Aaron Guffey receives CAE Simuflite Scholarship

Dear Aaron:

CONGRATULATIONS! You are one of four winners of the 2011 CAE SimuFlite Scholarship! Please contact Phyllis Barron at CAE as soon as possible to discuss the scheduling of your scholarship-supported training. Her contact information is in the attached email message.

Again, way to go!

Sincerely,

David A. NewMyer, Ph.D., Chair

CAE SimuFlite Scholarship Subcommittee

University Aviation Association Scholarship Committee

Voigt to defend thesis on July 11

Matt Voigt, Space Studies campus student, will defend his thesis for his Master's degree on Monday, July 11th at 9 a.m. Please show your support by attending.

Title: X-ray Bright Point Evolution as a Global Phenomenon

Date: Monday, July 11

Time: 9:00 AM

Location: Ryan Hall, Room 111

Abstract:

X-ray bright points (XBPs) are small, complex, loop-like structures found within the corona of the Sun. Hinode X-ray Telescope (XRT) data are being used to conduct a two-week longitudinal study to determine how XBPs evolve and change, individually and as a global coronal phenomenon, in size, morphology, and flux. XBPs from thirty synoptic images taken during solar minimum in March 2008 are calibrated and measured. By studying XBPs through a greater time span, it may be possible to gain a better understanding of XBP lifespans and the range of lifespans, differences in XBP activity throughout a solar cycle, and why XBPs can persist in the normal corona as well as in coronal holes.

Those unable to attend in person may view the live Webcast by using one of the following links:
Flash Live Stream
http://realmedia.aero.und.edu/liveclass.html

or

Connect Pro Link http://connect.aero.und.edu/colloquium/
(sign in as a guest)

There have been some recent issues with the above Connect Pro link, if that does not work then try

http://connect.aero.und.edu/colloquium?launcher=false

UND’s ISSAC student-built ag camera captures Minot flood images from International Space Station

While still performing on-orbit engineering checkout activities, the UND-built International Space Station Agricultural Camera (ISSAC) this weekend collected imagery of the Souris River flooding in Minot. The camera, which was designed and built and is operated by students and faculty at UND, ISSAC just began operations two weeks ago.

“We are still learning the sensor’s capabilities and are not yet ready for routine operations, but we wanted to see if there was any way ISSAC could be of use to the various flood fights going on across the state,” said Doug Olsen, Project Manager for ISSAC at UND.

Taken at 07:42 p.m. on Friday evening, June 24, the Minot image clearly shows the swollen Souris river filling the valley upstream, and sending water down through the heart of the city. Taken just prior to the river’s crest on Sunday night, the image shows extensive flooding in downtown Minot, and in residential areas along the river.

For comparison, an image of the same area, taken by the US Geological Survey’s Landsat spacecraft last year, shows the Souris as a thin black line snaking through the valley, now entirely covered by water in the ISSAC image.

ISSAC is a one-of-a-kind earth-observing sensor mounted in the International Space Station’s Window Observation Research Facility (WORF) and is capable of re-visiting a particular ground location more frequently than other space-based assets.

The ISSAC sensor collects imagery in both visible and infrared light, the latter particularly useful in determining health of vegetation, such as farm fields. As an added bonus, water appears black in the infrared channel, making it particularly useful in identifying areas under water.

Dr. Fevig Receives Research Funding

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 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.

DAWN Spacecraft is Currently Approaching its First Target

Dr. Mike Gaffey and Vishnu Reddy attended a meeting of the DAWN Mission Science Team in Germany in mid-May. The DAWN spacecraft is currently approaching its first target, the main belt asteroid (4) Vesta. The DAWN spacecraft will go into orbit about Vesta on July 17, and remain in orbit for nearly a year, mapping the surface structures and composition, before it proceeds on to its second target, the asteroid (1) Ceres. Vesta is the second largest asteroid (diameter ~ 550 km) and has a surface composition produced by volcanic activity very early in its history. The type of volcanic rocks (basaltic) on its surface indicate that Vesta was never struck hard enough to blow it apart, unlike the vast majority of asteroid parent bodies. Dr. Gaffey and Dr. Reddy is will be analyzing the spectra returned by the Italian Visible Infrared (VIR) Spectrometer aboard the DAWN Spacecraft to determine minerallogy, and will be collaborating with the German Max Planck imaging team to map out the surface composition of Vesta. The meeting was hosted by Germany's Max Planck Institute, which provided the camera system on the DAWN spacecraft. The meeting was held in the city of Nördlingen, which is situated near the center of the 24 km wide Ries Basin, a fourteen million year old impact crater. Dr. Gaffey participated in a field trip to several outcrops of the impact debris (suevite – try Google) that filled the original crater. The suevite deposits are mined for construction material, and the cathedral in Nördlingen is build out of blocks of this suevite. Dr. Gaffey has a chunk of the suevite on his desk.

