



The University of Oklahoma College of Atmospheric & Geographic Sciences *Alumni Newsletter 2008*

Volume 3, Issue 1

Table of Contents

Dean's Letter ... 1

Students ... 2

International... 3

Geography Feature ... 4

Meteorology Feature ... 5

College News ... 6

Annual Campaign ... 7

Events in 2009 ... 8



Students hard at work in the Radar Innovations Laboratory, the Atmospheric Radar Research Center's hardware design, fabrication, and test facility established in March 2007

Our Vision: To lead the nation in education, research and development, and scholarship in the areas of weather and regional climate, GIScience, and human interactions with the Earth's atmosphere and surface.

Dear College of A&GS Alumni and Friends,

Greetings from the College of Atmospheric and Geographic Sciences at the University of Oklahoma! It is hard to believe that almost three years have passed since our college was formed and two and a half years since the weather programs moved into the National Weather Center. I am pleased that interest in our programs and facilities remains high. The NWC has hosted more than 50,000 visitors since it opened.



Many exciting things have happened this year. We secured an international grant from the Republic of Croatia to assist in modernizing its national hydrometeorological service. The university made a commitment to purchase a state-of-the-art weather surveillance radar to support the R&D and educational efforts of our new Atmospheric Radar Research Center. One of our students, geography doctoral candidate Chie Sakakibura, received the best doctoral thesis award from OU and, subsequently, a postdoctoral position

at Columbia University. We had an excellent hiring season – Jason Julian (Geography) and Xugang Wang (Meteorology) will join the faculty in January 2009. Finally, we have established our first new degrees in several years: Bachelor of Arts and Bachelor of Science in Geographic Information Science.

Each newsletter is an opportunity to share events that occur in the College of A&GS. The individuals highlighted represent hundreds of college faculty, staff, students and alumni. This newsletter is also an open invitation to visit "your college" when travels bring you to Norman. You will be pleased with what you see and with the strides we have made in securing our leadership status in geography and meteorology.

All of us in the College of A&GS family wish you a joyous holiday season and a New Year of peace, good health and prosperity!

Sincerely,

John T. Snow
Dean, College of Atmospheric and Geographic Sciences

Outstanding Senior Named for Academic Year

While growing up, David Sherman, University of Oklahoma meteorology student, seemed almost destined to become a meteorologist.

It seems fitting, then, that he was named the College of Atmospheric and Geographic Sciences Outstanding Senior for the 2008-2009 academic year. In addition to this award, Sherman also received the Nichols Trailblazer Scholarship.

"I guess when I look back on different activities that I enjoyed as a child, I've always shown an interest in the weather and meteorology," Sherman said. "I have been tracking hurricanes since I was in the sixth grade."

Originally from Texas, Sherman migrated to OU after graduating high school. At that point, he had narrowed his course of study to two options – business or meteorology. After he began classes his freshman year, the choice was clear.



David Sherman, Outstanding Senior for 2008-2009

"When I attended my first meteorology class, I knew this was what I wanted to study," Sherman said. "I was surrounded by people with the same passion as me."

In addition to maintaining a high grade-point average throughout college, Sherman is actively involved in the Pride of Oklahoma marching band, the Wesley Foundation Student Ministry and Big Brothers Big Sisters.

Sherman, along with other award recipients, was recognized Oct. 31 at the Outstanding Senior Ceremony during Family Weekend at OU. He also will give a short speech during the college's spring convocation ceremony. Sherman plans to begin graduate school in fall 2009.

He is the son of Brooks Sherman of McKinney, Texas, and Nancy Sherman of Plano, Texas.

The OU Parent's Association presents an Award of Merit to the Outstanding Senior of each undergraduate college as selected by the college dean. The group also recognizes the All-Around Outstanding Senior Man and Senior Woman at the university.

Astronaut Scholarship Foundation Awards Scholarship to OU Meteorology Student

Craig Schwartz, University of Oklahoma meteorology graduate student, was awarded a \$10,000 scholarship for the 2008-2009 school year by the Astronaut Scholarship Foundation. ASF was established in 1984 by the six surviving members of the Mercury 7 mission. He is the third OU student to receive the scholarship since the induction of the university into ASF participating institutions in 2005.

