



UNIVERSITY OF WISCONSIN-MADISON • ATMOSPHERIC AND OCEANIC SCIENCES

# MAKING WAVES

2013-2014

## Student Braves Cold and Isolation at Summit Station, Greenland

By Elena Willmot

In Summer 2013, I was lucky enough to spend three months as a technician at an NSF-funded research station in central Greenland, called Summit Station. I worked for the ICECAPS project (Integrated Characterization of Energy, Clouds, Atmospheric state, and Precipitation at Summit) maintaining and calibrating a suite of instruments, and launching two weather balloons per day. Summit Station rests at the highest point on the Greenland Ice Sheet, at an elevation of 10,500 ft above sea level. During my stay, Summit received 24 hours of sunlight, and temperatures ranged from -20°F to 25°F. The station population fluctuated over the course of the summer, with as few as 14 to as many as 53.

My duties included preparing and launching twice-daily weather balloons and transmitting the data to the World Meteorological Organization. I monitored the suite of ICECAPS instruments, which included radiometers, ceilometers, lidars, and precipitation sensors, and I was in charge of photographing ice crystals with a microscope whenever it precipitated. My other station tasks involved marshaling incoming Air National Guard aircraft, outreach and station tours, and shoveling snow away from doorways and instruments.

This was an enriching experience and I have an incredible appreciation for the limitless amounts of data in this field. I learned a lot about the rigor that goes into



With the help of a timer, graduate student Elena Willmot captured a photo of her 100th weather balloon launch during an episode of freezing fog in late August.

designing, deploying, and maintaining instruments in remote locations to get high quality data. This experience has opened several doors for my future and has given me new skills that will give me a competitive edge in the job market. Living and working at a research station has refreshed my interest in science and instrumentation, and I decided to pursue a Ph.D. in Environmental Engineering. This opportunity, thanks to Professor Ralf Bennartz, Claire Pettersen, and the ICECAPS team, was a life-changing experience, and I can only hope that one day, every young scientist gets to experience hands-on research as exciting and as inspiring as my time in Greenland. ■

### New Social Media Accounts for our Alumni and Friends

**AOS departmental Facebook page:** [facebook.com/uwaos](https://facebook.com/uwaos). "Like" us to get news, updates, and interesting weather stories from the department.

**AOS alumni Facebook group:** [facebook.com/groups/uwaosalumni](https://facebook.com/groups/uwaosalumni). Join the group to stay in touch with us and with each other! Let us know what you're up to!

**AOS network group on LinkedIn:** [linkedin.com/groups?gid=6563986](https://linkedin.com/groups?gid=6563986) Join the group to share professional leads and advice with each other and with our current students.

**AOS Twitter account.** Follow us at [@UW\\_AOS!](https://twitter.com/UW_AOS)

# CHAIR'S COLUMN

## A NEW CHAPTER

Grant W. Petty

In the previous issue of this newsletter it was my colleague and friend Jon Martin



who wrote in this space. In September 2013, after an incredible nine consecutive years of service as Chair, he returned to

full-time research and teaching and passed the baton to me. It is now my privilege to use this column to express the entire department's deep appreciation for Jon's effective and dedicated leadership—thank you, Jon!

I use the metaphor of a baton advisedly, because leading the department is indeed like a relay race—each chair's goal is to take the department as far as possible in the right direction before turning the job over to the next one. I am inspired by that challenge while also being conscious of the headwinds that must be overcome by everyone in public higher education these days.

That said, we have many factors working in our favor, including the sheer talent, dedication, and enthusiasm of our faculty, staff, and students. Also, for those who haven't heard, our new Chancellor, Dr. Rebecca Blank, has an incredible resumé that includes, most recently, Acting Secretary of Commerce. Her portfolio thus encompassed the National Oceanographic and Atmospheric Administration, which in turn includes the National Weather Service. Needless to say, she is well-attuned to the importance of what we in AOS do, and she said as much when she introduced our distinguished alumnus, Dr. Louis Uccellini, current Director of the National Weather Service,

at his challenging and inspiring Town Hall presentation on "A Weather Ready Nation" in August 2013.

If one thing motivates me as Chair more than any other, it's my desire to help mobilize the department to leverage both existing resources and rapidly emerging opportunities to become a model for geosciences education and research in the 21st century. My first significant act as Chair was therefore to engage the department in a strategic planning effort that is just winding up as of press time.

