Vice Chancellor for Research

Name, Vice Chancellor

http://www.uaf.edu/research/about/vcr/


**Mission**

The vice chancellor for research is responsible for the development and oversight of research at the University of Alaska Fairbanks.

**Contribution to UAF’s Mission**

The vice chancellor for research administers research institutes, research programs, and research administration (see organization chart). Research programs and administration are described in this document; each research institute is described separately following this summary.

**Educate: Undergraduate and Graduate Students**

UAF provides graduate and undergraduate research opportunities, research assistantship funding, and travel awards. For example, since the start of the current grant cycle (2007), EPSCoR (Experimental Program to Stimulate Competitive Research) has awarded 67 graduate and 26 undergraduate fellowships, and INBRE (IDeA Network of Biomedical Research Excellence) funded 50 summer and academic year projects. The institutes and other research programs contribute similarly. INBRE and some other programs also engage students in workshops and seminars.

**Discover: Through Research, Scholarship, and Creative Activity with an Emphasis on the North and its Peoples**

The Office of Vice Chancellor for Research provides administrative and fiscal services for major research programs. It gives support to faculty and staff applying for external funds, implements research policies, offers training programs related to the responsible conduct of research, and ensures research integrity compliance. The office coordinates undergraduate and graduate programs that enhance the research experience for students. Programs include an undergraduate research funding program and a campus research day that reaches out to the community. Research institutes and programs such as EPSCoR and INBRE fund faculty, staff, and students engaged in research.

**Prepare: Alaska’s Career, Technical, and Professional Workforce**

UAF’s research mission helps prepare students for jobs within the state, the nation, and the world. Research programs such as INBRE are specifically intended to arouse high school and undergraduate interest so that more students aspire to biomedical careers. Faculty in the research institutes and major research programs take part in science fairs and give high school presentations to stimulate interest in research-related fields.

**Connect: Alaska Native, Rural, and Urban Communities through Contemporary and Traditional Knowledge**

Faculty and staff in UAF’s research institutes and programs commonly address issues related to Alaska communities. Many projects involve collaborative research with Alaska Native and rural communities. Researchers seek out traditional knowledge to inform their own work, and they disseminate their results to interested villages. The following programs are examples illustrating UAF’s research connection to Alaska’s communities:
Office of Vice Chancellor for Research

- Research Institutes
  - ARSC
  - IAB
  - IARC
  - GI

- Research Programs
  - EPSCOR
  - INBRE
  - GINA
  - Other Integrated Research Programs

- Center for Research Services
  - Office of Research Integrity
  - Office of Sponsored Programs
  - Vet Services
  - Research Engagement
  - Admin & Fiscal Support

July 15, 2010
VCR Org Charts
Appendix I


- Alaska Summer Research Academy provides an opportunity for students in grades 8–12 to live on the UAF Fairbanks campus and work with university faculty, staff, and industry professionals. Students choose one module (or course) and are immersed in a single subject for two weeks. The approach is experiential; it uses hands-on and minds-on methods rather than lectures or worksheets.

- In 2007, the Rural Alaska Honors Institute began its Next Step program to give high school students in-depth knowledge of molecular biology and experience working in research labs. The program helps students understand research and modern biology and encourages them to pursue a college degree in the sciences.

- UAF partners in the annual Western Alaska Interdisciplinary Science Conference.

- Alaska Native Engagement Mini-Grants fund UAF faculty members who undertake projects designed to increase the interest of Alaska Natives in research.

**Engage: Alaskans via Lifelong Learning, Outreach, and Community and Economic Development**

The Office of Vice Chancellor for Research coordinates the Science for Alaska lecture series, which brings science lectures to local audiences in Anchorage and Juneau. The office publishes *Frontiers*, a yearly UAF research magazine that is distributed to 8,500 VIPs, donors, and subscribers and is given out at conferences, outreach events, and other venues. Research institutes and major research programs arrange conferences and workshops, distribute newsletters, and produce educational websites used by Alaska's teachers. Programs such as EPSCoR provide seed funding to startup businesses to enhance economic development.