"Craig Schwartz richly deserves this award," said OU President David L. Boren. "He is one of the university's most talented students in our meteorology program, which is the national leader in its field of study."

Schwartz investigates the performance of high-resolution computer models that are capable of simulating individual thunderstorms, including supercells, which typically produce the most violent weather.

"Craig Schwartz is an exceptionally talented individual who approaches his work with enthusiasm and creativity and is very effective at finding practical solutions to difficult problems," said Jack Kain, his research adviser, adjunct professor of meteorology at OU and National Severe Storms Laboratory research meteorologist.



Dean Snow, astronaut Joe Kerwin and Fred Carr present a check to Craig Schwartz.

"It is an honor to receive this award," Schwartz said. "It is nice to be recognized for my work."

Schwartz also was the recipient of an American Meteorological Industry/Government Graduate Fellowship for the 2007-08 academic year and was a National Oceanic and Atmospheric Administration Ernest F. Hollings Scholar from 2005 to 2007.

He is the son of Michael and Ilene Schwartz of Arlington, Va.

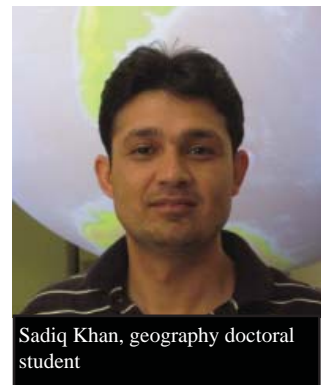
The ASF was founded for college students who exhibit motivation, imagination and exceptional performance in various areas of science and engineering as well as their display of campus and community involvement. The Foundation has awarded \$2.5 million in student scholarships. One \$10,000 scholarship is awarded annually in each of the 19 participating institutions to a qualified student nominated by faculty and ultimately selected by the ASF Board of Directors.

Geography Student Receives NASA Fellowship

Sadiq Khan, geography doctoral student, was notified earlier in the year that he was the recipient of a NASA Earth and Space Sciences Fellowship for his project, "Integrating NASA Satellite Products with Socioeconomic Data for Flood Prediction and Risk Analysis."

This fellowship will provide Khan with support for the 2008-2009 academic year, with possible renewal for two additional years.

In addition to his doctoral studies in geography, Khan serves as a research assistant with the Center for Natural Hazards and Disaster



Sadiq Khan, geography doctoral student

Research in the College of Civil Engineering and Environmental Sciences.

He is a native of Pakistan and holds a master's degree from Brandeis University.

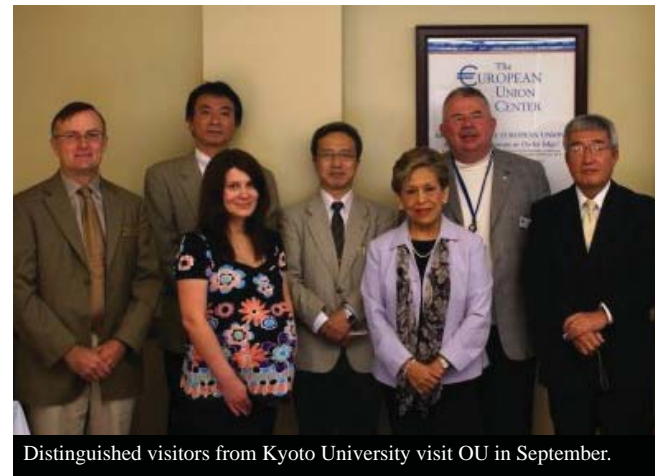
Collaborative Agreement Signed Between OU and Kyoto University

The University of Oklahoma College of Atmospheric and Geographic Sciences, and two Kyoto University institutes – the Disaster Prevention Research Institute and the Research Institute for Sustainable Humanosphere – signed an agreement earlier in the year to strengthen research cooperation and foster student exchange between the two universities.

An original agreement between DPRI and OU was established in 1991, but the new memorandum of understanding expands the participants by adding the RISH. This is the first Memorandum of Understanding signed by DPRI and RISH together with another institute. This expansion will lead to better international cooperation in the area of research and academia, combining the efforts of all three institutes in order to advance technology and understanding.

