

From the Director
Peter Schweitzer

As we enjoy some of the longest days of the year here in Alaska, it is time to take stock of the first year of Phase III of Alaska EPSCoR.

Our first annual Alaska EPSCoR All-Hands Meeting took place in Fairbanks in late May. More than 100 people from throughout the state and beyond gathered to reflect on what Phase III of EPSCoR has already accomplished and to plan for the years ahead. It was an inspirational few days, and many of us came away from it feeling revitalized and recommitted to EPSCoR's mission: to turn Alaska's campuses into research centers commensurate with the exciting scientific prospects that abound in the 49th state.

UAF Vice Chancellor for Research Buck Sharpton remarked in his closing comments that Alaska faces unprecedented challenges. Climate change is beginning to alter the physical landscape, while fuel costs and other pressures are having dramatic effects on Alaska's people. In a larger sense, all of these issues are interrelated, which is why integrative science is necessary to assess them adequately.

That's where Alaska EPSCoR comes in, and why integration was a key word at the meeting. Integration across campuses, across areas of study and disciplines, and across ranks and positions were considered as participants split into groups to find out how they

Continued on page 3



Alaska EPSCoR is a partnership devoted to growing Alaska's scientific research capacity, funded by the National Science Foundation and the State of Alaska.

Summer 2008

All-Hands Meeting Caps First Year of EPSCoR Phase III

By Tom Moran

A hundred cutting-edge researchers, a year of accomplishments to reflect on, and an air thick with innovation and ideas, and one guy in a cape ran off with the spotlight.

During a presentation of educators in front of dozens of scientists gathered for NSF Alaska EPSCoR's 2008 All-Hands Meeting, permafrost scientist Kenji Yoshikawa showed everyone how to grab an audience's' attention: dress up like a superhero, turn on a videocamera, edit in a thumping R & B soundtrack, and produce a five-minute action video that's half permafrost education and half inspired lunacy.

"A lot of attention was received by our 'Tunnel Man' video," commented EPSCoR director Peter Schweitzer. Or, as EPSCoR physical science component leader Yuri Shur later noted, "'Tunnel Man' stole the show."

Yoshikawa's video provided a few moments of hilarity in a four-day conference mostly focused on weightier matters. Held on the University of Alaska Fairbanks campus, the All-Hands Meeting was designed as an opportunity for the scientists, students, educators and collaborators involved with EPSCoR statewide to mingle with each other, to review the organization's accomplishments over the last year, and to make plans for future work.

"Nothing beats meeting face-to-face," noted UAF Chancellor Stephen Jones in his opening remarks at the meeting. "Getting to know the person, getting down to business and building collaborations that way."

Continued on page 2



University of Hawaii anthropologist Terry Hunt delivers the keynote address at Alaska EPSCoR's All-Hands meeting in Fairbanks on May 28, 2008.

The conference capped Alaska EPSCoR Phase III's first year of existence, gathering together around 100 EPSCoR researchers who split into groups to share their findings and to brainstorm new directions for research. On the first full day, scientists from the three EPSCoR focus areas - social science, biology, and physical science - split up by field for group discussions. On the second day, groups were divvied up by geographic area, plotting out research frameworks for areas from the North Slope to the

Alaska panhandle.

The latter meetings - and to an extent the former as well - were aimed at fostering crossdisciplinary integration among researchers, a hallmark of NSF Alaska EPSCoR and one important reason for the event. Lil Alessa, one of the leaders of EPSCoR's integration core, said the meetings helped the cause of integration simply by allowing people from different disciplines to interact with each other in a facilitated environment. She said the meeting didn't so much infuse EPSCoR researchers with new ideas as to help establish new ways that different researchers' work could mesh together.

"The one thing that was really nice is not so much something new, new ideas or new viewpoints, but the fact that they're actually evolving, and they've evolving as a collective rather than evolving in isolation," Alessa said. "There's a process happening here that you can't force, and so it actually emerged, and it emerged because it was facilitated the right way."

