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John D. Odegard School of Aerospace Sciences

Winter 2012

Aerocom: Winter 2012

John D. Odegard School of Aerospace Sciences

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AEROCOM

John D. Odegard School of Aerospace Sciences

Winter 2012



UND



A Message from the Dean

"Within the next 15 years Unmanned (Remotely Piloted) Aircraft Systems will become the platform of choice for all aviation applications except general aviation, air shows and passenger travel." UAS Summit, Grand Forks, May 2010.

Over the course of the past 5 years the Odegard School has developed a world class Center of Excellence (COE) for Unmanned Aircraft Systems (UAS). In that relatively short span of time the UAS COE has propelled the University of North Dakota and the John D. Odegard School of Aerospace Sciences into the national spotlight as the leader of the transition of UAS from the military to civilian applications. We are the first university in the world to offer an undergraduate degree in UAS. The UAS COE has allowed the University of North Dakota to capture over $45 million dollars in research funding from the Department of Defense, National Institutes of Health, the Federal Aviation Administration, and private industry.

The Odegard School is now in a position to develop national standards for UAS operations and provide training for pilots, systems operators, mechanics, and virtually everyone else who touches a UAS. The UAS COE has created significant high paying employment opportunities, and provided increased business opportunities for small, high tech companies throughout North Dakota. In light of this success, we have expanded our training operations onto the Grand Forks Air Force Base with the completion of the Predator Mission Aircrew Training System (PMATS). The Air Force Base certainly provides an optimum location for training simulators and access to the needed airspace.

The UAS COE was one of the driving forces in keeping the Grand Forks Air Force Base open through realignment to the UAS mission. In addition to the economic impact of retaining the Air Force Base, the Odegard School's UAS pilots provided a 24 hour a day vigil over the Red River flying a Predator unmanned aircraft monitoring the dikes during the flooding in Fargo and Jamestown in the spring of 2010 that helped to prevent a potential disaster in those communities.

The UAS COE is a true source of pride. No other college in the country could do what the Odegard School has done in such a relatively short period of time.

Bruce A Smith

AEROCOM

John D. Odegard School of Aerospace Sciences

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AEROCOM
John D. Odegard School of Aerospace Sciences

Robert O. Kelley, *President, University of North Dakota*
Bruce Smith, *Dean, John D. Odegard School of Aerospace Sciences*
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Past issues of AEROCOM available at www.aero.und.edu.

Cover Image: ESSP research team travels to Wind River Glacier. See page 4 for article.

Photo credit David Barta

Scaling Cold Heights

UND Aerospace scientist explores glacial mysteries

Article by Juan Miguel Pedraza Photos by Jeffrey VanLooy & David Barta

Jeffrey VanLooy remembers playing in the snow at 20 below—that's shorthand for 50 degrees below freezing, as anyone growing up in North Dakota well knows.

"Early on I gained an appreciation for extreme climates," said VanLooy, a Grand Forks native. "Often in winter, I'd pretend I was on an expedition on a harsh landscape."

"I also backpacked a lot with my dad in Theodore Roosevelt National Park which led me to appreciate our environment," VanLooy said.

VanLooy carried those childhood experiences to college, becoming a geographer with a graduate degree focused on glaciology and is now a faculty member in the UND Department of Earth System Science and Policy. This year, VanLooy took a team of students and colleagues to study Continental Glacier in the Wind River Range, Wyoming.

"Everyone had a carefully described role because of the physical challenges and dangers associated with climbing mountains and glaciers," he said.

The trip itself is a story.

"We met our colleagues from the University of Utah out there, and a local outfitter took us up 12 miles on horseback to Crescent Lake, which is at about 10,700 ft. elevation," VanLooy said. "From there we had to backpack everything—our gear and all the scientific equipment—the rest of the way to 12,000 feet, right next to the glacier. It was very steep, but no helicopter drops are allowed and no motorized vehicles are permitted up there."

Each team member had to prepare physically for this high-altitude expedition—including rigorous time on treadmills and other conditioning equipment.











The primary objective of the expedition was to produce a feasibility study for an in-depth research project. Once at their study site, VanLooy and his team produced a digital elevation model of the glacier using a global positioning system (GPS) unit and a laser rangefinder; they also collected a few ice depths. Among other purposes, those data will be used to assess the amount of water in the glacial system—water that is essential to life down range.