**Leadership, Management, and Organizational Structure**

**Research Programs**

Alaska NSF EPSCoR is a university-based federal-state partnership that aims to enhance science and technology infrastructure in education, in the private sector, and in related government programs. Twenty-five states, Puerto Rico, and the U.S. Virgin Islands participate in NSF EPSCoR programs. Throughout Alaska, this program enhances research capacity to make sustainable contributions to the state’s knowledge and economy. Alaska NSF EPSCoR fosters the development of science and engineering based on the state’s unique opportunities and strives to make its results relevant to Alaska residents. Alaska NSF EPSCoR accomplishes its mission through the strategic distribution of NSF and state funds. The program provides financial support to undergraduate and graduate students, postdocs, and faculty members throughout the University of Alaska system. It conducts an active public outreach program, including K-12 education, and partners with businesses and supporting public events. Alaska NSF EPSCoR supports research focused on the rapid environmental and social changes taking place in Alaska and across the world’s far northern latitudes. The organization sponsors study in three fields: physical science, biology, and social science. However, its researchers are encouraged to take on integrative projects that stretch across traditional disciplinary boundaries. Alaska NSF EPSCoR is led by a principal investigator, and the UA Statewide Committee on Research serves as its advisor.

INBRE aims to strengthen and expand the Alaska network for biomedical research and training and to ensure that the network will be self-sustaining. This program builds state expertise on chemical and microbial disease agents originating in the environment, including emerging infectious
Zoonotic diseases such as avian influenza and tularemia. The bioinformatics and computational core and instrumentation support are assets for programs across the life sciences at the University of Alaska. The Alaska INBRE network has two major nodes, at UAA and UAF. It extends its partnerships to the Alaska Department of Public Health, to other small college units, to K-12 education, and to the health delivery community. INBRE supports graduate fellowships and undergraduate research awards and formalizes the process of making students aware of on-campus research opportunities. It sponsors postdoctoral fellows and encourages their integration into the Alaska Human Resources System. It funds and facilitates a suite of programs that offer assistance, training, and counseling to precollege students, particularly those in rural, predominantly Alaska Native, villages. These programs encourage students to do research in high school, to learn modern biology in summer courses, to make the transition to college, to do research in college, and to apply for post-graduate training. The educational pipeline that draws students toward the university can become two-way conduits that encourage local communities to better teach us what they know and need.

The Geographic Information Network of Alaska (GINA) is the University of Alaska's mechanism for organizing and sharing its diverse data and technological capabilities among the Alaskan, arctic, and world communities. Established in 2001 as an initiative of the UA president, GINA operates at all three main residential campuses. It works with agencies, NGOs, and private sector organizations to serve the geospatial data covering Alaska.

Other Integrated Research Programs include small research programs that do not fall under an established campus institute or program. The Center for Island, Maritime, and Extreme Environment Security (CIMES) is a program of the Department of Homeland Security (DHS) Center of Excellence for Maritime, Remote Island, and Remote/Extreme Environment Security. The center is led by the University of Hawaii with principal partners from the University of Washington, UAF, and the University of Puerto Rico at Mayaguez. CIMES provides DHS with profound scientific, technical, and educational benefits across a wide spectrum of stakeholders in an effort to develop robust research efforts in geographic areas that present significant homeland security challenges.

The Office of Electronic Miniaturization (OEM), which is no longer in operation as of FY11, miniaturized existing electronic components and systems through innovations in novel materials, processes, and device configurations. OEM enabled improved connections between basic research, applied industrial research, and product development. Its funding cycle ended in FY10.