Research areas that will be of particular interest are meteorological and radar observations, including severe and hazardous weather, numerical modeling, hydrology and radar profiler technology. Professor Hirohiko Ishikawa of DPRI, Vice Director Toshitaka Tsuda of RISH and Robert Palmer, director of OU's Atmospheric Radar Research Center, will lead the academic collaborative research in these fields.

"I am very excited to be a part of this agreement," Palmer said. "It will lead to a new era of advanced collaboration between OU and Kyoto University, both of which have a long history in studies of the atmosphere and earth using remote sensing and models."



Distinguished visitors from Kyoto University visit OU in September.

As a result of this agreement, three distinguished visitors from Kyoto University visited OU in September. While here, Toshitaka Tsuda, professor and vice director of RISH; Eiichi Nakakita, DPRI hydrometeorology professor; and Hirohiko Ishikawa, DPRI meteorology professor, delivered free, public presentations at the National Weather Center.

Kyoto University is one of the oldest and most well-known universities for its programs concerning radar research. Their mission is to strive for diverse development in pure and applied research in the humanities, sciences and technology, while seeking to integrate these various perspectives.

Croatian Visit

Meteorologists and representatives from the Meteorological and Hydrological Service of the Republic of Croatia (DHMZ-Državni hidrometeorološki zavod) arrived at the National Weather Center Oct. 23.



Meteorologists and representatives from the Meteorological and Hydrological Service of the Republic of Croatia

Their activities included forecaster shadowing opportunities at the Norman National Weather Service office and the Storm Prediction Center, training presentations at the NWS Warning Decision Training Branch and a series of focused meetings and presentations with the Oklahoma Climatological Survey, the NOAA Radar Operations Center and the NOAA National Severe Storms Laboratory.

Earlier this year, through an international, competitive bidding process, the University of Oklahoma was selected by the DHMZ to undertake a comprehensive modernization feasibility study. The goal of this visit was to fully expose the DHMZ leadership team to real-world working examples of the tools and techniques used in a modern hydro-meteorological service.

Winning With Oklahoma Wind

The Oklahoma EDGE (Economic Development Generating Excellence) Policy Board recently approved funding totaling more than \$11 million for five innovative research projects – the first such awards in what is expected to be an annual event to stimulate cutting-edge research that will advance Oklahoma’s economy.

Scott Greene, professor of geography, along with his team, received one of the five inaugural EDGE grants. Greene’s project, the Renewable EDGE, will assist the wind energy industry in Oklahoma and elsewhere by producing high-precision wind power assessments and forecasts in a highly integrated information system. Faculty from the University of Oklahoma, two private sector partners, the Oklahoma Department of Commerce, the Oklahoma Department of Career and Technical Education,



A Weatherford Wind Energy Center Turbine in perspective. Photo by Stephanie Buway

Oklahoma Community College, and colleagues from Oklahoma State University also will be involved in the implementation of the proposal.

“Analysis of Oklahoma Mesonet data triggered the initial development of the research for the Renewable EDGE project,” said Greene. “The research has progressed from pure to applied research, and ultimately, to economic development. Our overall aim is to advance the science of wind assessment and analysis, and also, to expand the economic opportunities associated with the wind industry in Oklahoma.”

The project’s overarching goal is to increase economic development and job opportunities in the wind energy industry in Oklahoma. This will be accomplished by improving workforce

development through expanded education and training in the wind industry, improving weather forecasts and the geospatial and environmental analyses associated with wind resource assessment, Greene said.

To meet the goals of the EDGE proposal, the Oklahoma Wind Power Initiative, an award-winning research collaboration between the University of Oklahoma and Oklahoma State University, will lead a multidisciplinary team of academic, government and private partners. They will develop value-added technologies, commercialize those technologies by launching new enterprises and helping existing Oklahoma businesses expand, and train the workforce needed by Oklahoma’s emerging wind energy industry cluster.

According to the National Renewable Energy Laboratory and the U.S. Department of Energy, by 2030 Oklahoma will supply 9 percent of the nation’s electricity needs and rank as the second-largest generator of wind power in the United States.

“Creation and commercialization of products unmatched in the wind industry will create jobs, expand economic development and make Oklahoma a renewable energy powerhouse,” Greene said in a pre-award briefing to the EDGE Policy Board. “By implementing the Renewable EGDE initiative, Oklahoma can strengthen opportunities for long-term job creation and greatly enhance the expected economic benefits from wind power in Oklahoma.”