"About 70 percent of the water in the west comes from the annual snowmelt. What's happening in the Wind River Range, as elsewhere on the planet, is that the snowmelt is happening earlier every year," VanLooy said. "We can conclude from this evidence that the glacial melt water is needed to supplement the snowmelt, so we really need to understand precisely how much water is left in these glaciers. This will be very useful information for the folks who manage the water resources in these regions."

How is it useful for North Dakota?

"Water comes to us down from these mountains, into the Missouri River system," VanLooy said. "The big glaciers sit on the eastern side of the continental divide, and about 80 percent of the water melting from those glaciers comes this way, flowing out through that river system. You bet, the science we're doing on the glaciers in Wyoming and elsewhere in the Rocky Mountains is vital to an understanding of what's happening to North Dakota's water supply."

VanLooy and his team are preparing publications resulting from their Wind River Research as well as writing grants to continue and expand the work. ●



focus on {research}

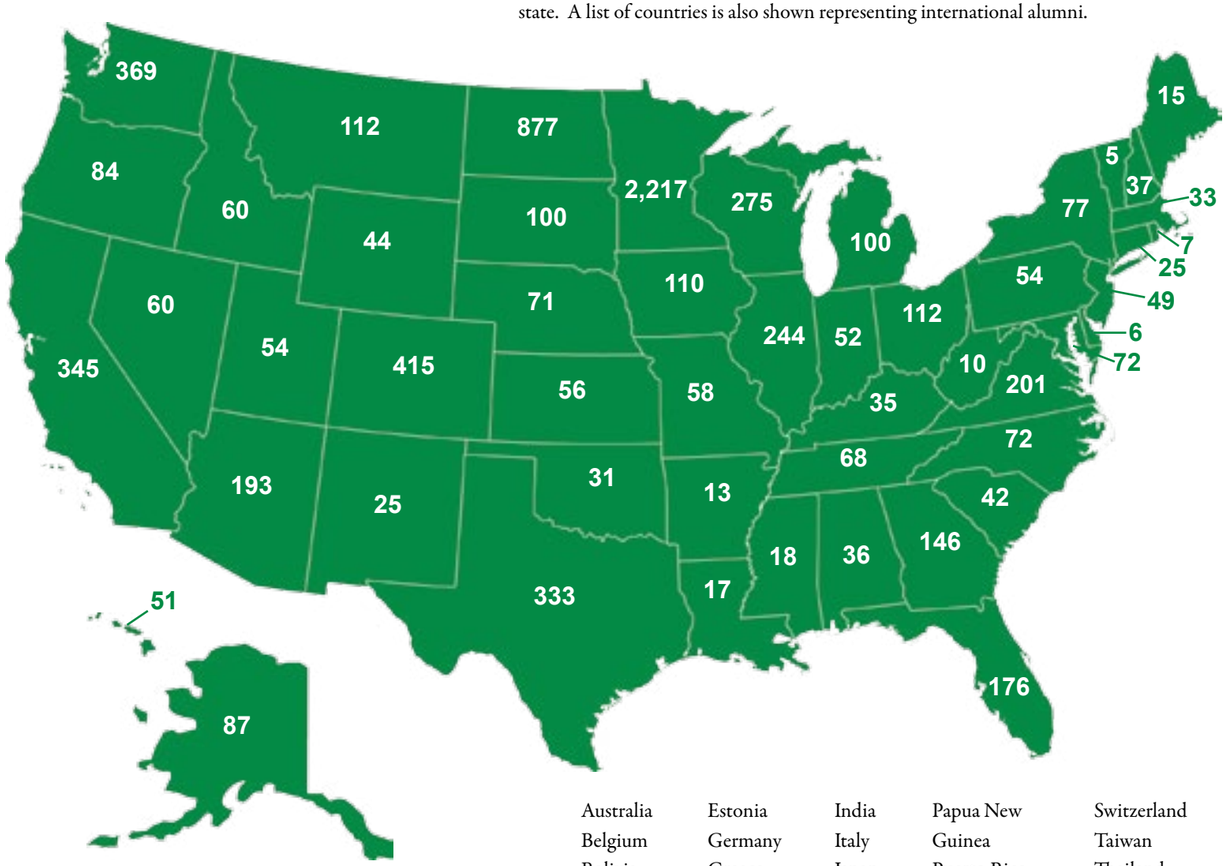
The objective of studying the glaciers in the Wind River Range is to determine how the glaciers have changed over the last half century as well as to make predictions as to how much longer they will be around as a water resource for the surrounding communities. These objectives are achieved by using a combination of data sets including measurements of glacier surface elevations and ice depths collected in the field along with historic elevation data sets obtained and created from satellite imagery and aerial photography, such as topographic maps. In the field, research conducted on Continental Glacier involved the use of a high accuracy Global Positioning System (GPS) unit, and a laser range finder to collect glacier elevations. Once the field elevation data were collected, they were compared with the historic elevation data to determine how much the glacier thinned (or melted) between the two dates of the data sets (1966 and 2011). Preliminary results from this research show that the glacier has thinned approximately 31 meters (101 feet) since 1966 and has potentially contributed 742,500 cubic meters (or 196 million gallons) of water per year to the surrounding river systems.

