



Fall 2010

Aerocom: Fall 2010

John D. Odegard School of Aerospace Sciences

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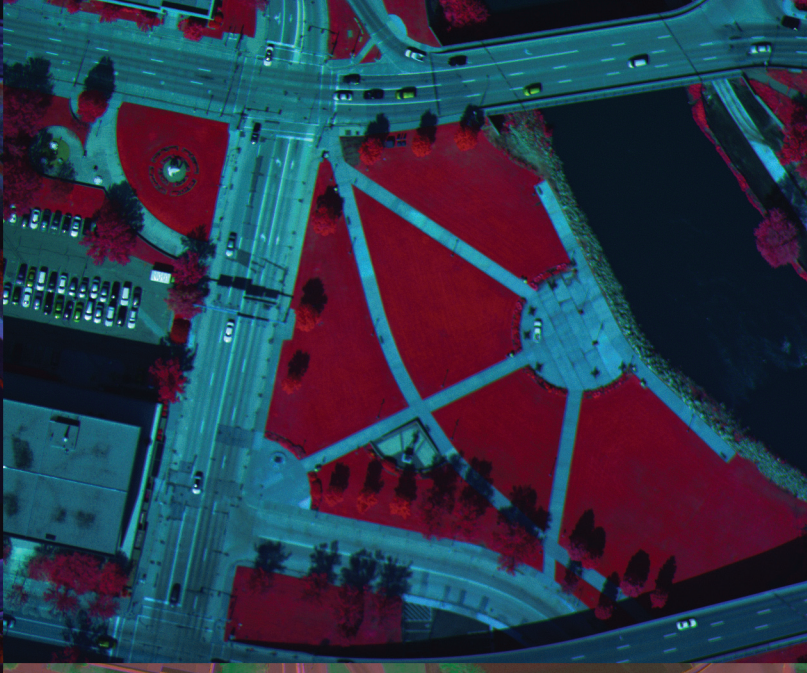
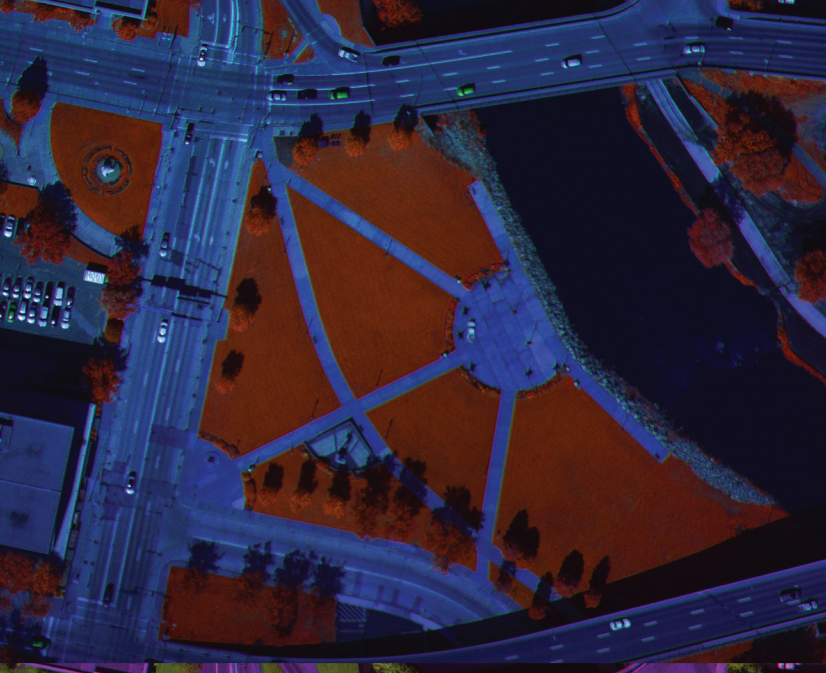
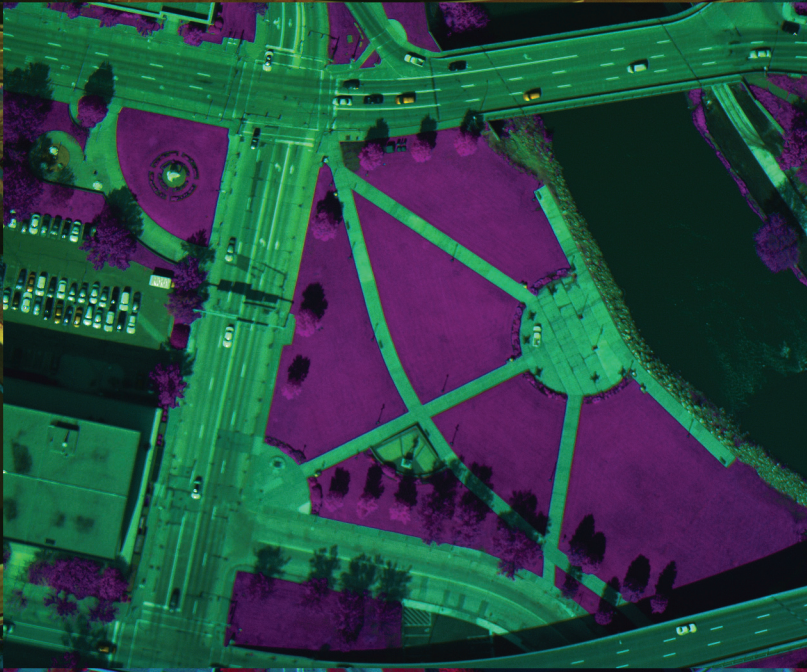
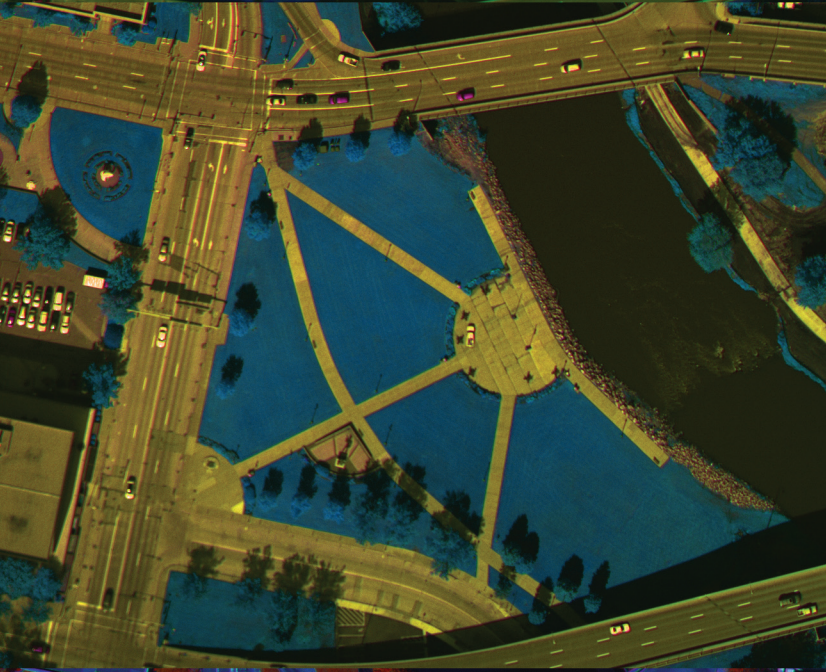
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AEROCOM