In addition to the many meetings and plenaries, highlights of the conference included a grant-writing workshop, a poster session for EPSCoR-funded grad students and undergrads, and a keynote address by Terry Hunt of the University of Hawaii. Two days after Hunt's opening, UAF Vice-Chancellor for Research Buck Sharpton delivered closing remarks, commending everyone on their approaches to integration and reminding them of the unique issues faced by Alaskans. "This is an unprecedented set of challenges that we're facing," he said. "Energy on top of climate change on top of a bunch of other concerns."

The All-Hands meeting culminated the first year of Phase III of Alaska EPSCoR, twelve months marked by research and outreach programs reaching Alaskans from K-12 students to university faculty. Here are selected highlights from the recently-completed first year:

• Student and faculty funding. In 2007-2008, EPSCoR awarded 11 undergraduate fellowships, ranging from \$3,000 to \$8,000; graduate fellowships ranging from \$3,000 to \$22,000; Nine

\$30,000 early-career researcher awards; One \$10,000 integration grant; Nine faculty course buyouts; and 77 travel grants ranging from \$400 to \$2,500.

• Grants and publications. Since the current grant cycle began July 1, 2007, EPSCoR-supported University of Alaska faculty members have garnered around \$6 million or more in grant support. EPSCoR researchers have had articles printed in dozens of refereed

journals and publications.

- Integration. A management team in charge of EPSCoR's integration efforts has developed three major conceptual and applied focus areas for integration: socialecological hotspots mapping; the FERAL (Forecasting Environmental Resilience for Arctic Landscapes) modeling process; and a focus on the changes to Alaska's wildfire regime due to global climate change. Integration leaders also elected to split integration efforts up geographically to allow different researchers to focus on different areas of the state.
- expertise and for "Monitoring Seasons Through Global Learning Communities," an International Polar Year K-12 education program; assisted in Yoshikawa's permafrosteducation expedition across rural Alaska; and supported the Alaska Rural Research Partnership, which partners scientists and teachers with rural students.
- Education. **EPSCoR** provided funding

- Outreach. EPSCoR partnered with the Technology Research & Development Center of Alaska to award grants to fledgling Alaskan tech businesses; hired an Outreach Coordinator; held two grant-writing workshops and retained an editor for rural grant-writing assistance; upgraded and redesigned its web site; funded the development of a comprehensive list of non-governmental funding sources for ecosystem research; and helped create a comprehensive Alaska permafrost map.
- Organization. The EPSCOR management team holds meetings almost every month. At a strategic planning meeting in July 2007, key members plotted out a direction for EPSCoR encapsulated in the 18-page EPSCoR Strategic Plan. The All-Hands meeting offered a unique opportunity for all EPSCoR students and faculty to mingle and brainstorm.



Attendees check out the entries in the poster session at Alaska EPSCoR's All-Hands meeting in Fairbanks, May 29, 2008.

could work together better to achieve common goals. By all accounts, it was a productive exercise.

It was an appropriate way to mark the first year of Alaska EPSCoR's current grant. The time since July I, 2007 has been spent laying the groundwork for the next two years of work. In that period we have funded dozens of undergraduate and graduate students, postdoctoral fellows and faculty, not to mention supporting research travel and increasing our education and outreach efforts.

The next few months will be marked by activities which will provide us with feedback and evaluation. Our first annual report to NSF EPSCoR was submitted recently and the first evaluation report by consultants

Drs. Julia Melkers and Eric Welch is nearly complete. In September, we will present what we have achieved so far at the premises of the National Science Foundation in Washington D.C. These reports and meetings will assist us in planning for future phases of the EPSCoR enterprise in Alaska.

In addition to the rigorous evaluation process, we are always looking for input and feedback from EPSCoR participants. Whatever your role in Alaska EPSCoR, we want to make sure your ideas are being considered. This includes suggestions for the next All-Hands Meeting which we are planning for the end of the 2008-09 academic year, as well as for smaller meetings and activities before that. In the meantime, I hope that we all can keep up the collaborative and creative energy displayed at this year's All-Hands meeting. Have a great summer!