**Research Administration**

The Center for Research Services is home to UAF’s research compliance and pre-award functions—the Office of Research Integrity (ORI), the Office of Sponsored Programs (OSP), and the Office of Technology Transfer (OTT). The center provides administrative and fiscal services for some of UAF’s major and integrated research programs. It provides outreach services for campus research activities and is home to UAF’s Veterinary Services. The center works closely with Administrative Services to meet the needs of UAF researchers and is an integral part of implementing the research policies and oversight required for the university to remain competitive for federal funding. The Office of Research Integrity supports the research compliance committees charged with oversight of human subject research, use of vertebrate animals, infectious agents, and recombinant DNA. In addition, ORI administers a variety of compliance and training programs related to the responsible conduct of research. The Office of Sponsored Programs supports UAF faculty and staff in applying for external funds for research and scholarly activity. OSP is responsible for protecting UAF’s interests by reviewing proposals to external sponsors, initiating and implementing pre-award
policies and procedures, providing training and outreach, and serving as a liaison between sponsors and UAF during the proposal period.

The recently established Research Engagement Office coordinates campus-wide programs that enhance the research experience for undergraduate and graduate students. This includes an undergraduate research funding program that is available each fall and a campus research day that reaches out to the community and provides opportunities for graduates and undergraduates to compete on a campus level in poster sessions and symposiums. The office also coordinates the statewide portion of the Science for Alaska lecture series and publishes the science magazine *Frontiers*.

Through Veterinary Services, the attending veterinarian ensures that adequate veterinary care is given to all live vertebrates used in research and teaching at UAF. Adequate veterinary care for all captive or free-ranging animals involved in UAF activities is a regulatory requirement with oversight from the UAF Institutional Animal Care and Use Committee. Services may be provided by special request to other agencies, organizations, or private veterinary practitioners, but university projects and animals always take priority. In addition to providing basic clinical and diagnostic care for animals, Veterinary Services offers a variety of research support.

**Committee Structures and Representation**

The vice chancellor for research sits on Chancellor’s Cabinet, Provost Council, Information Technology Executive Council, UA Biomedical Subcabinet, Research Advisory Committee, the College for International Geophysical Observatory Science Advisory, and the UA Statewide Committee on Research.

The Center for Research Services has representation on the Safety and Compliance Coordination Committee, the Institutional Animal Care and Use Committee, the Institutional Biosafety Committee, the Laboratory and Chemical Safety Committee, the Public Information Officer Consortium, and the Undergraduate Research Committee.

The Office of Research Integrity coordinates three faculty and staff committees: the Institutional Animal Care and Use Committee, the Institutional Review Board, and the Institutional Biosafety Committee.

INBRE has a four-member Management Advisory Committee composed of the principal investigator from UAA, two UAF faculty, and one UAA faculty.

The UA Biomedical Subcabinet serves as the UA-Wide Steering Committee for INBRE. This committee is composed of the UA associate president for health programs, UAF’s vice chancellor for research, the UAA provost, the UAF associate vice chancellor for research, the Alaska INBRE director, and the UAA dean of health and social welfare.

The EPSCoR III project director serves as a member of the Application Review Committee for the Resilience and Adaptation Program (RAP) and as member of the Thesis Completion Fellowship Review Committee of the Graduate School. He also serves as a member of the Science Steering Committee of the Center for Global Change and Arctic System Research. In addition, one EPSCoR staff member serves on Staff Council and is on the subcommittee on staff affairs. This staff member is also a member of the UAF Intercollegiate Athletic Council and the UAF Moderators’ Group.
**External Advisory Board(s)**

INBRE has an external advisory board composed of representatives from the University of Washington, Alaska Native Tribal Health Consortium, Centers for Disease Control and Prevention, the USGS Columbia Environmental Research Center, and a retired INBRE director from Oklahoma.