JOHN D. ODEGARD SCHOOL OF AEROSPACE SCIENCES
FALL 2010





A MESSAGE FROM THE DEAN

A large contingent of representatives from the Odegard School and friends from the City of Grand Forks recently returned from the Norsk Høstfest in Minot where John Odegard was posthumously inducted into the Scandinavian Hall of Fame. In recalling his vision for the then fledgling Aerospace College, John Odegard was often quoted as saying, "First we will be best, and then we will be first." This has certainly been our charge going forward. Over the years we have long established our reputation as the "Best" and we have now emerged as the "First" in the world.

In Fiscal Year 2010 (July 1, 2009 – June 30, 2010) we flew a record 117,000 flight training hours with 120 aircraft in Grand Forks. In May we won our 16th NIFA National Championship in 26 years. I know that Southern Illinois won 6 championships in 8 years during the late 1970's – early 1980's but no one else comes close to our record of 16. In the 10 years since 1985, when we didn't win we came in second in all but one year when we were third. Our competition acrobatic flying team has won National Championships in 2008 and 2009 and is in a good position to win a third consecutive championship this year. Our International Programs continue to expand. In addition to our existing programs with Air China, Tokai University / ANA, EVA from Taiwan, and Saudi ARAMCO, we have added two new contracts with the Saudi Arabian Ministry of the Interior, one for Civil Defense and the other for the Border Guard and a new contract with the country of Norway to train Air Traffic Controllers. At the same time our UND undergraduate and graduate enrollments have increased.

Our Space Studies Observatory has been updated and remodeled, we have had a graduate student discover an asteroid that has been named after the State of North Dakota, we now have two simulators that replicate both a vertical and a horizontal launch capability, and Atmospheric Sciences has its Citation II weather research jet back in service. Computer Science continues to grow and has a strong new set of Ph. D. candidates as graduate teaching and research assistants. And, Earth System Sciences & Policy is adding an undergraduate minor in Environmental Studies.

When I greet the parents at the start of each semester, I make a point of describing the distinction between "get to" and "have to." For example, I have to go to work, but I get to go on vacation, I have to eat vegetables, but I get to eat dessert. Here at the Odegard School we get to fly airplanes, we get to train in some of the finest simulated environments, and we get to work with the greatest students in the world - from throughout the world.

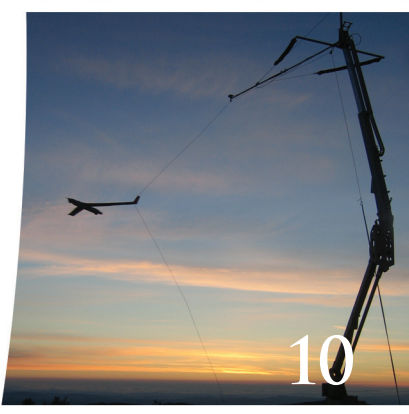
It's the Best!

Bruce A. Smith

AEROCOM

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Cover Image: Taken by ISSAC over Sioux Falls, South Dakota. See page 17 for an update on ISSAC.

A new Age of *Enlightenment*

BY ERIN SCHOENROCK



Paris has held the title of “The City of Lights” for over 300 years. The title today is associated with the city’s shimmering streets. However, the name was adopted long before the city’s first street lamp. “La Ville-Lumière” stems from the Age of Enlightenment and gives Paris credit for being the center of education and ideas. This summer I was presented with the opportunity to visit Paris and be witness to the marvelous “City of Lights.”

Nearly two years ago, I was swept up in the expanding field of unmanned aircraft systems (UAS). My first taste of the industry came when I attended the Red River Valley Research Corridor UAS Action Summit. It was at this summit that the University of North Dakota announced the adoption of their Unmanned Aircraft Systems Operation degree. I knew about this announcement prior, but it was great to witness UND thrusting itself into the forefront of aviation technology. Shortly after, I enrolled in the first UAS class, Introduction to UAS. As school started later that fall, I was excited to be one of the first twelve students enrolled in the course. A few weeks after, I found myself accepting a position to be a UAS student office assistant. Soon I would realize I was fully immersed in the world of UAS.