Congratulations to the UND Flying Team!

Congratulations to the UND Flying Team! The team placed second in national competition which concluded on Saturday. A record breaking 405 points placed the team just nine points behind Southern Illinois University. UND won the prestigious Judges Trophy along with many other awards.

Congratulations to our May graduates!

The following students were awarded their Master’s degree this spring semester: Mark Bigley, Lee Graves, James A. Johnson, Svetlana Shkolyar, and Will Swearson. Congratulations!

UND Graduates the first class of UAS students!

First UND students with unmanned aircraft systems (UAS) degrees set to graduate Saturday

The first University of North Dakota students graduating with a BS in Aeronautics with a Major in Unmanned Aircraft Systems Operations. (Left to right); Adam Julson, Chris Burger, Brett Whalin, Jeremy Duke and Alex Gustafson stand with an UAS -Scan Eagle outside of Clifford Hall on camus.

Among the nearly 1,500 receiving degrees from the University of North Dakota during spring commencement on Saturday will be the first graduates in the nation with degrees in unmanned aircraft systems (UAS) operations.

“It’s truly the first and only kind of its major program in the country at this point,” said Kent Lovelace, chair of the aviation department at the UND John D. Odegard School of Aerospace Sciences. “These are the first graduates from anywhere in the country with a degree in UAS operations.”

The five students eligible for graduation are Christopher Burger, Ritzville, Wash.; Jeremy Duke, Everett, Wash.; Adam Julson, Flandreau, S.D.; Alexander Gustafson, Vashon Island, Wash.; and Brett Whalin, Rapid City, S.D. The commencement ceremony will be held at 1:30 p.m. in the Alerus Center at Grand Forks.

“Unmanned aircraft are having a profound impact on aerospace,” said Bruce Smith, dean of UND Aerospace. “We’re on the leading edge of UAS development. We now have 44 students signed up as majors and 78 students signed up for our UAS introductory course.”

Julson is excited about the opportunity to be part of an emerging aspect of aviation in which the sky is literally the limit.

“What attracted me is that it’s the next big thing,” he said. “You’re on the forefront of the unmanned portion of aviation.”

For Duke, who worked for 10 years in the auto body industry before coming to UND, the attraction was the potential to apply UAS technology to weather research, which is the career direction he hopes to pursue.

“I flew weather modification missions for a summer and could see the application,” he said.

All the UAS majors are finding great interest from potential employers, and some have already lined up jobs. The field is expected to explode when the Federal Aviation Administration (FAA) opens airspace to civilian applications.

“We could see it open up in the next few months for law enforcement agencies,” said Mark Hastings, UAS chief pilot. “It probably won’t be until 2015 that we see it opening up to commercial applications, such as patrolling oil pipelines.”

Gustafson, who’s been interviewed for two jobs, said, “It’s a huge honor and privilege to be among the first graduates. Most companies are excited to find out that there are students coming out of college with degrees in UAS. There are a lot of jobs now, and there will be even more when the airspace opens up.”

First offered in 2009 fall semester, the Bachelor’s of Science

degree aeronautics with a major in unmanned aircraft systems operations is built on the school's commercial aviation program. It includes courses in the systems of unmanned aircraft, UAS ground systems, UAS communications and telemetry, and UAS remote sensing. In addition, the major curriculum includes aviation safety, human factors, and crew resource management related to unmanned aircraft operations.

"We spent a lot of time and effort putting this program together because there was no model for it," said Ben Trapnell, associate professor of aviation. "We had to bridge the gap between engineers and pilots because our hope is that our graduates from this program will become the leaders in an emerging civil UAS industry. They need to have a broad perspective and the ability to expand the base of knowledge we provide."