As part of that process, we attended retreats and other focused meetings in which faculty, staff, and student representatives brainstormed ways to take the department to the next level of excellence. We especially emphasized the goal of ensuring that our undergraduate and graduate students have "life-changing experiences" and emerge with a range of foundational skills and knowledge that will serve them well in any career they choose to pursue. A few consensus themes have emerged from our discussions so far:

- We want to begin engaging students well before their junior year. This means creating new opportunities for talented students to find out why Atmospheric and Oceanic Sciences is a great major before they've gone too far down another path.
- We want to maintain relationships with our alumni after they leave, in part so that our current students can learn more about opportunities in "the real world." In support of this goal, we have created Facebook, LinkedIn, and Twitter accounts for the department and for our alumni and friends (see the front page for details). We hope you

will consider using these to reconnect with us and each other, and we especially hope that you will consider making your knowledge and experience available to our current students!

- We want to integrate substantial hands-on experience with observations, measurements, computer models, and real-world analysis into our undergraduate and graduate curricula. We are designing new field experiences for our students that can be undertaken both close to home in Wisconsin as well as at the Storm Peak Laboratory in Steamboat Springs, Colorado. Recently, a well-timed major donation to the department made possible the acquisition of new instrumentation in support of this ambitious vision.
- We have long benefited from an excellent, productive relationship with our colleagues in the Space Science and Engineering Center (SSEC; including the Cooperative Institute for Meteorological Satellite Studies, or CIMSS), in the Center for Climatic Research (CCR), and the Center for Sustainability and the Global Environment (SAGE). We want to further strengthen these relationships and encourage a wider range of collaborative research as well as involving SSEC, CCR, and SAGE scientists more effectively in our educational mission. In other words, our goal is for AOS and allied centers to have a collective impact that far exceeds the sum of their individual contributions.

We look forward to staying in touch with all of our friends and alumni as we write the next chapter in AOS's story. ■

## AOS Has Leading Role in Air Quality Applied Sciences Team

Professor Tracey Holloway is serving as Deputy Leader of the NASA Air Quality Applied Sciences Team (AQAST), a five-year initiative launched in 2011 with 19 leading academic and government scientists from across the U.S. UW-Madison is the only site in the U.S. to host two members of the AQAST, the other being Dr. Brad Pierce of NOAA/NESDIS, who works in the Cooperative Institute for Meteorological Satellite Studies (CIMSS). Dr. Pierce is a world expert in satellite detection of air pollution, leading development of innovative tools to make satellite data more useful to air quality professionals. Holloway's co-investigators include Prof. Steve Ackerman and Wisconsin Department of Natural Resources Air Bureau Director Bart Sponseller.

The AQAST connects advanced data products, especially from satellites, with the information needs of air quality managers at the national, state, and local levels. Between Holloway, Pierce, and Ackerman, there are a number of exciting new research initiatives taking off here in AOS, CIMSS, and the Nelson Institute Center for Sustainability and the Global Environment (SAGE).

Alexandra Karambelas ('11 BS, '13 MS) has been working with Prof. Holloway to investigate particles over the Southeastern U.S. She is using advanced models of atmospheric transport and chemistry to find unexpected interactions between human and natural contributors to atmospheric aerosols. This work helped prepare Alex for an exciting summer internship with the EPA in North Carolina during the summer of 2013 and for her continuing Ph.D. work related to AQAST.

Andy Wentland ('13, MS) joined the AOS graduate program following a senior thesis with Prof. Holloway. Andy is working with Dr. Pierce, developing

advanced satellite methods to detect oil and gas facility emissions. He will be using measurements of NO<sub>2</sub> from the Ozone Monitoring Instrument (OMI) on board the NASA Aura satellite.

Alexa Ross ('13 Physics B.S. Reed College) launched her graduate career focused on AQAST-related research. She is working with CIMSS Scientists Dr. Bob Holz and Dr. Min Oo, advised by Prof. Ackerman and collaborating with Prof. Holloway and Dr. Pierce. Alexa is developing methods to compare multiple satellite data sources of aerosol optical depth (AOD) with atmospheric models of particulates used by the EPA and other organizations.

Several AOS alums are also engaged with AQAST. Dr. Scott Spak ('09 PhD), now an assistant professor at the University of Iowa, is an AQAST co-investigator working to quantify aerosol impacts on climate and to explain causes of unhealthy air pollution events. Erica Bickford ('08 MS; '12 Environment & Resources PhD) is leading work to use satellite data to better characterize pollution emissions from trucks and rail across the U.S. Dr. Bickford is now an AAAS Science Policy Fellow working in Washington, DC.