Benjamin Trapnell was the professor for my Introduction to UAS course. It was evident to the twelve enrolled students that we were the “lab rats.” This was the first attempt at the curriculum, and we were warned to be flexible and prepared for hard work. I quickly found out that was a valid warning. Every week seemed to produce another extensive essay. However, every topic was thought provoking and many papers ran pages longer than anticipated. I felt true passion behind UAS, and the homework



seldom felt like work. Mid-semester I typed an essay in response to the question: “What elements should be included in a UAS training curriculum?” This essay just flowed from my fingertips. It was effortless. I had some concrete opinions, but had few sources to back them up. However, at the time, I felt this did not matter, as this was an opinion essay. So I typed away, and handed it in next class.

A few days following this assignment, Charles Taylor, a fellow UAS student, and I were asked to stay after class for a moment. I had not the slightest clue what it concerned. When class was over and the classroom emptied except for our three bodies; Benjamin Trapnell passed us our papers. He then explained he felt that our papers were so similar, and the passion driving us to write was so evident, that with proper research a formal paper could be published. Charles and I were then questioned if this was something that would interest us. I do not remember my exact response, but I am positive it was a non-definitive “sure.” Charles agreed as well, and from that shaky conviction stemmed the many late nights of work.

Charles and I first began work writing the abstract. Within weeks, we finalized the title, “The Importance of Prior Flight Experience for UAS Training,” and submitted the abstract to UVS International, an annual conference held in Paris, as directed by Mr. Trapnell. Several months passed before we heard from UVS International. Charles and I were both astounded when the email said that our paper had been accepted, and furthermore that UVS International had extended an invitation to present our paper in person. Charles and I had the opinion that a UAS pilot should have a manned aviation background, and that a proper UAS training curriculum would incorporate such experience prior to UAS training. However, we lacked facts. We spent countless hours finding sources in support of our paper. But the idea of

presenting a paper as undergraduate students and the opportunity to travel to Paris was exceedingly motivating. Nonetheless, when the day, or rather late night, came and the paper was saved, attached, and the email sent, we were both extremely relieved.

UVS International was held at Paris-Nord Villepinte Exhibition Centre on June 14-18. I arrived at Charles de Gaulle airport on the morning of June 16. That morning marked the beginning of the trip of my life.

I spoke only four phrases in French, I had no map, and I had misplaced the location of my hotel.

I wandered through the airport and found the train station. I approached the woman at the ticket counter and managed to explain which ticket I wished to purchase. I took the ticket and the map the woman gave me, and found a bench to plan my next move. Studying the map, I hoped I would find a familiar name, one that would remind me of where my hotel was. “Strasbourg – Saint-Denis” seemed familiar, so armed with a plan and a map I set out for my hotel; I hoped. By some miracle, I was right. Only a few blocks away I found my small hotel.

I checked in, changed, and set off to day one at UVS International. However, this would prove just as difficult as finding the hotel. As I left the hotel, I asked the front desk attendant if they knew of Paris-Nord Villepinte. After an embarrassing blank stare, I realized my French was indecipherable and the man did not speak English. Luckily, impromptu sign language was better. A few gestures of pointing to the name I scrawled out on a piece of paper, plus a shrug at my map resulted in a highlighted route to my destination. I thanked the man and was on my way.

I found the conference with ease and spent the remainder

of the day listening to various speakers from all over the world. I retired early that evening to study the speech I had prepared for the following day. The next morning arrived too quickly. I traveled out to the exhibition center, and tried to relax before my speech. Before long, I was seated on stage with my panel of fellow presenters. In a few moments, the room would fill and I would be telling the world about the research Charles and I had done and the conclusions we had drawn. However, that is about the last I remember. No, I did not faint, but I was so awfully nervous I simply cannot remember. However, I did talk with many conference attendees afterward, and received a plethora of meaningful advice, as well as many compliments. In addition, I made some of my first industry contacts.

The next Sunday I flew home. I was thankful to be back, however, I was more thankful to have gone. Over those four days, I learned so much. I had the chance to enjoy Paris, the City of Lights, which for me was much more than a sparkling view. For me, Paris held to the origin of its name. It was a city of ideas and education. For the past three years, UND taught me the world of aviation and aerospace. However, in those few days I gained a worldly perspective of aviation, and specifically UAS. I cannot find the words to express how much I learned. The concepts, ideas and research presented at UVS International were perspectives that had never been taught in the classroom. They have since forced me to examine many of the policies and concepts I encounter daily with a more critical eye.

Paris, the City of Lights, proved a priceless opportunity and a wealth of information.



Erin Schoenrock is majoring in Commercial Aviation and Flight Education. She plans to pursue a career in UAS civilian research applications after graduating in 2011.



UND AEROSPACE FOUNDATION

STUDENTS TO RECEIVE THE GIFT OF FLIGHT

UND Aerospace announced a new scholarship opportunity for aviation students - the Odegard Mission of Excellence in Global Aviation (OMEGA) Scholarship.

“For over forty years the Odegard School at the University of North Dakota has been known as a leading educational institution for aviation and aerospace studies,” says Clay Lacy, UND Aerospace Foundation board member. “Although UND represents a true value in education, it is important to ensure that young people with a passion for aviation are able to follow their dreams.”

“We chose to announce the OMEGA Scholarship and the matching gift program at EAA Airventure because the people here have that passion for aviation and recognize the importance of ensuring their passion is passed on,” said Bruce Smith, Dean of Odegard School of Aerospace Sciences. “The UND Aerospace Foundation established the OMEGA Scholarship to financially benefit students. In doing so, the Foundation has a fund of \$250,000 to match contributions, like Clay’s, to this endowment on a 1:1 ratio. So as we receive your dollar toward the scholarship, we also contribute a dollar, in essence doubling your contribution.”