This result provides a significant contribution to the first half of our objective of determining how the glacier has changed over the last half century. However, to determine how much longer the glacier will be around as a water resource it is necessary to have a detailed model of the remaining glacier ice volume. The ice penetrating radar was brought into the field to collect the ice depth data to create this model, but limitations of the radar system did not allow for enough depths to be collected. While only two depths were measured, we were surprised to see that the glacier was at least 120 meters (393 feet) thick. Future research is being planned to obtain a more powerful and more accurate ice penetrating radar which will allow for ice depth transects of the glacier instead of individual point depths. This new radar will be a major asset to producing a 3-D model of the glacier so as to determine the remaining ice and subsequently the remaining melt water. The future research plans also include expanding the study to involve at least nine more of the largest glaciers in the Wind River Range for a more comprehensive study of the remaining melt water availability. The results from this sample of glaciers along with future climate models and the melting rates calculated from the elevation data will allow for a prediction of how much longer these glaciers will exist as a water resource.

Alumni Profile

Throughout the world you can find Odegard School Alumni

This map indicates the number of UND Aerospace alumni living in each state. A list of countries is also shown representing international alumni.



Australia	Estonia	India	Papua New	Switzerland
Belgium	Germany	Italy	Guinea	Taiwan
Bolivia	Greece	Japan	Puerto Rico	Thailand
Canada	Guam	Mexico	Saudi Arabia	Turkey
China	Hong Kong	Nigeria	St Lucia	United Kingdom
Croatia	Iceland	Norway	Sweden	

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Be sure to check out what is happening at your alma mater and become a "fan."



Students in the Field and Sky

UND student receives Barden Aviation Scholarship

Zachary Waller, Pelican Rapids, Minn., a University of North Dakota senior majoring in unmanned aircraft systems, is one of five recipients of the National Business Aviation Association/University Aviation Association Janice K. Barden Aviation Scholarship. Waller has a private pilot's license and has been involved with gathering research for the Federal Aviation Administration by operating a "CropCam."

Announced Wednesday, Oct. 19, NBAA awarded five college students studying aviation-related curricula at NBAA and UAA member institutions the NBAA/UAA. The UND Aerospace Foundation matched the Barden scholarship for Waller.

The scholarship is named for Aviation Personnel International founder Janice K. Barden, who has been active in the aviation community for decades and has served many times as the Local Committee chair of NBAA's Annual Meeting and Convention.

UND Flying Team Takes Region Title

The University of North Dakota (UND) Flying Team won top honors in the Region V National Intercollegiate Flying Association's (NIFA's) Safety and Flight Evaluation Conference (SAFECON) held October 13-15, 2011. UND's winning score of 752 points gave the UND Flying Team first place in flight events and first in ground events. This SAFECON was hosted by St. Cloud State University in St. Cloud, Minnesota and consisted of teams from: University of Dubuque, Minnesota State University – Mankato, St. Cloud State University, University of Minnesota - Crookston and UND.



Buzzin' the farm

For UND Aerospace grad student Jeremy Smith, unmanned aircraft systems (UAS) are well suited to one vital application: farming.

Juan Miguel Pedraza



The Salt Lake City native came to UND with a degree in geography and an interest in collecting information from devices in the sky. He's now working on a master's degree in space studies, specializing in the agricultural applications of unmanned aircraft systems.

"Agricultural remote sensing is about improving yields, profits, and environmental stewardship," said Smith, whose advisor is Santhosh Seelan, chair of Space Studies. "It's also about assessing water damage, which is a huge issue up here because it's so flat, and weed and insect damage, and other problems such as erosion."

A digital camera on a low-flying UAS could get the job done faster, sharper, and cheaper than satellites.

"Satellites fly over your land only every so often; if there's cloud cover, you have to wait for the next fly-over," Smith said.

A UAS-mounted camera could capture the images you want when you need them whether it's cloudy or not.

"UAS images will help farmers make accurate decisions during the growing season and help them to plan better for the next season," Smith said. "A farmer can fit this technology into an ordinary gun case and operate it from a laptop."