UAA Grad Student Tackles 'Climigration' By Tom Moran

As a longtime worker with refugees and immigrants, Robin Bronen has ample experience with people displaced from their homelands. But now the Anchorage lawyer is looking at migration from a new angle: she's writing a Master's

thesis that will establish a framework for the resettlement of people forced to relocate because of climate change.

"I'm taking this knowledge and expertise I have working with immigrants and refugees and putting it into a totally different context," said Bronen, whose Master's work at the University of Alaska Anchorage and the University of Alaska Fairbanks is partially funded by an Alaska EPSCoR research assistantship. "This thesis project is really relevant, given what's happening not only in Alaska but also internationally."

Bronen has been a social activist for as long as she can remember and has more than 15 years' experience working with refugees and immigrants in Alaska. As co-founder and director of the Alaska Immigration Justice Project, Bronen runs a nine-person office with a \$1-million-plus budget, dedicated to providing free or low-cost legal services to low-income migrants.

"It's an awesome job," Bronen said. "I constantly am in awe and inspired by the clients with whom I have the honor to work because they are amazing people who survived things that I could never imagine, and still have hope, and want to contribute to the new place they call home."

In addition to her years at the Immigration Justice Project and a prior position doing similar work for Catholic Social Services, Bronen also served for two years as Alaska's first State Refugee Coordinator. In that position, she served as a liaison with the federal government to facilitate the resettlement of political refugees in Alaska, including smoothing the way for 124 Laotian Hmong who relocated to Anchorage in the largest such resettlement in state history. "It's critical that you make sure you have an orderly process because folks have been living in pretty distressed circumstances, and they come basically directly from a refugee camp into Alaska," she said.

Bronen didn't enter grad school with the intent of focusing on



The old barge landing in the village of Newtok, destroyed by flooding. EPSCoR-funded grad student Robin Bronen is focusing on the village in her studies of "climigration."

displaced people. What drew her in was the mounting evidence of climate change, something she said became apparent to her in her time "walking the earth" in Alaska and elsewhere. "I felt like I needed to understand the science of climate change, because it Continued on page 6



Methane Research Bubbling with Possibilities By Tom Moran

University of Alaska Fairbanks scientist Katey Walter has already made impressive strides in her research into methane bubbling in Alaska's lakes, including work published last year in the prestigious journal Science. Now, thanks to an early-career grant from Alaska EPSCoR, Walter continues to study a

topic that may hold an important link to global climate change - and could lead to her putting a greenhouse gas to good use.

Last year Walter, a researcher with the Water and Environmental Research Center at the UAF Institute of Northern Engineering, led a research team which determined that methane bubbling out of Arctic lakes was the likely source of a huge spike in atmospheric methane at the end of the last Ice Age. "People know that humans are a big source (of methane) and that wetlands are a big source, and they didn't know how important lakes were," Walter said.

Methane is a greenhouse gas which contributes to climate change, and Walter's research suggests the current warming trend could lead to another mass methane release, exacerbating warming.

Walter's research focused on methane created when microbes feasted on old organic matter freed up by melting permafrost.

But in the course of her studies, Walter realized that there are also many other possible sources of lake methane emissions, including the decomposition of modern vegetation, or methane produced in the distant past that is now being freed. Under her current grant, she's made two trips to a giant methane seep near the North Slope village of Atqasuk to look for some answers.

"I've gone up to Atqasuk several times now and collected the gas, and we're looking at its chemistry and its isotope signatures to determine where it's coming from, what its sources are," Walter said. "This EPSCoR project has been a pilot study to begin investigating those questions."

There's also another angle to Walter's new research, which is being funded through a \$30,000 early-career award she received from Alaska EPSCoR. Walter plans to assess whether lake releases of methane, in particular the Atqasuk seep, could be utilized by rural Alaskan residents as an alternative fuel source.

"If there's a local natural gas source that can take the place of using diesel, then that helps the people living in villages economically," Walter noted. "But it also helps to fight climate change: we're talking about taking methane that's right now already being emitted in a very large quantity, capturing it, and converting it to water and carbon dioxide, which are weaker greenhouse gases."