This scholarship will help ambitious and dedicated students achieve their dream of being a pilot. Students that receive the OMEGA Scholarship as freshman qualify to receive it their sophomore and junior years providing they maintain at least a 3.0 grade point average. “We are grateful for the support of the founding donors and look forward to offering additional funding resources to our students,” said Smith. “These remarkable donors have made an impact on the future of aviation.”

For information on how you can become a founding donor of the OMEGA Scholarship, please contact Josh Christianson, UND Aerospace Development Director at 701-777-4637 or joshc@aero.und.edu.

FOUNDING DONORS OF OMEGA SCHOLARSHIP

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STUDENTS IN THE FIELD AND SKY.....

Mr. Zhe Feng, Ph.D candidate in Atmospheric Sciences, won the first Peter Hobbs student award for the best student paper and presentation during the American Meteorological Society 13th Conference on Cloud Physics at Portland, Oregon, June 28-July 2. Zhe Feng's talk was titled "Investigation of Anvil Cloud Properties Associated with Mid-Latitude Deep Convection by using Integrated Ground Radar and Satellite Observations." It is a great honor for Zhe Feng and for UND as the competition included more than 60 graduate students from Universities around the world. Mr. Feng is currently advised by Professors Xiquan Dong and Baike Xi in the Department of Atmospheric Sciences. Mr. Feng was supported by a North Dakota NASA EPSCoR GRA during May 2009-April 2010, and travel to the AMS meeting was supported by the Department of Atmospheric Sciences and the UND Graduate School.

The Peter V. Hobbs Prize is awarded for the best student paper presented at each American Meteorological Society Conference on Cloud Physics. The papers are judged on content and presentation by a panel selected by the conference program committee. Entrants must be currently enrolled in high school, college, or graduate school. Students who have completed a degree but have not begun regular employment at the time of the conference are also eligible. The entrant must be the lead author and the presenting author of the poster or oral presentation; co-authorship by non-students (e.g., faculty adviser) is permitted. The prize, an AMS reference book, \$200 plus a certificate, was established to recognize Peter V. Hobbs' contributions to fundamental studies of cloud physics and to recognize his outstanding teaching and educational service at the University of Washington.

Yingxi Shi, a Ph.D. graduate student in the Department of Atmospheric Sciences, has been selected for the prestigious NASA Earth System Science Fellowship (NESSF). The purpose of the NESSF program is to ensure continued training of a highly qualified workforce in disciplines needed to achieve NASA's scientific goals, including studies of the earth from space. Yingxi's work is directed toward understanding uncertainties in satellite aerosol products as a means of increasing our knowledge of the role of aerosols in climate forcing. She will also be developing better aerosol data sets for data assimilation in weather and climate models. Yingxi's graduate advisor is Dr. Jianglong Zhang. The NESSF fellowship award is for \$30,000 per year for up to 3 years.

Drs. Xiquan Dong and Baike Xi, Department of Atmospheric Sciences, have received a new award from NASA to validate the NASA satellite cloud and radiation retrievals using ground-based observations. This is a 2-yr award with a total of \$257K from March 2008 to March 2010.



Kelsey Watkins, a senior major in Atmospheric Sciences, is the recipient of this year's American Association of University Women's Outstanding Senior Woman Award. The award is presented by the UND Chapter of the American Association of University Women to a graduating senior for outstanding academic achievement, significant contribution to the community, and potential in her field. Kelsey is an Ortonville, MN, native and plans to attend graduate school in the fall. Kelsey has earned numerous national scholarships during her undergraduate career including the prestigious NOAA Hollings Scholarship, and has presented her research at national conferences including the American Geophysical Union's Ocean Sciences Meeting in February 2010 and the AMS 90th Annual AMS Meeting in Atlanta in January 2010. Congratulations, Kelsey!

FLYING TEAM SCHOLARSHIP ENDOWMENT

Our current featured giving opportunity is the UND Flying Team Scholarship Endowment. This endowment was recently established to provide scholarship funds to members of the UND Flying Team. UND is fortunate to have a long and storied history with its flying team. The team has captured 16 national championship titles in 25 years. This success is due largely in part to dedicated students and seasoned coaches. As the National Intercollegiate Flying Association has grown over the last quarter century, so has the depth of skill needed to remain competitive with the top teams. This translates into a greater time commitment to hone skills, practice maneuvers, study aircraft identification and then repeat. This level of commitment means substantially less time for a job to help with flight and tuition costs.

Your contribution to support these intensely dedicated students that are the UND Flying Team is greatly appreciated. For more information please contact Josh Christianson at 701-777-4637 or joshc@aero.und.edu.



In April 2010, the Flying Team held its first all-team reunion in Minneapolis. It was a great time for teammates to reconnect, reminisce and meet the current Flying Team coaches and members. Due to its success, additional Flying Team reunions are being planned, so watch for details in coming issues of Aerocom and on www.facebook.com/undaerospace.

TRAINING MILITARY TEAMS

UND GRADS START SOFTWARE COMPANY TO TRAIN PILOTS

BY AMANDA HVIDSTEN

Sitting over lunch at an old Grand Forks haunt, Aleks Udris and Colin Cutler joked that they started their own company because they basically didn't want to go back to work. The two were working in aviation, both flying and working on the business side of the industry. What started out as a side job, consulting for aviation training programs, eventually grew big enough where their joke became reality.

And so launched BoldMethod.

The software company is now established in Grand Forks, and Cutler and Udris were named the 2010 young entrepreneurs of the year for North Dakota. They recently entered into a four-year partnership with UND Aerospace and Crew Training International, Inc. (CTI) to supply a learning management system (LMS) and develop high fidelity computer-based training and courseware for CTI in support of their contract with the U.S. Air Force for MQ-1 Predator and MQ-9 Reaper operator training. BoldMethod's role in the partnership is to develop the interactive training for the aircraft including a ground control station for laptop deployment.