The Renewable EDGE plans to lead a research, development and commercialization initiative designed to ensure that Oklahoma’s wind energy industry develops along an integrated pathway. Employment, income and value of economic activity will be used to measure the success of the proposal.

The EDGE process directly targets Oklahoma’s key business sectors, and each of the projects has a business plan designed to create businesses and jobs, said Paul Risser, executive director of the EDGE Policy Board. Awards to each of the winners are more than a million dollars, an amount Risser said is large enough to advance technology toward commercial application.

Selection of the five winning proposals followed an extensive evaluation process. Ninety-four pre-proposals were evaluated by the policy board and its nationwide advisory committee. Eighteen proposals were reviewed by technical experts and the advisory committee who recommended the five final proposals to the policy board.



Blue Canyon Wind Power, LLC., began commercial operation in December 2003. Photo by Stephanie Buway

OU-PRIME Advances Weather Radar Education, Research and Innovation

The new OU-PRIME (Polarimetric Radar for Innovations in Meteorology and Engineering) adds another dimension to the university's interdisciplinary program in radar meteorology and engineering. This high-resolution, dual polarization radar — the only one of its kind in the United States — will advance OU's vision for its weather radar enterprise through education and training, research and development, and technological innovation.



OU-PRIME will closely resemble the Evansville Tower in Indiana (KVWX Doppler radar)

“The addition of this radar is invaluable to the Atmospheric Radar Research Center and radar meteorology as a whole at OU,” said the center's director, Robert Palmer.

The ARRC is a joint venture of OU's schools of Meteorology and Electrical and Computer Engineering, and serves as a focal point for the university's strategic initiative in radar meteorology and engineering. The new radar will serve as a research and development testbed for the center. With the acquisition of the new radar, students and researchers will be able to perform a variety of activities, such as testing new and enhanced algorithms and proving out unique hardware designs.

The ARRC is located on the OU Research Campus in the National Weather Center, a unique facility that brings together numerous academic and government entities. The ARRC's mission is to solve challenging radar problems, prepare the next generation of professionals and encourage economic growth and development in the field of weather radar.

The university purchased OU-PRIME from Enterprise Electronics Corp., a wholly owned subsidiary of WSI. The ARRC has

established a strategic alliance with EEC that includes a \$600,000, five-year research contract, the establishment of an EEC research office in Norman and the further development of OU-PRIME.

Established in 2004, the ARRC has grown to include 10 faculty, more than 30 graduate students and two postdoctoral fellows. The center has more than \$5 million in active grants. An important focal point of the ARRC is the development of long-term, mutually beneficial relationships with the private sector. Private-sector affiliates include Raytheon, Lockheed Martin, Basic Commerce and Industries Inc. and Intelligent Automation Inc.

Within the Norman community, the ARRC collaborates with many university, federal and private-sector companies on developing new weather radar capabilities. In addition, the ARRC has been instrumental in the creation of an agreement between OU's College of Atmospheric and Geographic Sciences and two Kyoto University research institutes to strengthen international radar research cooperation and foster student exchange.

The ARRC has had a profound impact on the radar education at OU with its unique weather radar curriculum. In the NWC and in its laboratory facilities in One Partner's Place, meteorology and engineering faculty and students work side-by-side to learn from each other and to solve challenging problems in remote sensing of the atmosphere.

“The future of radar meteorology depends on the education and training of the next generation of professionals in both the technical and scientific aspects of this sub-discipline of meteorology,” said John Snow, dean of the College of Atmospheric and Geographic Sciences. “The OU-PRIME radar will help immensely in this interdisciplinary effort.”



OU-PRIME on the University of Oklahoma Research Campus

The ARRC is the result of significant investment by the university to accelerate research and learning in an area of great importance to the Norman meteorological community, Oklahoma and the nation. Although wide in scope, ARRC activities focus on the use of advanced weather radars for studies of the atmosphere.

For more information about ARRC and the interdisciplinary research and education programs developed at the university, visit the ARRC Web site at <http://arrc.ou.edu>.

New Degrees Offered

Students will now have two new options when choosing a degree from the College of Atmospheric and Geographic Sciences. Both a Bachelor of Arts and a Bachelor of Science in Geographic Information Science were recently approved.