Alaska EPSCoR III has three levels of external advisors as described below:

- EPSCoR is evaluated by a four-member external advisory committee with representatives from the University of Ottawa, Arizona State University, the Smithsonian Institution, and the University of Georgia. The group makes regular visits to EPSCoR and provides qualitative assessments of EPSCoR’s research and research integration.
- Two independent advisors, one from Georgia Tech University and one from the University of Illinois at Chicago, analyze EPSCoR’s performance through surveys and interviews. These advisors have delivered annual reports, which have been used by EPSCoR administrators to make changes in the organization’s projects and policies.
- A 12-member UA State Committee on Research also provides oversight of Alaska EPSCoR. The primary role of this committee in recent years has been to shape the direction of EPSCoR’s next grant cycle.

The Office of Electronic Miniaturization (OEM) had a University-Industry Cooperative Advisors Group with representatives from Crane Industries -Interpoint Division, Santa Fe Science and Technology, Inc., Science and Engineering Services, Inc., and Tessera, Inc.

**Additional Unit Policies**

UAF has established research policies in the following areas:

- Animal care and use
- Biosafety in research and teaching
- Export management
- Use of controlled substances in research and teaching
- Protection of human research participants
- Occupational health and safety – UAF animal facilities
- Principal investigator eligibility
- Responsible conduct in research - draft

Current versions of all policies are available on the [Center for Research Services website](#).

New policies are disseminated to affected individuals via existing university contact lists and listservs managed by other offices. These include, for example, the Provost Council Research Working Group and faculty, staff, postdoctoral researcher, and graduate student lists. The Office of Research Integrity does direct electronic mailings as needed to update principal investigators with active protocols or registrations from the Institutional Review Board, the Institutional Animal Care and Use Committee, or the Institutional Biosafety Committee. These mailings are done whenever regulatory, policy, or procedural changes are announced. Members of the Office of Research Integrity regularly speak to graduate and undergraduate classes and departmental meetings, and they organize topic-specific training sessions for faculty and staff whose work requires compliance
oversight and management. Policies are linked from websites managed by the Office of Research Integrity as appropriate.
Veterinary Services has no unit-specific policies. It is responsible for providing a program of adequate veterinary care for all UAF vertebrate animals. Veterinary Services works with facility and research staff to ensure that animals are provided with conditions and care that meet or exceed regulatory minimums. Veterinary Services develops standard operating procedures for common veterinary care and diagnostic procedures and assists researchers with the development and improvement of research. New or revised procedures impacting faculty, staff, and students are communicated as needed through one-on-one or small group training sessions or through electronic mail to affected individuals or groups.

**Faculty and Staff**

**Faculty and Staff Numbers**

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**Collective Bargaining**
All faculty members and postdocs are members of UNAC.

**Libraries, Information Resources, and Collections**

The Geographic Information Network of Alaska holds geographic datasets and performs data management in these roles:

- GINA is the State of Alaska's archive and clearinghouse for ortho-imagery and digital elevation model data. GINA holds more than 40 Terabytes of data for this program and serves it through a [popular website](#) and open standards web services.
- GINA provides data management services for the [North Slope Science Initiative](#), an interagency effort supporting science-based decision making for Alaska's North Slope. GINA holds thousands of data and project tracking records for this program.
- GINA is helping to develop the next generation of satellite data products for NOAA's geostationary and polar orbiting satellites. GINA works through partnerships with the National Weather Service and NOAA National Environmental Satellite Data and Information Service (NESDIS) administered by the UAF Cooperative Institute For Alaska Research.
- GINA receives and distributes hundreds of different satellite data products in real time from NASA, NOAA, and DoD satellites. This program is performed in partnership with the NOAA NESDIS satellite receiving station in Fairbanks.
- GINA holds an [archive](#) of several hundred thousand scenes captured by the program dating back more than two decades from NASA, NOAA, and DoD satellites.
GINA provides satellite data and data management services to the NSF-funded Seasonal Ice Zone Observing Network.

GINA serves data and provides data management services in partnership with the state Department of Natural Resources and North Slope Science Initiative through a Department of Energy funded project regarding winter travel on ice and snow roads on Alaska’s North Slope: Arctic Transportation Network.

GINA provides data and web services for the Alaska Energy Data Inventory.