There is a caveat.

"Federal regulations do not allow farmers to use this technology yet," Seelan said. "But through this project, we are preparing ourselves for when the Federal Aviation Administration allows farmers to fly small unmanned aircraft at suitable heights to collect imagery of their own fields when they need it."

"We want to put the power of information gathering in the hands of the farmers, instead of having to depend on other agencies and satellite passes," Seelan said.

ASA/Delta team up with UND Aerospace

Atlantic Southeast Airlines (ASA) and Delta Air Lines (Delta) recently partnered with UND Aerospace to help provide a defined career path for those students interested in flying for ASA and, eventually, with Delta.

"Atlantic Southeast and Delta Air Lines partnered with us because of our structured flight education curriculum and the quality of our students, graduates and flight instructors," said Ken Polovitz, assistant dean of the UND John D. Odegard School of Aerospace Sciences.

The program will select UND Aviation students in their junior year for employment as ASA first officers. Students must pass a battery of tests (the same as used by Delta), maintain their grade point averages, achieve Private Pilot, Commercial Pilot/ Instrument, Multi-engine, Certified Flight Instructor and Certified Flight Instructor-Instrument ratings, and complete UND advanced Jet Training courses.

Students selected for this program also agree to be monitored by ASA throughout their education. Those who meet ASA's requirements will receive a conditional offer of employment with ASA. While serving as an ASA flight crew and accumulating the necessary experience requirements, candidates will be offered a guaranteed interview with Delta Air Lines.

ATLANTIC SOUTHEAST AIRLINES

About Atlantic Southeast Airlines
Atlantic Southeast Airlines—a subsidiary of SkyWest, Inc.—recently merged with ExpressJet Holdings, Inc., whose primary operating asset was ExpressJet Airlines. The merger of these two airlines will create the world's largest regional airline with about 10,000 aviation professionals, 2,400 daily flights and an all-jet fleet of approximately 400 aircraft. Through capacity purchase agreements with Delta Air Lines and United Airlines, Atlantic Southeast operates as Delta Connection and United Express.

DELTA

About Delta Air Lines
Delta Air Lines, Inc., is headquartered in Atlanta, Georgia, and operates an extensive domestic and international network serving all continents except Antarctica. Delta and its subsidiaries operate more than 4,000 flights daily. Delta's hub at Hartsfield-Jackson Atlanta International Airport is the world's largest; since 1999 it's the world's busiest airport by passenger traffic at about 88 million passengers annually and in number of landings and take-offs. In 2008, Delta acquired Northwest Airlines to form the world's largest airline by passengers carried.

Hot or cold wet or DRY

Juan Miguel Pedraza

UND Student Forecasters Tell the Story

For anyone who flies, weather is often the biggest go-no go factor. So weather forecasters—and the folks who communicate weather information—are major players in aviation.

Fred Remer, who teaches in the Department of Atmospheric Sciences, knows all about flying and weather—and he's helping students make sense of it all.

"Accurate and timely weather forecasts are essential for fliers. They're also important for everyone else, especially in this part of the world," said Remer, who worked as chief meteorologist for Fargo-based Weather Modification, Inc. and meteorologist for KXJB TV-4.

Besides teaching, Remer manages UND's broadcast meteorology program as executive producer for Studio One and UND's Weather Update (on Facebook http://www.facebook.com/pages/UND-Weather-Update/269257420050). He also does research in weather modification and aviation weather hazards.

A certificated flight instructor and active pilot, Remer worked as an undergrad at the National Severe Storm Laboratory and did graduate research at the University of Wyoming. He's flown on many research projects on UND's Cessna Citation II research aircraft both as co-pilot and as flight scientist.

"We started UND Weather Update in spring 2006," said Remer. "We help students through that program to become broadcast meteorologists. Most of the TV weather people you see today have degrees in meteorology or a related field."

"Though people today get most of their weather news on the Internet, studies show that when there's severe weather, people tend to go to their local TV meteorologist," Remer said.

The UND Weather Update is staffed by student volunteers with an interest in broadcast meteorology, Remer noted.

"We have five three-person weather teams, one for each day of the week," Remer said. "There's an anchor in front of camera, the producer who works with computer graphics, and an intern to help with studio lights and focusing the camera. About 15 people per semester work on the UND Weather Update."