"Training has really taken off for UAVs," said Udris. He explained how a lot of people think UAVs are new, when they've actually been around for over 50 years. It's just that the technology has advanced and the military is using them differently now. And, as opposed to a pilot and co-pilot

Udris and Cutler established a scholarship at UND for aviation students. The BoldMethod Mutli-Engine Instructor Scholarship targets innovative, forward-thinking students, giving them a way to reach their goals.



traditionally in control of an aircraft, the UAV uses teams of people to operate, read and record data, and complete missions. The training being developed will help groups of people understand how to work together as a team to fly the aircraft and complete a mission. "This partnership has been great because UND and CTI provide the expertise and we provide the technology," Udris said.

This is one of their more prominent contracts to date, but the team has also built customized software for the oil and gas, manufacturing and travel industries. They've also partnered on multiple occasions with UND Aerospace.

Since BoldMethod's training systems are graphically intense and interactive, the company is also taking this opportunity to expand its business potential. Cutler said, "As we're building these advanced training systems, we have a need for more media, so we're trying to build that into our business. Over the last 10 years our talents in these areas like Flash have grown exponentially. We want to leverage that and build off that to make it work all around." Leveraging what they already do is turning into a new niche in digital media.

Their perspective is when companies want to build websites, they have someone who can do it but they are limited to that person's skills. It may be graphically great but not function well and vice versa. Or, they may be limited by available media. "Like stock photography," Udris said. "It's easy and it's cheap but it says nothing about you. Our business is to work with companies where they do as much of the work as they want to or can, but we can provide the greater expertise media-wise to go deeper."

They know they'll face more competition in digital media than

they do in building training software, but they feel it's a good balance for the skill sets they've built.

"With training systems, those are more mundane, not as creative for a graphic artist. Conversely, for a programmer the marketing system isn't as aggressive but the training systems are. Now we can balance people's needs and skills," Udris said.

With so much happening for BoldMethod, it's amazing to look back at the two UND graduates that only met while in college. Cutler and Udris were both aviation students who were into computers. Cutler grew up on a farm in South Dakota, building websites for fun (on a dial-up connection, no less). Similarly, Udris always had a curiosity for programming, and starting in junior high he taught himself how to program software. Sitting in adjacent cubicles as flight instructors, they put their heads together to combine their aviation training with their computer-programming hobby.

But, as the trajectory of most college students, both Cutler and Udris left UND to pursue internships and eventually airline careers.

One thing led to another in the fluctuating industry and both independently returned to their alma mater only to team up once again.

"It's amazing the drive you can have to get creative and start your own business and make something happen," said Cutler. "Being independent forces us to be creative – especially with the different contracts."

You can follow BoldMethod's progress online at www.boldmethod.com.

ALUMNI PROFILES

1980s

Al Kittleson, '81 BS Aeronautical Studies, is a first officer on the Boeing 777 for Delta Airlines. He lives in Granburg, TX.

Ron Gunnarson, '88 BS Aeronautical Studies, has been promoted to vice president of marketing communications at Hawker Beechcraft. He has been with Hawker Beechcraft for more than 20 years and was most recently director of marketing. He and wife, Jennifer, live in Wichita, KS.

1990s

Karen (Rahm) Casey, '91 BS Aeronautical Studies, is a pilot with Southwest Airlines. She and her husband, Matt '91 BS Aeronautical Studies, live in Coursegold, CA.

Brandt Lindquist, '92 BBA Aviation Administration, is a corporate pilot and vice president of the Minnesota Business Aviation Association. While a student at UND, Brandt served as president of SAMA. He lives in Lakeville, MN with his wife, Amy, and daughter Reeve.

Michael Dietz, '93 BS Aeronautical Studies, is a Boeing 737 captain for Alaska Airlines. He lives with his wife, Michelle, in Big Lake, AK.

Marty Lenss, '93 BSBA Airport Administration, is the airport director at ATW. He lives in Appleton, WI with his wife Shona (Swenson) '93 Nursing.

Bill Dolny, '94 BSBA Aviation Administration, is the vice president of business development and sales, Americas Civil Simulation Products, Training and Services for CAE. He and his wife, Kathleen, live in Euless, TX.

Margit (Breimhurst) McKee, '94 BS Airway Science, is a ATCT with the FAA based at Washington HQ. She lives in Inverness, IL with her husband, Matthew '92 BS Airway Science.

Ben Lindstrom, '97 BS Aeronautical Studies, is the chief pilot of a charter company which employs 15 pilots and has three jets, and four turboprops in Phoenix, AZ. He is a captain on the Citation Sovereign, Citation CJ3, and Beechcraft King Air. He lives in Mesa, AZ with his wife, Jennifer.

Warren Twait, '98 BS Aeronautical Studies, is a captain with Era Aviation and lives in Anchorage, AK.

2000s

Chris Gryskiewicz, '00 BS Aeronautics, is a Challenger 300 corporate pilot with Cargill based in Minneapolis. He and his wife, Molly (Fox) '00 BS Recreation & Leisure Studies, live in Bloomington, MN.

Joe Nemecek, '01 BS Aeronautics, is a captain with Express Jet and lives in Algonquin, IL.

Jason Ott, '03 BS Aeronautics, is a pilot with Cathay Pacific and lives in Hong Kong.

Tom Gockowski, '04 BS Aeronautics, is a pilot with Compass Air and lives in St. Paul, MN.

Berndt Gullickson, '08 BS Aeronautics, is a first officer with Era Aviation and lives in Anchorage, AK.

Bryan Shirota, '08 BS Aeronautics, is a first officer for Pinnacle Airlines and lives in Bloomington, MN.

ODEGARD SCHOOL SCHOLARSHIPS

Aviation top UND department for scholarship dollars awarded

The generosity of our donors provided over \$422,000 in scholarship and training awards to aviation students this year, a 2.5% increase over last year and a 46% increase since 2005. This is the largest scholarship amount awarded by a single UND Department. Thank you for making a difference in the lives of our students!