Institutes and Centers

EPSCoR, INBRE, and GINA report to the vice chancellor for research. The Geophysical Institute, the International Arctic Research Center, the Institute of Arctic Biology, and the Arctic Region Supercomputing Center also report to the vice chancellor for research.

Collaborations

UAF collaborates with the University of Hawaii and the University of Puerto Rico at Mayaguez on the Center for Island, Maritime, and Extreme Environment Security.

INBRE is a statewide program involving collaboration within the UA System. Faculty funded by this program collaborate with a broad collection of local, national, and international researchers. For example, UAF faculty collaborate with researchers at the University of California Davis, The Ohio State University, the National Institute of Allergy and Infectious Diseases, the office of the Alaska state veterinarian, and Vector of Novosibirsk, Russia. They also work with researchers from Kushiro and Obihiro, Japan, on the Alaska Asia Avian Influenza Research group. This collaboration was started through INBRE support and now is mostly supported by a contract with the National Institutes of Health. Partial funding comes from the Civilian Research Development Foundation for viral recovery and characterization in Russia.

GINA represents the University of Alaska as a partner member of the Alaska Statewide Digital Mapping Initiative, sitting on the Executive and Technical Teams. This seven-state agency effort produces new statewide imagery and elevation datasets for Alaska. GINA works in close partnership with the NOAA NESDIS Fairbanks Command and Data Acquisition Station to receive and distribute real-time satellite imagery products including Landsat 5 data for Alaska. Without this partnership, Alaska would not have access to a critical environmental satellite dataset that forms the basis of many long-term studies.

Collaboration is at the heart of the Alaska EPSCoR’s mission. The organization’s faculty and students participate in hundreds of collaborative projects within UAF and between UAF and other UA campuses, other universities, and educational, governmental, and private entities across the state, nation, and world. EPSCoR has a partnership with the Technology Research and Development Center of Alaska to provide grants to help Alaskan small businesses become more effective at applying for federal funding. It also collaborates with UAA’s Resilience and Adaptive Management group and with researchers from Argonne National Laboratory to develop cutting-edge technology to enhance the assessment and forecast of social-ecological change in Alaska.

The Office of Electronic Miniaturization had technical partners, educational partners, and enterprise partners. Technical partners were Alien Technology Corporation, Crane Industries, Advanced Systems Integration Division, Defense MicroElectronics Activity (DEMA), Paratek, Silicon
Turnkey Solutions (Fremont, CA), Superconducting Inc., and Tessera, Inc. Educational partners were North Dakota State University, the UAA Business Enterprise Institute, UAF Advanced Instrumentation Laboratories, UAF Arctic Region Supercomputing Center, UAF Geophysical Institute, UAF School of Management, and UAF Institute of Northern Engineering. Enterprise partners included the Fairbanks Chamber of Commerce and the Fairbanks Economic Development Council.

**Financial Resources and Expenditures**

Total restricted expenditures at UAF during FY10 amounted to $123.1 million. Of this amount, $89.8 million was due to research activity. Research units received $10.9 million of indirect cost recovery, academic units received $6.1 million, and the physical plant and other administrative units received $7.8 million.

The FY10 non-restricted budget for the Center for Research Services, which includes the Office of Research Integrity, the Office of Sponsored Programs, the Vice Chancellor for Special Projects, and Veterinarian Services, is $2,723,956. This budget is 80.85% state appropriation, 9.97% indirect cost recovery, and 9.18% in combined other revenue sources. Of this amount, 68.11% is expended on staff salary and benefits. The vice chancellor also manages a $200,000 equipment match fund.

INBRE receives about $3.5 million annually from the National Center for Research Resources, a part of the National Institutes of Health. About 45% of this funding pays faculty, staff, and student salaries and related benefits.

The FY10 budget for EPSCoR III is the third and final year for this grant cycle. EPSCoR III funds comprise $3 million restricted, $1 million match/cost share, and indirect cost recovery based on a 47.5% negotiated rate. Bridge funding is in effect for FY11, and UAF will submit a proposal to NSF in October 2010.

