon Center coordinator while completing her doctorate degree, recruited Edwin into the Construction Trades Technology (CTT) program. It was an opportunity for Edwin to earn academic credit for his carpentry skill and mentor other students, especially in the “scary” subject of mathematics.

“Stan is a fabulous student who helped not only CTT students, but also other rural Alaska Native students at the center pass their mathematics classes,” says Carroll, now interim associate dean for the College of Rural and Community Development.

“Stan is a role model to other students. He is an example to others of ways of blending high-level academics with a traditional outlook and lifestyle. Edwin shows them how to navigate the path between Western science and traditional knowledge.”

Later, Carroll recruited Edwin into the Gaalee’ya STEM project. This program guides rural Alaska Native students from the Interior–Aleutians and Chukchi Campus regions through a rigorous and culturally relevant STEM (Science, Technology,
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- Stanley Edwin

Now in his final semester at UAF in the CNSM Department of Physics, the undergraduate student is blending his traditional knowledge with his university education to answer the questions that puzzled him as a child. He recently won an outstanding student presentation award at the Society for Advancing Chicano and Native Americans in Science (SACNAS) 2013 conference.

Edwin was one of 723 undergraduates from across the nation who presented posters on their research in the fields of science, technology, engineering and mathematics. The research was conducted during a summer program called Significant Opportunities in Atmospheric Research (SOARS), which sponsored him to attend the conference. Students are mentored and assist atmospheric scientists in their research.

“Stan cares very much about his Alaska Native heritage and protecting native lands and always shares his cultural experiences with others,” says Laura Allen, SOARS program coordinator.

“He is a good representative for the program.” Edwin says he loves physics, which he calls “the study of nature.”

The physicist says that his Native heritage gives him a different, more comprehensive perspective of science than what is usually taught in university classrooms.

“In traditional ways of knowing, we don’t break things down and categorize them. We see the interconnection of things and how things affect each other” explains Edwin. “At universities, disciplines like physics, mathematics and biology are separated. In the Alaska Native way of knowing, nothing stands alone. There is no single discipline. I integrate the lessons of my father and elders in my work as a scientist.”

Edwin would like to get an advanced degree and teach college level classes in rural Alaska. He said it’s important to engage youth in the sciences. Just like engineering and atmospheric science, it turns out making video games involves physics, too. “I always tell kids – don’t just play video games, learn how to create them,” says Edwin.

As a member of UAF’s Society of Physics Students, one of Edwin’s favorite activities is judging the Fairbanks School District Science Fairs and performing physics demonstrations for elementary school students.

“My own curiosity is always reinforced by the children’s inquisitiveness hunger. They want to know how a demonstration works,” says Edwin.

“This reminds me of my childhood when I wanted to know more than what people could explain. My father’s experiences and knowledge were limited to living and surviving in the Boreal forest of Interior Alaska, he could not satisfy his son’s quest for knowledge of why and how.”

Edwin is an Interior Alaskan, Dranjik Gwich’in from Chalkyitsik, a small village in the Northern region of the Yukon Flats. His parents are Bessie Elisabeth Biederman and Paul Ben Thomas. He will graduate with a bachelor’s degree in applied physics with a concentration in computational physics in December 2013 and is waiting to hear back from graduate schools.

“My goal is to earn a doctorate degree,” says Edwin “Then I plan to return to Alaska to build instruments that will be carried on UAF’s rockets. I also want to study the Northern upper atmosphere from the data these instruments measure— the air and sky that the Gwich’in, animals, and all Alaskans breathe. I want to show by example and demonstrating physics for children and teaching college that any Gwich’in can do as I did.”

**Student Travel Grant Awards:**

- **Benjamin Abbott**
  - American Geophysical Union Fall Meeting, San Francisco, CA
- **Katherine Anderson**
  - Society of Vertebrate Paleontology 73rd Annual Meeting, Los Angeles, CA
- **Soumik Basu**
  - American Geophysical Union Fall Meeting, San Francisco, CA
- **Simon Filhol**
  - International Snow Science Workshop 2013, Grenoble, France
- **Erin Gleason**
  - American Geophysical Union Fall Meeting, San Francisco, CA
- **Joshua Miller**
  - Geothermal Resources Council Convention, Las Vegas, NV
- **Summer Miller**
  - International Volcanological Field School, Kamchatka, Russia
- **Jordan Metzgar**
  - Fieldwork in southwestern China, (Yunnan & Sichuan provinces)
- **Courtney Nichols**
  - 2014 International Higher Education Teaching and Learning Conference, Anchorage, AK
- **Theresa Schnurr**
  - XII International Symposium on Insulin Receptors and Insulin Action, Barcelona, Spain
- **Danielle Serratos**
  - Society of Vertebrate Paleontology 73rd Annual Meeting, Los Angeles, CA
- **Annalisa Stephens**
  - Swiss Federal Institute for Forest, Snow and Landscape Research Conference, Bergun, Switzerland