Aerospace Alumni Advisory Board Members

Rich Baker ('00) - President
Erin Olson ('05) - Vice President
Matt Kalouner ('01) - Secretary/Treasurer
Brian Gora ('83) - Past President

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Chad Anderson '98
Jay Annis '98
Rich Baker '00
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Doug Coleman '84
Chris Cooper '05
Jason DuVernay '06
Michelle Ems '05
Robert Geisler '86
Michael Gillen '92
Brian Gora '83
Eric Hall '90
Tom Hauge '92
Robert Hedrick '82
Joel Heining '92
Erich Hess '00
Matt Huff '03
Kurt Jensen '79
Matt Kalouner '01
Jeff Kappenman '83
John Klinger '90
John Kluenker '01
Daniel Knesek '97
Steve Kuhlman '89
Todd Lasky '02
Steve Leon '90
Tim Leonard '87
Larry Martin '71
Roger Martin '73
Andrew Miller '93
Jack Muhs '87
Bob Muhs '77
John Nelson '90
John Odegard '89
Erin Olson '05
Rob Schermerhorn '86
Josh Shields '00
Corey Stephens '99
Justin Stimpson '01
Richard Stork '04
Joseph Stubbe '02
Jeff Swing '96
Nicholas Tomlin '94

UND AAAB
Aerospace Alumni Advisory Board
John D. Odegard School of Aerospace Sciences

On behalf of the UND Aerospace Alumni Advisory Board, I would like to offer greetings to all fellow alumni and to inform you on the latest happenings from the Board. Since our last update, AAAB members have met for their spring meeting in Minneapolis and the fall meeting held in Odegard Hall over Homecoming weekend. Our thanks go out to Brian Gora for graciously hosting our spring meeting at the Goodrich facility in Burnsville, Minnesota. Homecoming weekend enabled our AAAB to attend various functions around campus and allowed our membership to provide an industry perspective to students in the School's capstone course. Our thanks also go out to all AAAB members who gave presentations during the weekend. Both our spring and fall meetings were well attended and we are moving forward with continuing initiatives that enable our AAAB to keep involved in support of the Odegard School.

During the fall meeting, elections were held and a new executive board has been determined. Our new officers are:

Secretary/Treasurer: Matt Kalouner ('01)
Vice President: Erin Olson ('05)
President: Rich Baker ('00)
Past President: Brian Gora ('83)

The Odegard School is currently undergoing accreditation, a multi year process due to be finalized this spring. As such, the AAAB has been tasked with assisting the University with their application. The activity and subsequent involvement of the AAAB and its members are an integral part of the accreditation process. We are pleased to be involved in this process and look forward to the University's successful accreditation.

We are continuing our work with the "Tracks" program established by the AAAB a couple of years ago. The goal of these tracks is to connect faculty with designated board members in order to share industry experience in support of the Odegard School. The six tracks are: Aviation Safety and Security, Aviation Education and Training, Aviation Law and Policy, Commercial Aviation, Air Traffic Control, and Business Aviation. Our teams provide updates to the AAAB at our meetings in order for all of the Board to keep abreast of developments in each member's respective specialty.

One of the more notable things accomplished last year was the establishment of an AAAB scholarship to be awarded this spring. We are looking forward to the awarding of this scholarship on behalf of the AAAB to a deserving student.

Our next board meeting is scheduled for Friday, May 11, 2012 in the Twin Cities from 0800-1130. The meeting will be conducted at the Minneapolis Air Route Traffic Control Center (ZMP) in Farmington, MN. We will also have a dinner on Thursday evening, May 10th for those Board members who arrive early and are able to attend. I encourage all Board members to attend or call in if at all possible. Logistics for the meeting will be provided to all Board members well in time to plan for this important meeting.

As stated in previous AEROCOM updates, the AAAB is open to all alumni who have an interest in serving in an advisory role to support the Odegard School. As always, we welcome all Aerospace disciplines to join our ranks. The Board does have a particularized need for experience within the UAS field in support of the new UAS Center of Excellence. If you have an interest in joining the Board, please send me an e-mail at the address shown below with a brief description of your career experience since leaving UND. I ask that you please copy Josh Christianson at joshc@areo.und.edu in order to ensure receipt of your application.

The AAAB is always looking for ways to increase its involvement and visibility in support of the Odegard School. We encourage any and all interested parties, whether faculty, students, or alumni to take advantage of the notable experience in our Board members. The AAAB was established to serve all within the system. We have Board members who regularly travel to UND and are prepared to accommodate requests for support. Any alumni that have an interest in serving in this capacity should contact Josh or myself in the e-mails listed within this correspondence.