The FY10 restricted budget for the Center for Research Services is $566,643. This budget is 90.16% UA Foundation funds and 9.84% federal grant funds. Of this amount, 18.61% is expended on personnel services for staff salary and benefits.

The FY10 non-restricted budget for the Geographic Information Network of Alaska is $648,520. This budget is 58% state appropriation funds, 18% indirect cost recovery, 23% indirect cost support, and 1% from other revenue sources. Of this amount, 60% is expended on personnel services for staff salary and benefits.

The FY10 restricted budget for the Geographic Information Network of Alaska is $1,505,000. This amount comes from multiple funding sources, including private organizations and state, federal, and foreign grants and contracts. The budget comprises 25% state of Alaska grants and contracts, 44% federal grants and contracts, 3% corporate contracts, 1% private grants and contracts, 27% other university grants and contracts, and 1% foreign grants and contracts. Of this amount, 56% is expended on salary and benefits for staff working on grants or contracts.

In FY10, OEM’s lone contract provided $2.51 million in restricted dollars. Of that amount, approximately 49% was designated for salaries and benefits for the director, faculty, and research staff.
The FY10 $531,000 restricted budget for the National Center for Island, Maritime, and Extreme Environment Security (CIMES) is externally funded by the Department of Homeland Security. The UAF budget portion is transmitted as a sub-award through the prime award recipient, the University of Hawaii. In FY11, a $530,000 additional budget is anticipated for continuing project activities for the third and final year of this integrated research project.

In FY10, 12% of the annual budget was for administrative requirements to provide program support to coordinate all integrated components and participants; 5% was dedicated to educational outreach activities; 23% was for satellite mapping work provided by the Geographic Information Network of Alaska (GINA); 29% was for Hajo Eicken of the Geophysical Institute to work on ice remote monitoring radar; and 31% was for Tom Weingartner of the School of Fisheries and Ocean Sciences to work on ocean currents remote monitoring radar.

Veterinary Services is a “recharge center” administered by the Institute of Arctic Biology business office. The attending veterinarian (also the director of the Office of Research Integrity) oversees the budget, space, staffing, and activities of Veterinary Services.

**Facilities and Equipment**

**Facilities**
The staff of the Center for Research Services is located in the West Ridge Research Building, and the Veterinary Services staff is located in the Biological Research and Diagnostics Facility.

INBRE UAF staff members are located in the West Ridge Research Building Rooms 202–208. INBRE also has UAA faculty and staff located in Anchorage.

National Institutes of Health infrastructure awards to UA convinced UAF to fund and build the West Ridge Research Building, which opened in 2004. Research funding prompted a new UAF animal facility (2007, helped by a C06 award), a state virology building on the Fairbanks campus (open in 2009), and a biosecure suite for the Alaska Zoonotic Disease Center in the UAF Arctic Health Research Building. State space investments have exceeded $150 million.

EPSCoR is located in Room 305 in the Eielson Building on the Fairbanks campus.

Until the end of FY10, the Office of Electronic Miniaturization had faculty and staff located in the OEM building off of Industrial Avenue and in the Reichardt Building. This housed a state-of-the-art clean room, material development, and advanced level characterization facilities to carry out research and technology development for Military, Aerospace, Space and Homeland Security (MASH) applications. In the Reichardt Building, OEM has a clean room used for chip scale packaging and other activities.

**Equipment**
The Center for Research Services does not house equipment. Equipment is generally maintained by institutes, colleges, or schools. Some equipment has been procured by research programs. INBRE has devices for DNA sequencing, real-time PCR, cell fractionation, flow cytometry, SELDI mass spectrometry, and microarrays. Laminar flow hoods, autoclaves, fluorescence microscopes, ultra-freezers, and other items have been vital to the individual laboratories of INBRE faculty and others at UAF, UAA, and UAS. INBRE’s Bioinformatics Core has four computing clusters and hosts the
Bioinformatics Computational Portal with more than 40 applications, 85 users, and a GenBank mirror that allows extended searches.