Charged up over Electric Cars By Tom Moran

University of Alaska Fairbanks undergrad Michael Golub says energy efficiency was one reason he got into electric cars. But a bigger reason was his nose.

"I think I have a pretty good sense of smell or something, and if I'm driving any type of car, I'm like, what's that

smell?," said Golub, who recently received a \$3,000 research grant from NSF Alaska EPSCoR. "Am I breathing in something bad? I just felt that driving something that burns gasoline or diesel, it's pretty nasty stuff."

Golub's olfactory unease led him to answer a want ad a couple of years ago offering a free 1986 Toyota pickup. With the help of a mechanic friend, he replaced the dead engine with an electric motor and installed four 20-volt golf cart batteries under the hood and another 16 on the bed. He's put 7,000 commuting miles on the electric truck after spending about \$5,000 for the conversion.

The beat-up Toyota's not much to look at, but Golub says it's been dependable, reasonably fast – reaching speeds of 55 MPH or more – and very easy to maintain. It can run about 40 miles between charges in the summer and 20 in the winter, and he roughly estimates it costs \$2 in electricity to go 30 to 40 miles. Golub thinks this sort of vehicle can have widespread appeal, especially in Fairbanks, where thermal inversions in the winter can lead to poor air quality and where outdoor electrical outlets, used to power engine heaters in the winter, are available everywhere.



EPSCoR-funded UAF undergrad Michael Golub looks under the hood of his battery-powered truck on the UAF campus, March 2008.

"If you're here in December or January, you can see it, you can feel it," he said. "The other argument of why we're perfect for it is because we have plug-ins all over town."

Golub, a junior engineering and mining major, admits the truck needs some clear statistics to better illuminate its benefits. That's where his funding comes in. Through the use of a grantfunded GPS, voltmeter and other devices, he's quantifying the truck's energy efficiency as well as the amounts of greenhouse gases generated to supply it with electricity.

"I'm looking into where the energy's coming from, because the big question is, what pollutants are coming out of the power plants versus what pollutants are coming out burning Walter said technology already exists to capture methane for power generation, including power plants that use emissions from landfills or from animal waste. And naturally occurring methane seeps have been used for power generation before, including some reported instances in Alaska – but nothing in recent history, and likely nothing to the scale Walter hopes to attempt in Atqasuk.

Walter said trapping lake methane is relatively simple – "we've so far just put out a bucket and captured it" – but that transporting the gas for usage is more of a challenge. In addition, she said researchers have to determine whether the methane seep rate is constant enough to support year-round power generation. If the technical problems can be overcome, she said the Atqasuk seep could produce enough energy to power a portion of the village.

"What we're proposing to do is just flare it off to show that you can sustain a year-round, long-term energy source from this gas," Walter said. "And we are also beginning to consider some development ideas - could we build a greenhouse, could we fuel or heat a community center. It certainly might power a number of households in Atqasuk."

Walter has used the EPSCoR money to fund a pair of trips for herself and a research team to Atqasuk, first in January and again in April. The trips included research at a pair of seeps outside town as well as time spent interacting with adults and schoolchildren in Atqasuk itself. In addition to pulling in locals, Walter's research also involves researchers from a variety of fields, making it fit well into Alaska EPSCoR's goal of fostering interdisciplinary research. "We have geophysicists involved and we

gasoline?" Golub said.

Golub is using the EPSCoR grant to analyze the truck's carbon footprint and a separate \$2,500 grant from Flint Hills Resources to study both the pollution issue and the feasibility of the battery system in cold weather. Golub believes he'll find his truck is both less polluting than a gas-powered car and, for certain uses, just as practical. "It's just a matter of me coming up with the data to prove it, and I'm getting pretty close," Golub said. "I've got devices, I've got to get them all hooked up, and then go through the data, and then present the argument."