Burger started at UND as a commercial aviation major, but jumped at the opportunity to be in the first class of students to graduate with a degree in UAS operations.

"I figured that UAS was definitely going to be a major portion of the aviation industry in the future," he explained. "Automation is the direction everything is moving. Getting in at the beginning seemed like a great opportunity."

UND collaborated with Corsair Engineering to provide training to students pursuing their UAS majors. They used the ScanEagle UAS simulator to learn mission-related UAS employment and operational techniques. The simulator was created jointly by Corsair and the aircraft's manufacturer to accurately represent the experience of flying the real aircraft.

"The more you understand the system you're operating, the better pilot you can be," Hastings said. "The more you understand the payload and the sensors, the better operator you can be. They will be the future leaders of the industry. Understanding the development and the operations side puts

them in a really good place.”

The first group of eight students completed academics and flight training March 4. During the eight week-long sessions, students spent three hours per day, five days a week in the ScanEagle simulator, progressing from basic flight operations to advanced sensor techniques and emergency procedures, and finally to mission employment scenarios.

“They don’t just learn how to operate an unmanned aerial vehicle, but also to manage a UAS program and make recommendations about what type of vehicle makes the most sense,” Lovelace said. “The UAS industry is really in its infancy. These graduates will help take it to the next level.”

Recalling his decision to be one of the first to join UND’s UAS operations program, Whalin said, “I feel like it was a great opportunity to get in on the bottom floor of a growing field. It’s been a challenge and a great an opportunity.”

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Photo cutlines:

UAS grads – The first University of North Dakota students graduating with a Bachelor in Aeronautics with a Major in Unmanned Aircraft Systems Operations. (Left to right); Adam Julson, Chris Burger, Brett Whalin, Jeremy Duke and Alex Gustafson stand with a UAS -ScanEagle outside of Clifford Hall on the UND campus. (photo credit: Jackie Lorentz)

Aero Crew Solutions will be

holding a pilot job fair

Aero Crew Solutions will be holding a pilot job fair in Atlanta on Saturday June 11th. We are inviting regional airlines, cargo airlines, fractional airlines and major airlines. The job fair will be a one day event starting at 9:00 AM and ending at 6:00 PM. The job fair will be held at the Sheraton Gateway Hotel Atlanta Airport.

The National Center for Remote Sensing, Air and Space Law Launches New Comprehensive Website

The National Center for Remote Sensing, Air and Space Law (http://www.spacelaw.olemiss.edu/about/history.html) is pleased to announce a new, comprehensive website (http://www.spacelaw.olemiss.edu/). As with its previous site, the Center's blog, Res Communis (http://rescommunis.wordpress.com/), and all of its publications (http://www.spacelaw.olemiss.edu/resources/publications.html), including the Journal of Space Law back to 1973 (http://www.spacelaw.olemiss.edu/jsl/index.html), are also accessible through the new site.

The new website also includes many new features. The most important of these is the Center's Space Law Archive (http://www.spacelaw.olemiss.edu/archives/). Now, researchers can access the papers of early space law pioneers Andrew G.

Haley (http://www.spacelaw.olemiss.edu/archives/haley/index.html), Eilene M. Galloway (http://www.spacelaw.olemiss.edu/archives/galloway/), and Stephen Gorove (http://www.spacelaw.olemiss.edu/archives/gorove/). Other new features include an Air and Space Law Calendar (http://www.spacelaw.olemiss.edu/resources/calendar.html) and a Did You Know? feature that serves up random important facts about air, remote sensing and space law.

Finally, the website is completely social network enabled with Digg, Facebook, Google, Myspace, StumbleUpon, Twitter, and many more options. We are offering this website to the community as a public service. If you have any ideas or comments about how to improve it for your use, please let us know.

Prof. Joanne Irene Gabrynowicz, Director
National Center for Remote Sensing, Air, and Space Law
Editor-in-Chief, Journal of Space Law
Res Communis Aerospace Law Blog
The University of Mississippi School of Law
P.O.Box 1848
University, MS 38677-1848
jgabryno@olemiss.edu
Voice: (662) 915-6877