GINA owns and operates two satellite receiving ground stations that track polar orbiting satellites, downlink data, and produce satellite data products and images. Additionally, GINA has an extensive enterprise-class computing infrastructure consisting of dozens of Linux servers, a storage area network holding more than 40 terabytes of data, and redundant data centers on campus.

OEM has spectrometers, scanning electron microscopes, and related equipment.

**Public Service and Community Engagement Highlights**

The Office of the Vice Chancellor for Research produces and distributes *Frontiers* magazine. The office is working with the Geophysical Institute to produce the Anchorage and Juneau portions of the Science for Alaska lecture series. In 2010 we partnered with the Anchorage Imaginarium to broaden the appeal and attendance at the Anchorage lectures. This partnership will continue in 2011. The office coordinated the first Campus Research Day, which included open houses in more than 25 labs across the campus for local students and the community.

Many of the collaborative projects in the 2008 INBRE proposal trace their beginnings to a 2004 workshop called the Denali Park conference on infectious disease research in Alaska. There were 35 attendees.

The 2007 Denali Park conference on perchlorate toxicology in stickleback models served as the planning session for a recent R01 proposal submission. This meeting had 20 attendees.

2006, 2007, and 2008 conferences of the Alaska Asia avian influenza (A3IR) group helped create and sustain a circumpolar collaboration funded by the National Institutes for Health in Fairbanks or Kushiro, Japan.

GINA workshops attended by more than 150 participants led to guidance for contracting of new statewide orthoimagery and elevation map datasets.

More than 200 professionals have been trained in GINA’s training lab, updating their professional skills in geospatial data management and mapping and image processing.

**EPSCoR** - UAF Assistant Professor of Microbiology Mary Beth Leigh used a $20,000 EPSCoR Alaska Native Engagement mini grant to put together a middle school class which fused climate change study with dance and writing. The class, called Climate Change and Creative Expression, was made up of students at the Fairbanks Effie Kokrine Middle School, a charter school aimed at Alaska Natives, and drew 17 boys and girls. The students learned about climate issues through a succession of guest speakers and local field trips. They worked with UAF graduate student Krista Katalenich and English professor Cindy Hardy to help transform their impressions into a spoken-word and dance performance, which they then presented to the public.

EPSCoR Education Director Elena Sparrow and two other UAF education professionals traveled to Thailand in November 2008 to help Thai K-12 students make a connection between mosquitoes and global climate change. Sparrow’s group was part of the IPY GLOBE Seasons and Biomes program supported by Alaska EPSCoR. It developed a mosquito “protocol,” a set of guidelines
through which K-12 students worldwide could gather data about mosquitoes to learn about scientific methodology and climate change and to provide data to scientists. The group met with Thai researchers and students about their local protocol, which they plan to adapt for use by Alaska students.

Students from both ends of the Americas gathered together via videoconference on April 8, 2008, to discuss their perceptions of climate change. The “Pole to Pole” event, part of the EPSCoR-supported GLOBE IPY Seasons and Biomes program, involved students from Fairbanks, Wasilla, and Shageluk, Alaska, and from Ushuaia, the capital of Argentina’s Tierra del Fuego province at the southern tip of South America. Questions and topics included temperature variations, changes in the extent of frozen soil, the shrinking snowboarding season, and the recent appearance of two new bird species in Shageluk, a village near the Yukon River in Western Alaska. 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.

For the third year in a row, EPSCoR gave financial support in 2010 to the Western Alaska Interdisciplinary Science Conference. The conferences—held in Dillingham in ’08, Nome in ’09, and Unalaska this year—give Western Alaska researchers and students the opportunity to share their findings with fellow scientists and with the communities themselves. EPSCoR contributes travel funding to enable greater participation in the conferences and also sends personnel each year.