Air Traffic Control Faculty Scholarship	Muhs Family Scholarship
Aircraft Owners and Pilots Association Scholarship	John D. Odegard Scholarship
Maxie Anderson Memorial Scholarship	Odegard School Faculty and Staff Scholarship
Rudy Andrews Aviation Scholarship	Odegard School Flight Operations Scholarship
Lee Barnum Memorial Aviation Scholarship	Gerald K. Olson Memorial Scholarship
Bismarck Aero Center Scholarship	Al and Peg Palmer Scholarship
Bombardier Scholarship	William T. Piper Scholarship
Wilbur E. Brewer Memorial Scholarship	John R. Puttonen Memorial Scholarship
Building Dreams Aviation Scholarship	John L. Robertson, Jr. Memorial Scholarship
Jim Bunke Aviation Award	Schoen Aviation Aerospace Scholarship
CAE Business Aircraft Training Scholarship	George J. Schroeder Memorial Scholarship
Cessna Aircraft Award	Paul E. Schwietz Memorial Scholarship
P. Gail Clark Memorial Scholarship	Les and Joyce Severance Aviation Award
Des Moines Flying Service Award	Donald I. Smith Aerospace Young Scholar Award
Captain Donald R. Emerson Aviation Award	Martin and Doris Spargo Aviation Award
Fargo Jet Center, Inc. Aviation Award	Bryce and June Streibel Aviation Award
Flight Safety International Award	Student Air Traffic Control Association Scholarship
Fran Fox Aviation Award	Lowell and Marjorie Swenson Aviation Scholarship
Daniel Gish Memorial Scholarship	David Tallichet Memorial Scholarship
Scott Greenan Memorial Aviation Scholarship	UFA, Inc. Air Traffic Control Scholarship
Robert E. Hart Memorial Aviation Award	UND Flying Team Award
Don V. Hubbard Memorial Scholarship	UND Women in Aviation International Scholarship
JDO CRJ200 Training Scholarship	Vaaler Insurance Aviation Award
Gen. Mohammed Kabbaj Memorial Scholarship	Weather Modification Aviation Award
Annette Lynn Klosterman Memorial Aviation Scholarship	Dwight Erik Widseth Memorial Scholarship
Krear Memorial Scholarship	Wilderness Pilots Association Scholarship
Steve and Melissa Kuhlman Aviation Scholarship	Wing Aero Products, Inc. Scholarship
Leader in Management Scholarship	



AVIATION SCHOOL SELECTION

by Dana Siewert

DON'T OVERLOOK SAFETY WHEN CHOOSING A PLACE TO EARN YOUR WINGS

Choosing a flight school or educational institution that provides flight training can be a difficult and stressful task. Location, cost, scholarships and reputation are all important factors when preparing for a career in aviation, especially if your career path will have you spending many hours in the cockpit of a training aircraft in order to meet FAA regulations for pilots.

Safety is one factor that is assumed to be inherent in aviation programs but often overlooked as a check mark item when searching for schools—specifically, safety features relative to the latest technologies in aircraft equipment. The following will provide some points of interest you should explore when making your decision about which school will provide not only the best, but safest training available.

Are aircraft equipped with the latest “glass cockpit” technology? This technology simplifies aircraft operation and navigation and allows pilots to focus on only the most pertinent information. Relatively new for small GA aircraft used by most training institutions, having this technology will also guarantee the aircraft is fairly new.

Are aircraft equipped with ADS-B (Automatic Dependent Surveillance Broadcast)? A recent FAA study in Alaska revealed ADS-B reduced accidents by 40 percent by allowing pilots to “see” other aircraft as well as terrain features, therefore, minimizing the possibility of midair collisions and CFIT (controlled flight into terrain). Both of these flight training-related areas are considered special emphasis areas by the FAA during practical examinations for pilot certification.

While the FAA requires a minimum for exterior aircraft lights, many aircraft manufacturers offer additional lighting options. These options include recognition lights, taxi lights, strobe lights and light-pulsating systems, which increase aircraft visibility during night flights

or during reduced visibility weather conditions during the day. When applied to safety, additional aircraft lights can also help to reduce runway incursions while taxiing on the runway. There's also research indicating that pulsing aircraft lights can provide increased reaction times for avian wildlife resulting in a potential decrease in bird strike incidents. If safety is a top priority, flight training organizations will exceed the FAA's minimum standards in this area.

Outside visibility from inside the aircraft can be increased by additional overhead windows sometimes referred to as skylights. These windows are found in high wing aircraft such as the Cessna 172 and provide overhead visibility to pilots. This is important for collision avoidance when taking off, climbing to a higher altitude or banking the aircraft to make a steep turn.

Recently, the aviation industry has turned to technology from the family car: airbags. Built into specially equipped seatbelts, these airbags deploy upward and outward in the event of a sudden impact, cushioning the pilot and thereby reducing the risk of serious injury. Accident investigations have already determined this safety feature has saved lives and serious injuries. In fact, many commercial airlines are installing seatbelt airbags in the passenger cabins of their new transport aircraft. Many GA aircraft manufacturers are doing the same.

Learning to fly can be a fun and rewarding experience. While there is risk associated with any mode of transportation, the likelihood of being involved in a flight training accident is extremely low. Regardless, accidents can happen and determining the safety features on a school's aircraft fleet will tell you a lot about its philosophy relative to aviation safety. You can be assured if you choose a school with a modern, up-to-date fleet of training aircraft you'll be receiving the highest standard of aviation education.

REMOVE BEFORE FLIGHT

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1.800.258.1525 or 701.777.4740

AERON NEWS

Al Palmer, director of the UND Unmanned Aerial Systems Center of Excellence (UND UAS Center) has been appointed to an open-ended term on the 13-member North Dakota Governor's Military Task Force. The UND UAS Center is part of the John D. Odegard School of Aerospace Sciences.