Rich Baker ('00)
President, AAAB
leipzig06@comcast.net
Front Line Manager
Washington Air Route Traffic Control Center (ZDC ARTCC)

Computer Scientist Develops Volunteer Computing Network

Computing is power, and Travis Desell is effectively harnessing all the power he can.

Desell, a faculty member in Computer Science, is researching and developing volunteer computing programs that take advantage of the world's ever-improving computing and networking capabilities.

He's focusing his efforts on volunteer computing because it competes well with the world's fastest supercomputers. It is a form of distributed computing where a computing application is shared among a potentially unlimited number of computers over the Internet. A client program runs on the volunteered computer when it is not being used by its owner and returns resulting computations to the server program. The server manages the work by creating and sending jobs to the client computers and organizing the results.

Desell knows this kind of project intimately. He worked on Rensselaer Polytechnic Institute's MilkyWay@Home--a volunteer computing resources project—using the Berkeley Open Infrastructure for Network Computing system. He's adapting MilkyWay@Home to fit research needs at UND. Desell also is using his experience from that project to build DNA@home, another volunteer computing project for use by researchers at UND.

MilkyWay@Home uses evolutionary algorithms such as differential evolution, genetic search, and particle swarm optimization—complex problem-solving programs inspired in part by the social behavior of bird flocking or fish schooling—to create an accurate three-dimensional model of the Milky Way galaxy (where our Solar System lives).

DNA@Home employs statistical sampling methods in an attempt to discover transcription factors, the on/off gene regulators, between genes in DNA. The current goal is to understand the tuberculosis genome and the genome of Yersinia pestis, the bacteria that cause plague.

"The scientific computing Ph.D. here at UND is very young," Desell said. "Collaboration is essential to scientific computing. Our Ph.D. students need to be able to work with other scientists who have demanding computational problems."

This is where volunteer computing project resources could play a vital role.

"I feel that it is very important to extend volunteer computing research to other institutions," Desell said. "This will broaden possibilities for our students to work with researchers on large scale multi-university projects and increase opportunities for grant funding. I especially want the community and North Dakota's K-12 education system to get involved in volunteer computing. This is a great way to for students and the public to not only learn about the cutting-edge research here at UND but also become an active participant in this science."

Two Newly-Funded Research Projects

Dr. Ron Fevig is working on two newly-funded research projects. The first involves near-Earth object space mission design, and is being funded by a faculty seed grant through ND NASA EPSCoR. Dr. Fevig is working with two thesis-track, and several other Space Studies distance students on this effort to design a spacecraft that collects critical data on an asteroid which poses a threat to Earth. During the 2011-2012 academic year, two new on-campus Space Studies students will receive GRA funding through ND NASA EPSCoR to work on this project. The second newly-funded research project involves ionospheric studies using satellite radio occultation data. Dr. Fevig and a thesis-track on-campus student, Kajli Agrawal, are using the COSMIC satellite dataset to look at phenomena in the E-region of Earth's ionosphere. This is a collaborative effort with the Department of Earth System Science and Policy, under the auspices of their Center of Excellence in Space Technology and Operations. The Center is funded jointly from both the ND Dept. of Commerce, and private sector partners, including GeoOptics Inc., of Pasadena CA.

Aerobatics Team Wins Top Honors Again

With a sweep of the four top spots in individual Primary and leading spots in other individual competitions, UND aviators nailed their fourth consecutive team championship at the U.S. National Aerobatic Contest. The competition results were announced recently by the International Aerobatic Club (IAC).

Individual congratulations go to the following UND students and Aerobatic Team pilots in the Sportsman category: Aaron Fettig, first place with 84.30 percent; and Nathan Bush with 83.13 percent. Collegiate individual winners must be full-time undergraduate students, compete in the Sportsman category or above, and compete in at least three IAC-sanctioned competitions during the contest season. The winners in the Primary category were Ben Hoffman, UND, first, 83.91 percent; Tyler Youngren, UND, second, 81.71 percent; Chistian Olsen, UND, third, 81.25 percent; and Karin Hensellek, UND, third, 73.91 percent.

The UND Aerobatic team—coached by Mike Lents, a UND aviation lecturer—placed first with 87.88 percent; Embry Riddle Aeronautical University placed second with 84.52 percent; and the U.S. Air Force Academy placed third with 82.58 percent. Qualified collegiate teams must have at least three pilots competing in three IAC-sanctioned competitions during the contest season with one of the pilots flying in the Sportsman category or above.