Golub's also working on a second electric car, a 1998 Geo Metro he bought for \$250 and is trying to convert for just \$2,000, using many parts he's created himself in the UAF machine shop. He's hoping to work through more design challenges, like where best to put the batteries (he's reworking the backseat and trunk to make room) and how to heat it (he used a store-bought electric heating element in the truck, but this time he's trying out a propane heater.) He also led the construction of a third car this summer as part of a course he taught at UAF.

Golub admits electric cars aren't for everyone, but he sees them as having targeted appeal, especially to lower-income people who depend on cars but don't want to spend a lot on them.

"You could make a two, three, four thousand-dollar vehicle that doesn't require maintenance. There's fuel savings, and also it's not going to break down. You don't need a water pump, starter, alternator, spark plugs, oil changes - the list goes on and on." •



UAF researcher Katey bundled up on the ice during a research trip to Atqasuk, on the North Slope, earlier this year.

have permafrost people involved and we have microbial ecologists involved, and we have geologists and engineers involved," Walter said. "The list goes on. Basically, we've identified a really important scientific and engineering question and problem. You cannot answer that unless you go cross-disciplinary."

The \$30,000 from EPSCoR is being used as a springboard to much more substantial funding, Walter said. She is applying for more than \$2 million in grant funding from the Department of Energy (in conjunction with UAF's Institute of Northern Engineering) and the National Science Foundation to continue her work. •

Continued from page 3

felt like something that was profoundly altering the Earth that I know," she said.

It wasn't until after Bronen enrolled in the UA's Resilience and Adaptation Program as an interdisciplinary Master's student that she saw the crossover between her work and her degree. She recently completed her coursework (which required her to commute to Fairbanks once a week) and is gearing up on her thesis, which will move her work with displaced persons into the realm of climate change. Her work is an especially strong fit for EPSCoR's theme, which integrates social science with natural science in examining the effects of rapid change on Alaskans.

The idea of "environmental refugees" or "climigrants" is not a new one and by one popular estimate more than 150 million people worldwide ultimately could be displaced because of climate change, Bronen said. That includes, at present, six villages in Alaska that will have to be relocated due to immediate risk of flooding or erosion.

Bronen is focusing her study on the village of Newtok, a community of about 330 people near the Bering Sea coast whose residents have already voted to relocate due to erosion and thawing permafrost. She has visited the village and has been a regular observer at meetings of a planning committee coordinating the move. Bronen said the process has been invaluable, noting that most scholars examining these issues have had little hand-on experience with people actually planning relocations. "That's what's been pretty amazing for me," she said. "It's not theoretical, it's watching this really intense process involving state and federal agencies and the people of Newtok trying to relocate."

Much of the global debate over the issue concerns whether international guidelines concerning political refugees also can be applied to environmental ones. Bronen said her experience suggests that's not the case. "It felt like what needed to happen is a whole new paradigm had to be created," she said - one which would enable governments and tribes to determine when relocation was necessary, and what steps would have to be taken so relocation is not crisis-driven.

Her thesis has several parts, Bronen said. First, she is working to establish the basic human rights principles that have to be taken into account in any relocation plan. Second, she is working on the more pragmatic issues of relocation, in particular what sort of institutions and activities are needed to effect such mass migrations. The former, she said, is likely to be of more interest to the international community of scholars examining the issue, and the latter to the governments and institutions that face the prospect of overseeing such migrations in the near future.

Without all of these guidelines in place, Bronen said, such relocations could be disastrous, pointing to the response to Hurricane Katrina as an example.

"(Katrina) was an enormous humanitarian crisis because government was completely unprepared to deal with what happened," she said. "That's what we're looking at in regards to our future unless we figure this out.

That's my whole reason for doing this." •

EPSCoR Briefs By Tom Moran

EPSCoR Strongly Represented at Stockholm Conference

Nine Alaska EPSCoR-funded students and faculty were among roughly 600 scientists from more than 40 countries in attendance at April's 2008 Resilience Conference in Stockholm, Sweden. The conference, the first of its kind, focused on the study of resilience - the ability of communities and systems to rebound from changes in the environmental or socio-economic status quo. It's a topic very much in line with Phase III of Alaska EPSCoR, which seeks to study the dramatic climatic changes taking place in the north and the ways people react to them.