Palmer, a UND alum and retired Air Force brigadier general and former chief of staff of the North Dakota Air National Guard, will be serving a dual role on the military panel, according to Governor John Hoeven's letter of appointment. Palmer retired from the Air National Guard in May after 38 years of service.

In his capacity as the N.D. Air National Guard's chief of staff, Palmer formulated, planned and established policies for the organization and for the 119th Fighter Wing, consisting of 1,000 personnel and 15 fighter aircraft. He coordinated staff activities pertaining to administration, operations, maintenance, and resources to assure accomplishment of state and unit missions. Palmer also was responsible for maintaining liaison with other organizational commanders.

Palmer, a founding member of the North Dakota Pilots Association, began his military career with U.S. Air Force enlisted service beginning in 1972. After serving as an electronic warfare specialist in several assignments including a tour in Thailand, he joined the North Dakota Air National Guard in 1981. He served as a maintenance officer and supervisor prior to serving in several command positions. Palmer served as the State J-5 in Joint Force Headquarters during the transition from an Air National Guard State Headquarters to the current Joint Force Headquarters.

Palmer is a rated airline transport pilot with more than 9,400 flight hours including nearly 6,000 as an instructor pilot. He earned several commendations and awards during his service, including the Legion of Merit, Meritorious Service Medal, the Air Force Commendation Medal, and Air Force Achievement Medal. He has worked for UND Aerospace since 1978 and was the director of operations from 2000 until his retirement earlier this year; Smith called Palmer back into service to run the University's UAS program.



The Aviation Department recently completed a summer exchange program with Korea Aerospace University (KAU) in Goyang City, South Korea. As part of the exchange, Associate Professor Jim Higgins traveled to KAU for one month where he taught two courses. Seven UND students also participated in the exchange program which included academic instruction and cultural activities.

The UND students were joined by students from KAU, Hindustan University in India, and Embry-Riddle Aeronautical University. The month-long exchange featured a total of three classes; Airline Management and Operations, Aviation Safety and Security, and Airport Business Management. The month

culminated in a series of "hands-on" field trips to both Korea Airlines and Incheon International Airport.

One of the highlights of the program was a meeting with UND Alumnus Captain Amos J. Yang (class of '93). Captain Yang, Flight Operation Group Manager, took time out of his busy flying and recruiting schedule to visit with students from both UND and Embry-Riddle. The Aviation Department looks forward to Captain Yang's campus visit in April 2011 for the annual Aerospace Weekend.

By all measures the exchange program was a success and will likely become an annual opportunity for all programs involved.



ISSAC is the new name for an agricultural camera designed and built by University of North Dakota students and faculty. The International Space Station Agricultural Camera, or ISSAC (pronounced as in Isaac Newton) was delivered to the space station last year.

"ISSAC is a space-related research project that will result in the delivery of direct benefits from space to the general public,"

said Doug Olsen, ISSAC project manager. "The ISSAC project is in the midst of developing an upgrade to its camera sensor, which is expected to be launched in January 2011. It will resume operations during the 2011 growing season."

ISSAC is designed to take frequent images, in visible and infrared light, of vegetated areas on the Earth, principally of growing crops, rangeland, grasslands, forests, and wetlands in the northern Great Plains and Rocky Mountain regions of the United States. Images will be delivered within two days directly to requesting farmers, ranchers, foresters, natural resource managers and tribal officials to help improve their environmental stewardship of the land. Images will also be shared with educators for classroom use.

This new ISSAC sensor has recently completed a battery of tests at NASA and at UND, which among them included an aircraft test flight (an image from the flight can be seen on the cover of this issue). Once launched to the International Space Station aboard a Japanese rocket next January, astronauts will install the sensor and other ISSAC equipment in a special window on the ISS, from which vantage point it can view the Earth.

The system allows users to select specific geographical areas of interest

over which to request collection of imagery in green, red, and near-infrared bandpasses, and at medium-high spatial resolution. Farmers using variable-rate application and other precision agriculture techniques will be able to dynamically delineate management zones as the crop vegetation canopy changes during the growing season; this can result in more effective use of fertilizer and other chemical inputs and reduce negative environmental effects.

U.S. Senator Byron Dorgan, who helped secure funding for the ISSAC project, called it a "partnership between UND and NASA that will give a boost to the reputation of our region and help farmers and ranchers across the Upper Great Plains."

"The UND interdisciplinary effort that has produced this camera is a remarkable story," said UND President Robert O. Kelley. "Faculty and students from several colleges and centers on campus have produced an instrument that will analyze the composition of agricultural and other natural resources on the surface of the earth from the International Space Station."

"The consolidation of multiple technologies into a single instrument will add tremendous economic value to the agricultural industry in North Dakota and around the world," Kelley said. "UND and NASA have forged a very productive partnership in this initiative."

ISSAC is operated from the Science Operations Center (SOC) on the UND campus, staffed by students from across the campus, including from the John D. Odegard School of Aerospace Sciences and the School of Engineering and Mines. From the SOC, students will send commands to ISSAC to take images and transmit them to SOC, where they'll be processed and delivered to end users. Images captured by the camera will be made available to the public through UMAC's Web page (see <http://www.umac.org/>). New students will soon be hired to help operate ISSAC from this SOC during the coming growing season.

In each of the past 47 years, the General Aviation Awards program and the Federal Aviation Administration (FAA) have recognized a small group of dedicated aviation professionals in the fields of flight instruction, aviation maintenance, avionics, and safety for their contributions to aviation, education, and flight safety.

Kirk H. Peterson has been selected by the General Aviation Awards program as the 2010 National Avionics Technician of the Year. He currently holds a Federal Communications Commission license with Radar endorsement, an Airframe and Powerplant (A&P) Technician Certificate with Inspection Authorization (IA), a Repairman Certificate, and has over 25 years of avionics maintenance and repair experience.