Compared to the traditional geography degree, there is a stronger emphasis on geographic science and technology. However, it is still widely applicable to many different areas of interest.

Research Computing Services Offers Open Houses

RCS held two open houses in October to showcase computing equipment and services available to students in the College of Atmospheric and



A student at work in the RCS media lab in NWC 4803.

Geographic Sciences. RCS manages multimedia computer labs in both Sarkeys Energy Center and the National Weather Center.

RCS provides equipment such as workstations, large-format poster printers, color laser printers, flat-bed scanners, a DV encoder and state-of-the-art software. RCS also provides technical support for students, faculty, staff and researchers in the college. Visit RCS's Web site for more details. <http://rcs.ou.edu/>

A Glimpse Into Spring 2009

The world's greatest tornado road show is coming once again to the Great Plains! In spring 2009, the second Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX2) will find world-famous tornado researchers and students in exotic vehicles on the hunt for the elusive tornado.

With approximately 50 researchers and 30 vehicles, VORTEX2 is planned to be the most ambitious attempt ever to explore tornado origin, structure and evolution. The goal is to gain new understandings that will increase the accuracy of forecasts and warnings.



SMART-R - the Shared Mobile Atmospheric Research and Teaching Radar

VORTEX2 will answer questions that surfaced following the first Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX1). VORTEX1 took place in the spring of 1994 and 1995. It was a highly coordinated field phase designed to investigate tornadogenesis, tornado structures, and the relationship between tornadoes and their parent thunderstorms.

Advances in weather technology since VORTEX1 include increased radar availability, new in situ observing systems, greater communication and coordination capabilities and advanced data analysis techniques.

VORTEX2 will provide the opportunity to collect a comprehensive dataset of wind and thermodynamic measurements with a high-spatial and temporal resolution, spanning several scales of motion, designed to further knowledge of the how, when and whys of tornado formation. It also will work toward understanding why certain thunderstorms produce tornadoes, how to better forecast tornadoes, and the relationship of tornadic winds to the damage caused.

Second Annual Campaign Planned

The College of Atmospheric and Geographic Sciences, consisting of the School of Meteorology and the Department of Geography, is recognized for its strong academic programs, cutting-edge research, quality faculty and talented students.

To uphold this academic reputation, we rely on the support of our alumni and friends. Your gift to the College of Atmospheric and Geographic Sciences annual funds provides us the ability to immediately meet our most strategic needs. Undesignated gifts to the college, school and department allow us to solve problems as they arise and seize unexpected opportunities.

In the weeks to come, you will be receiving the second annual formal request and pledge card in

the mail seeking your financial support for the college's annual funds. Please begin to reflect on how you can support the college and know that every dollar, large or small, will make a positive difference. Your gift will support needs such as student travel; student research; student, faculty and staff recognition; library materials and supplies; student laboratories; college publications; student mentoring and tutoring programs; and student organizations.

In this season of giving, thank you for remembering the University of Oklahoma and for considering how you can contribute to the success of current and future students. For more information on giving opportunities, please contact the College of Atmospheric and Geographic Sciences at (405) 325-3095.



New A&GS students wait near the NWC Science on a Sphere for their orientation tour.



UNIVERSITY OF OKLAHOMA
A&GS

Non Profit Organization
**U.S. POSTAGE
 PAID**
 The University of Oklahoma

College of Atmospheric & Geographic Sciences
 120 David L. Boren Blvd. Room 1100
 Norman, OK 73072-7303
<http://ags.ou.edu>

Events in 2009

- | | |
|--|-------------------|
| • American Meteorological Society Annual Meeting | January 11-15 |
| OU Reception | January 13 |
| • National Severe Weather Workshop | March 5-7 |
| • Spring Break Week | March 14-22 |
| • Association of American Geographers Annual Meeting | March 22-27 |
| • Geospatial Summer Institute Fellowship Program | |
| Application Period | March 2 - April 6 |
| • College of A&GS Awards Night | April 17 |
| • Commencement Weekend | May 15-16 |
| • College of A&GS Convocation | May 16 @ 7 p.m. |

The University of Oklahoma is an equal opportunity institution.

This publication, printed by Printing Services, is issued by the University of Oklahoma.

2,100 copies have been prepared and distributed at a cost of \$1,410 to the taxpayers of the State of Oklahoma.