Alaska EPSCoR provided funding for eight people to attend the conference: EPSCoR director Peter Schweitzer; co-principal investigator Lilian Alessa; social science component leader Matt Berman; professors Andrew Kliskey and Stephanie Martin; and grad students Chanda Meek, Colin Shanley and Jennifer Rohrs-Richey.

A number of other students and faculty from the University of Alaska were also in attendance, including EPSCoR co-principal investigator Terry Chapin, who was a keynote speaker at the event; EPSCoR faculty sponsor Gary Kofinas, who led a panel discussion; EPSCoR-funded grad students Robin Bronen, Karen-Hibbard-Rode, and Jordan Lewis; researcher Jack Piccolo; and grad students Meagan Krupa, Philip Loring, James Powell and Elizabeth Robins.

EPSCoR Student Earns Global Health Prize

UAF grad student and EPSCoR fellow Jordan Lewis received a "New Investigators in Global Health" award in a May ceremony in Washington, D.C. Lewis was one of 21 students from across the world selected for the award, given to promote and support young researchers in global health. Winners were selected based on the abstracts they presented to the International Conference on Global Health, held May 27-31, and received full funding to attend the conference.

Lewis, who grew up in Naknek, is a fourth-year PhD student at UAF in psychology and also a member of the Resilience and Adaptation Program. His research focus is on the role that community life plays in the aging process for Alaskan elders.

"A lot of the research focuses on aging as a biomedical approach," Lewis said. "Whereas with Alaska Natives, it's more of a holistic approach ... I think elders will view themselves as aging better if they have a strong connection to their culture and support in their community."

For his thesis, Lewis intends to study three Bristol Bay communities to examine the relationships between community life and perceptions of aging.

EPSCoR Faculty Earn Promotions, Awards

A number of Alaska EPSCoR faculty and officers have recently received noteworthy promotions and honors:

Alaska Executive officer Anne Sudkamp has been elected to the EPSCoR executive committee of project administrators from across the country.

Alaska EPSCOR component leaders Yuri Shur and Elena Sparrow have been promoted to full professorships at UAF. Sparrow heads EPSCoR's education and outreach efforts. Shur, who was hired under Phase I of Alaska EPSCoR (2001-2004), leads the physical science component.

Lee Taylor, another EPSCoR Phase I hire, has been promoted to Associate Professor, a tenured position. So has Link Olson, a member of EPSCoR's biology component.

One of EPSCoR's co-PIs, Terry Chapin, has been named to the state of Alaska's governor's sub-cabinet on climate change.

An EPSCoR early-career awardee, Kris Hundertmark, received the Distinguished Moose Biologist award from the North American Moose Conference and Workshop in 2007. He is one of seven Alaskans to receive the award since its inception in 1981. •

Alaska, Argentina Students Talk Climate Change

By Tom Moran

If you want to get a bunch of Alaskan and Argentinean students talking to each other, ask them about snowboarding.

The topic of hitting the slopes was the most fertile ground for discussion the morning of April 8, when a group of Fairbanks middle-school students traveled to the University of Alaska Fairbanks campus for a "Pole to Pole" videoconference with students in Wasilla and Shageluk, Alaska, and Ushuaia, the capitol of Argentina's Tierra Del Fuego province at the south-



Fairbanks middle school students participate in a teleconference with students from Wasilla and Shageluk, Alaska and Ushuaia, Argentina on the UAF campus, April 8, 2008.

ern tip of South America. The event was part of the GLOBE IPY Seasons and Biomes program, a worldwide educational project in which students discuss climate change through their observations of the seasons.

And one thing they observed was that they seem to be getting less and less slope time every year. "I've just noticed that snowboarding season has ended a lot sooner," noted a Wasilla High School student over the videoconference mic. "I was just wondering how much longer we're even going to have snow."