For the past 20 years, Kirk has been employed by the University of North Dakota's John D. Odegard School of Aerospace Sciences. He is the avionics manager of an FAA Part 145 repair station that maintains over 100 aircraft used by UND's flight training department, from Piper Cubs to turbine-powered aircraft and helicopters. Kirk is responsible for maintaining UND's state-of-the-art avionics lab.

ALUMNI ADVISORY BOARD UPDATE



So far, 2010 has been another active year for the AAAB. In March of this year, we rolled out a new

We had a couple of events the AAAB during Homecoming Weekend. On Friday evening, Oct 8th, there was a reception hosted by the JDO School at the Alerus Center. During this event, we unveiled our new logo and recognized the students who submitted entries. We also recognized past presidents of the AAAB. We recognized Jonathan Blumhorst who is the architect of our AAAB Facebook page and updated Website. Our Fall AAAB meeting will be held on Saturday, Oct 9th beginning at 8:00am in Odegard Hall Room 244.

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 JDO School. We welcome all Aerospace disciplines to join our ranks. If you have an interest in joining the Board, please send an email to me at the addresses shown below with a brief description of your career experience since leaving UND. Please copy Josh Christianson at joshc@aero.und.edu and our AAAB Secretary/Treasurer, Rich Baker at leipzig06@comcast.net.

As we look toward the remainder of 2010, we will continue to work to find ways to better support the Odegard School. We encourage faculty, students and Alumni to contact the Board and take advantage of the tremendous breadth of experience resident in our Board members. Many of our Board members travel to UND frequently and would welcome the opportunity to support faculty and students during those visits. We also look forward to opportunities to support the new UAS Center of Excellence. Any Alumni having an interest in this area should contact me as well.

Brian Gora ('83)
President, Aerospace Alumni
Advisory Board
brian.gora@goodrich.com
(President, Goodrich
Corporation, Sensors and
Integrated Systems Division)



program to increase our level of support to the Odegard School faculty. Working with the school, six "Tracks" or curriculum focus areas were identified and we assigned AAAB members to support each Track. The six Tracks are; Aviation Safety and Security, Aviation Education and Training, Aviation Law and Policy, Commercial Aviation, Air Traffic Control and Business Aviation Management. The goal of the AAAB members assigned to the Track is to communicate on a regular basis with the faculty lead/point of contact to understand and support each Track as needed. Each AAAB Track team will provided an update to the AAAB at each of our two meetings so we can keep current with the program.

We held our Spring 2010 AAAB in Eden Prairie, MN on May 11th. The meeting was well attended and we accomplished several important things. First, we added four new board members to the AAAB. They are Robert "Tim" Leonard '87, Joel Aiken '92, Justin Stimpson '01 and Joseph Stubbe '02. Early in 2010, we launched a contest to solicit ideas for a logo for the AAAB. I am pleased to announce that we received some excellent input for the logo and at the Spring meeting, we voted on the winning entry. We will announce the winner Homecoming weekend in Grand Forks, so you'll have to wait until then for the official unveiling! Last but not least, we had a few changes in the AAAB leadership. Tom Hauge '92 stepped down from the committee as Vice President but will continue as an AAAB member. We thank Tom for his years of service as an Officer. Molly Boss '98 & '99 was elected as the new Vice President of the AAAB and Rich Baker '00 was elected Secretary/Treasurer. We thank Molly and Rich for their willingness to serve in these important positions.

ALUMNI ADVISORY BOARD MEMBERS

Brian Gora '83 – president
Molly Boss '98 – vice president
Rich Baker '00 – secretary/treasurer
Kurt Jensen '79 – past president

Joel Aiken '92
Chad Anderson '98
Rich Baker '00
Molly Boss '98
Craig Boxrucker '00
Jim Bunke '78
Doug Coleman '84
Chris Cooper '05
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
Kurt Jensen '79
Don Johnston '70
Matt Kalouner '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
Jerry Murray '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

October 19-21 Atlanta, GA	NBAA 63rd Annual Convention
October 20 Atlanta, GA	UND Aerospace Alumni & Industry Reception 5:30pm – 7:30pm Georgia World Congress Center
November 6 UND	UND Fall Open House for Prospective Students
November 10-13 Long Beach, CA	AOPA
November 30 Duluth	Outreach for Prospective Students 7:00pm – 9:00pm Holiday Inn
December 1 Minneapolis, MN	Minneapolis Outreach for Prospective Students 7:30pm – 10:00pm, Hilton Mlps/St. Paul Airport
December 2 St. Cloud, MN	St. Cloud Outreach for Prospective Students 7:30pm – 10:00pm, Radisson Suite Hotel
December 4 Portland, OR	Portland Outreach for Prospective Students 1:00pm - 4:00 pm, Embassy Suites Airport
December 5 Seattle, WA	Seattle Outreach for Prospective Students 1:00pm - 4:00 pm, Doubletree Guest Suites
January 22 Chicago, IL	Chicago Outreach for Prospective Students 7:30pm – 10:00pm, Chicago Marriott Schaumburg
January 23 Mikwaukee, WI	Mikwaukee Outreach for Prospective Students 7:30pm – 10:00pm, Doubletree Inn, Brookfield, WI
February 24-26 Reno, NV	Women in Aviation
March 5-8 Orlando, FL	Helicopter Association International
June 19-28 UND	International Aerospace Camp
July 10-17 UND	International Aerospace Camp

AEROCOM is published for the alumni and friends of the John D. Odegard School of Aerospace Sciences. AEROCOM welcomes your suggestions, story ideas, alumni profile information or photos from the past to be used in future publications. Permission to reprint any portion of text or photography may be granted upon request.

Visit our website at: www.aero.und.edu

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