Scores from the highest scoring Sportsman pilot—UND's Fettig was tops in this category—are selected, then the two next highest scoring pilots regardless of category are selected, and an average of all three pilots' scores is used to determine a team's final standing.

The Primary category—with UND pilots winning the top four spots—is the first level of aerobatic competition categories. It consists of a 45-degree up-line, a one-turn spin, a half-cuban, a loop, a 180 degree competition turn, and a slow roll.

The Sportsman category consists of several more advanced maneuvers, totaling 11 figures.

This national victory represents the pinnacle of performance in one of the world's most difficult and challenging sports. Aerobatic flight, which is taught at UND, is a highly specialized and rigorously demanding area of general aviation that requires highly focused attention, discipline, physical conditioning, and a broad spectrum of expert flying skills.

"The technical definition for it is 'precise maneuvering in three-dimensional space,'" said Joe Vacek, an attorney and accomplished aerobatic pilot and assistant professor of aviation. He is the team's faculty advisor and safety pilot. Several other Aerobatic Team members volunteered their time, assisted with team preparation, and attended competitions that are held throughout the Midwest.

The UND Aerobatic Team is especially grateful to UND Aerospace and UND Flight Operations for the tremendous support for this competition.

The aerobatic tradition is long and strong at UND. Former UND student and current airline captain Jeff Boerboon is a clear testament to this: Boerboon is a U.S. and international aerobatic champion with many top trophies to his name; he is captain of Team USA (see http://jeffboerboonaerobatics.com/ and http://www.unlimitedaerobaticsusa.com/meet-team-usa) . He credits Kent Lovelace, professor and chair of UND Aviation, with motivating and coaching him to great success as a pilot.

The UND Aerobatic Team competes at the collegiate level at aerobatic competitions around the United States at IAC-sanctioned events.

UND operates two American Champion Aircraft Super Decathlons for its aerobatic team, aerobatic courses, tail wheel training and spin training.



AeroNews continued

Al Palmer Named to North Dakota Airspace Integration Team

Al Palmer, director of the Center for Unmanned Aircraft Systems (UAS) Research, Education and Training, has been appointed by Sen. Kent Conrad, Sen. John Hoeven, Rep. Rick Berg, and Gov. Jack Dalrymple to serve on the just-launched North Dakota Airspace Integration Team.

This team will be the interface between the state and the Federal Aviation Administration (FAA) on UAS integration into the National Airspace System (NAS).

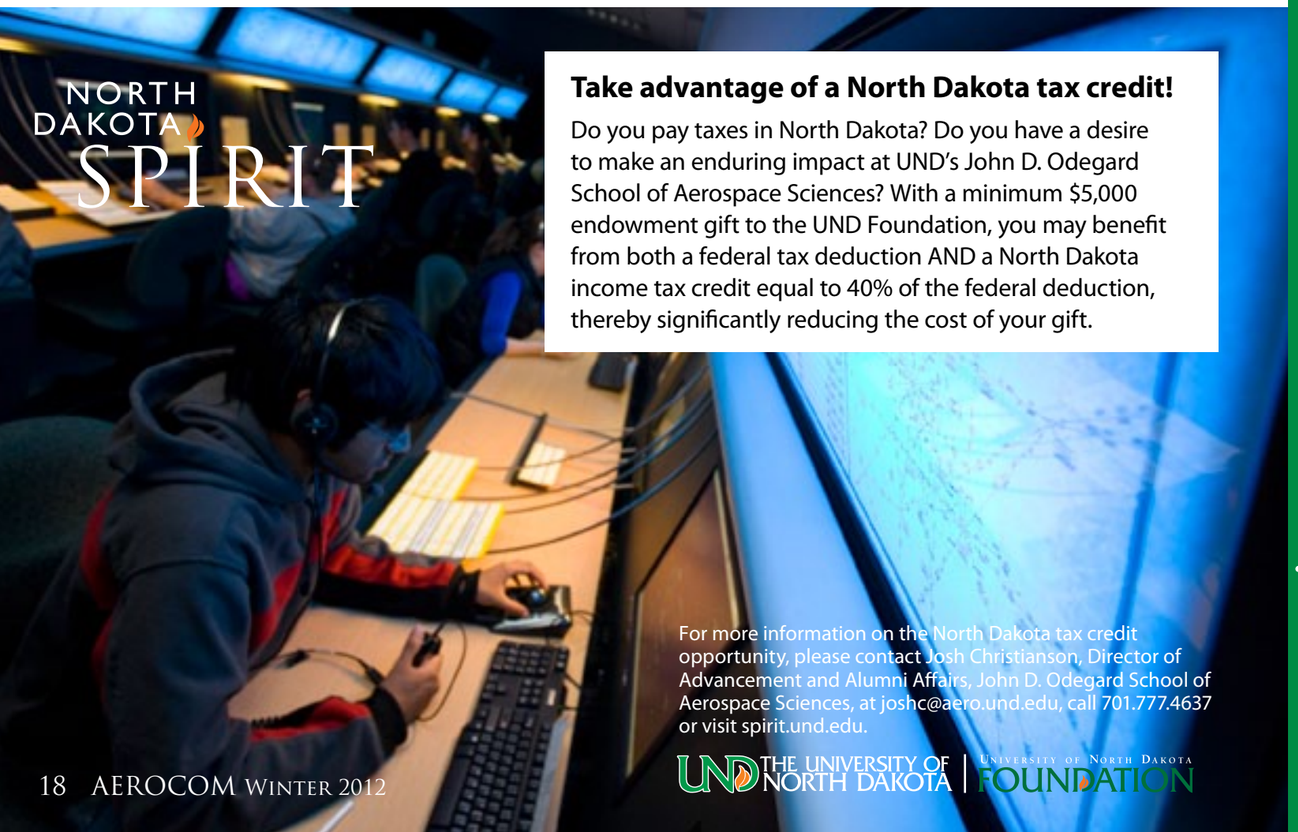
"This will continue to keep North Dakota in a leadership role in the integration of UAS into the NAS," said Palmer, an alum of UND's aviation program.