Alaska EPSCoR launched a new seminar series in 2009 in an effort to increase interaction among its grad students and faculty. The “Dessert Discussions” seminars took the form of four lunchtime panel discussions, each of which was open to the general public. Three were held at UAF and one in Anchorage, but all were statewide events with teleconference links to the three main UA campuses. Panelists came from across UAF and UAA, and topics included theses and comprehensive exams, grant funding, public presentations, and finding work after graduation.

Research, Scholarship, and Creative Activity highlights

GINA-affiliated faculty used remote predictive mapping techniques to analyze geophysical and geological surveys leading to the identification of new economic mineral prospects. Three of these prospects have been claim staked by the mining industry.

EPSCoR graduate fellow Robin Bronen brought with her to UAF more than 15 years of experience working with refugees and immigrants in Alaska. She was the state refugee coordinator for two years. As a grad student, she studies refugees of a different kind: Alaska’s first wave of ‘climigrants’ forced to relocate because of climate change. She is focusing her research on Newtok, a village near the Bering Sea coast, where residents have voted to relocate due to erosion and thawing permafrost. Her thesis has several parts. First, she is attempting to identify the human rights principles that need to be considered in a relocation plan and, second, she is fleshing out the more pragmatic issues of relocation, in particular what sort of institutions and activities are needed to effect such mass migrations.

Alaska EPSCoR 2008 and 2009 undergraduate grantee Michael Golub tore the gas engine out of a 1986 Toyota pickup a few years ago and replaced it with battery power. Since then has converted more than 10 vehicles—including cars, snowmachines, and his own riding mower—to electricity. He used his EPSCoR grants to study specific attributes of the cars, sorting out how their performance and emissions compare to gas power. In addition to continuing his studies as a grad
student, Michael has run several electric car conversion classes at sites from Dillingham, Alaska, to Dawson City, Yukon.

Claudia Ihl, an assistant professor of biology at the UAF Northwest Campus, isn’t letting her position at a primarily teaching institution slow down her research. Thanks to a pair of Alaska EPSCoR grants, Ihl has been able to use her summers to pursue studies of the musk oxen that inhabit the Seward Peninsula. She has been examining changes in their winter forage to see whether their feeding habits and lifestyles might be affected by climate change. She conducted a survey of hunters in Alaska and the Canadian Arctic to study the ways in which the two peoples approach musk oxen in terms of hunting practices, attitudes, and lore.

In August 2008, four Alaska EPSCoR researchers made a serendipitous discovery that is rewriting the geologic history of the Arctic Coastal Plain. UAF Civil Engineering Professor Yuri Shur and three other researchers were stranded by weather in Kaktovik and took a walk to look at a beach bluff exposed by a recent storm. After some careful examination, they concluded that ice they found underlying the bluff was actually glacial in origin. The find conflicted with established geologic history, which states that glaciers never reached the coast in that area. But it confirmed a theory held by several researchers who—based on other evidence—had long believed but had never proved that glaciers had stretched that far north.

Former EPSCOR graduate fellow Jordan Lewis turned some heads with his graduate thesis, a groundbreaking effort to define successful aging among Native elders in the Bristol Bay area. Lewis, now a UAF faculty member, found that the elders he interviewed defined successful aging around elements of spirituality, optimism, emotional well-being, community engagement, and physical health. This viewpoint differs from the accepted Western definition, which mostly centers on avoiding infirmity. Several policy recommendations made by Lewis in his thesis have drawn attention from the state and from Native villages and health corporations. He recommends more facilities to keep elders residing in their home communities and more programs to keep elders involved in community life.

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<td>Fall 05</td>
</tr>
<tr>
<td>Fall 06</td>
</tr>
<tr>
<td>Fall 07</td>
</tr>
<tr>
<td>Fall 08</td>
</tr>
<tr>
<td>Fall 09</td>
</tr>
</tbody>
</table>

□ Non-TT  ■ Tenure-Track