The question prompted lots of discussion in the wired class-room in UAF's O'Neill building, filled with Randy Smith Middle School and home-school students, and in the other far-flung classrooms visible on the giant screens in the front of the room. Jorge Rabassa, the Minister of Education for Tierra Del Fuego, told students a low-lying ski slope outside Ushuaia had been closed for good due to lack of snow. "Twenty years ago we had a great slope and now it's gone for good," he said.

The videoconference hadn't been arranged to focus on winter sports, of course, but rather to bring together students from both edges of the globe to share their observations of how climate changes are affecting their local environments, in particular the seasons. Questions and topics ranged from temperature variations, to changes in the extent of frozen soil, to the students in Shageluk – a village near the Yukon in Western Alaska – commenting on their shrinking winter travel season and the recent appearance of two new bird species in town.

The students and teachers in the various spots took turns making comments and raising questions, with the whole event moderated by a panel of scientists in Boulder, Colorado.

"It's pretty obvious that in both hemispheres we are seeing changes, that in both hemispheres there is concern about climate change," said conference emcee Peggy Lemone, a senior scientist at the National Center for Atmospheric Research in Boulder and chief scientist for the GLOBE Program.

When the talk turned to climate experiments, ideas abounded, from using frost tubes to measure the depth of frozen soil to looking at historical data of when people take off snow tires to study changes in the start of springtime. The videoconference was to be followed up by a web chat where scientists and students could work out how they could run studies to draw their own conclusions about the changes that are becoming more acute the farther north – or south – one goes.

"We're kind of like the canaries in the coal mine," said Dave Valentine, one of several UAF scientists who helped lead the discussion in Fairbanks. "The changes that we're expecting to happen globally are probably going to happen most dramatically at the high latitudes, where we're at."

The Seasons and Biomes project is a worldwide K-12 educational program run under the auspices of the GLOBE (Global Learning and Observations to Benefit the Environment) program, which is funded by NASA, the University Corporation for Atmospheric Research and Colorado State University. Seasons and Biomes is a collaborative effort with the International Polar Year (IPY.) The Seasons and Biomes project is funded through the National Science Foundation, and NSF Alaska EPSCoR has contributed both expertise and funding to the project.

The videoconference was just one small piece of the program, which will see students in the various GLOBE sites conduct research into their local ecosystems, learning about climate change and scientific procedures in the process.



(I to r) Guido Grosse, Mike LaDouceur, Alexander Kolodov, and Ronnie Daanen pose off of the Dalton Highway on a research expedition in April 2008. Daanen, a post-doctoral researcher with the UAF Geophysical Institute, is the recipient of a 2008 Alaska EPSCoR Early-Career Fellowship.

EPSCOR Grants Announced

EPSCoR recently announced the recipients of some of its major grants, including \$30,000 early career fellowships, an integration seed grant, and several smaller research grants awarded to undergraduates. Here are the awardees and amounts:

Early-career grants

Jessica Cherry, \$30,000 Ronald Daanen, \$30,000 Kris Hundertmark, \$30,000 Claudia Ihl, \$30,000 Derek Sikes, \$30,000 Branka Valcic, \$30,000 Katey Walter, \$30,000 Jing Zhang, \$30,000

Seed grant

Amanda Rosenberger, \$10,000

Undergraduate grants

Amanda Bremner, \$8,000 Robert Burgess, \$3,000 Rose Farrington, \$5,000 Samuel German, \$7,600 Michael Golub, \$3,000 Joel Hunt, \$5,000 Elizabeth Kunibe, \$5,000 James Mills, \$5,000 Robert Shymanski, \$3,000 Emily Vaughan, \$3,000 Robbin Garber-Slaght, \$5,000

Check us out on the web >>> http://www.alaska.edu/epscor/

If you have not visited our website recently visit us at www.alaska.edu/epscor to browse updated sections including an archive of previous EPSCoR events, short pieces that focus on some of the exciting projects being funded by Alaska EPSCoR, and a travel section with grant announcements and links to the forms needed for travel authorizations. The site also details our extensive education and outreach programs and includes a guide for scientists who wish to increase their participation in outreach activities.

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