"North Dakota is uniquely situated to be a primary test site for the FAA in the integration of UAS into the NAS—one that could serve as a model to be deployed nationally after being proven in North Dakota," the N.D. congressional delegation and governor stated in a letter to the FAA, as quoted in a release from Hoeven's office last week.

In Hoeven's release, the group cited the Grand Forks Air Force Base, Customs and Border Protection UAS missions in the state, the UAS Center of Excellence at UND, and uncongested air space in calling for the FAA to establish a test site in North Dakota.

Additionally, the delegation and Gov. Dalrymple asked that the FAA meet with the North Dakota UAS Integration Team and use the group's technical expertise to ensure a smooth integration process. The Integration Team is developing a plan for a North Dakota UAS integration pilot project and comprises members representing the aviation community, UND, the North Dakota National Guard, and local and state economic development officials, as well as private companies.

According to Hoeven's office, the congressional delegation and the governor are aggressively working with the state's UAS community, including the UAS Center of Excellence and the Red River Valley Working Group in Grand Forks, to maintain the state's leadership in UAS technologies and to grow their operations. The congressional delegation authored amendments to both the U.S. Senate and House of Representative's versions of the FAA Reauthorization Act that authorize the FAA to work with the military to integrate UAS into the national airspace system and to establish test sites and training centers for the systems.



Take advantage of a North Dakota tax credit!

Do you pay taxes in North Dakota? Do you have a desire to make an enduring impact at UND's John D. Odegard School of Aerospace Sciences? With a minimum $5,000 endowment gift to the UND Foundation, you may benefit from both a federal tax deduction AND a North Dakota income tax credit equal to 40% of the federal deduction, thereby significantly reducing the cost of your gift.

For more information on the North Dakota tax credit opportunity, please contact Josh Christianson, Director of Advancement and Alumni Affairs, John D. Odegard School of Aerospace Sciences, at joshc@aero.und.edu, call 701.777.4637 or visit spirit.und.edu.

UND THE UNIVERSITY OF NORTH DAKOTA | UNIVERSITY OF NORTH DAKOTA FOUNDATION

upcoming Events

February 25 **Denver, CO**	UND vs. Denver Pre-game Party and Reception 5 PM, Courtyard by Marriott Denver – Cherry Creek
March 8 **Dallas, TX**	UND Aerospace Alumni & Industry Reception Hilton Anatole, Dallas, TX
April 13 **Chicago, IL**	UND Aerospace Alumni Reception 6-9PM, Deer Path Inn, Lake Forest, IL
May 5 **Anchorage, AK**	UND Aerospace Alumni Reception
May 11 **Farmington, MN**	UND Alumni Advisory Board meeting
May 11 **Minneapolis, MN**	UND Flying Team Reunion Embassy Suites Minneapolis – Airport
July 23-29 **Oshkosh, WI**	EAA Airventure 2012
July 25 **Oshkosh, WI**	UND Aerospace Alumni & Industry Reception 6-9 PM, Hilton Garden Inn

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John D. Odegard visits China in 1988.