For more information, visit [www.aqast-media.org](http://www.aqast-media.org) and [www.aqast.org](http://www.aqast.org), and follow @NASA\_AQAST on Twitter! ■



### Prof. McKinley Brings an Academic Perspective on Climate Change to DoD

Galen McKinley completed her involvement with Defense Science Study Group (<http://www.dssg.ida.org>) in October 2013. This very selective program for tenured science and engineering faculty is a 2-year Defense Advanced Research Projects Agency (DARPA) supported engagement that introduced her to the science and technology capabilities and

emerging needs of the Department of Defense and US Intelligence Communities. Prof. McKinley's participation entailed visits to a variety of facilities and discussions with personnel at all levels of responsibility. At the conclusion of the program, she studied and reported on the activities of DOD as they relate to climate change and its impacts.



## Newly Launched Global Satellite Mission Supported By AOS Field Research

On February 27, AOS faculty, staff, and students packed themselves in front of a large display monitor in the 14th floor conference room and cheered as the Global Precipitation Measurement (GPM) Core Observatory was successfully launched from the Tanegashima Space Center in Japan. GPM is an international satellite mission jointly developed and flown by NASA and its Japanese counterpart JAXA. The GPM Core Observatory hosts the first satellite-based Dual-frequency Precipitation Radar and the GPM Microwave Imager. This instrument suite will allow quantitative precipitation estimates of liquid and frozen precipitation and provide valuable data to better understand the global water and energy cycle.

Dr. Mark Kulie is one of two AOS members of the Science Team (the other being Grant Petty) responsible for delivering algorithms and data products that will help ensure the success of the mission. Dr. Kulie, who received his Ph.D. in 2010 under Prof. Ralf Bennartz, continues to work in AOS and SSEC as a NASA Precipitation Measurement Mission and CloudSat/CALIPSO Science Team member. He is conducting precipitation remote sensing research, including activities to improve, validate, and apply GPM and CloudSat precipitation retrieval algorithms. A NASA New Investigator Program grant has enabled Dr. Kulie to acquire and deploy ground-based instrumentation to support GPM and CloudSat snowfall retrieval algorithm development and validation activities.

The Marquette region in Michigan's Upper Peninsula, about a five-and-a-half hour drive north of Madison, is a unique testbed for studying microphysical and radar differences between shallow lake-effect snow and deeper



**The Global Precipitation Measurement (GPM) Core Observatory lifts off from the Tanegashima Space Center (photo credit: NASA/Bill Ingalls)**



**Graduate students Claire Petterson and Elin McIllhattan put the final touches on the Micro Rain Radar setup at the Marquette Weather Forecast Office.**

synoptically-driven snowfall events. Dr. Kulie deployed two primary instruments at the Marquette National Weather Service Weather Forecast

Office in January 2014 and will continue collecting observations during the upcoming winter. A vertically pointing

*See "Satellite Mission" continued on p. 5*

# Professors Ackerman and Tripoli Elected Fellows of the AMS

For those who might have missed the news, we are extremely proud to report that Professors Steve Ackerman and Greg Tripoli have been elected Fellows of the American Meteorological Society. The recognition for Prof. Ackerman was bestowed at the February 2014 Annual Meeting of the AMS; the ceremony for Prof. Tripoli and other new Fellows will occur at the upcoming AMS meeting in January 2015. We hope you can attend!

This honor is reserved for those who have made “outstanding contributions to the atmospheric or related oceanic or hydrologic sciences or their applications during a substantial period of years.”

Professor Ackerman, who also serves both as Director of the Cooperative Institute for Meteorological Satellite Studies (CIMSS) and as



**Professor  
Steve Ackerman**



**Professor  
Greg Tripoli**

UW–Madison Associate Vice Chancellor for Research, is an expert in satellite meteorology, a field that was pioneered here at UW–Madison. He is an accomplished teacher and scientist, with distinguished teaching awards from the AMS and from UW–Madison. He is also engaged in considerable public outreach, including in his role as one of the Weather Guys (along with Professor Jon Martin) via their monthly radio call-in show and print column.

Professor Tripoli is being recognized for a wide range of contributions in the theory and modeling of mesoscale phenomena ranging from tropical cyclones all the way down to tornado vortices. Of particular interest to him are warm core cyclone disturbances such as hurricanes and tropical cloud clusters, extratropical meoscale

convective complexes, and extratropical warm core seclusions. Dr. Tripoli is also actively involved with the study of local microphysical and chemical scavenging processes occurring within clouds.

Professors Ackerman and Tripoli join the ranks of a several other AMS Fellows among past and present UW–Madison faculty and staff, including Francis Bretherton, Ed Eloranta, Stefan Hastenrath, David Houghton, Don Johnson, John Kutzbach, Chris Velden, Pao Wang, and James Weinman. ■

## Professor Petty Represents UW–Madison Faculty to State Leaders

In addition to becoming chair of AOS last year, Grant Petty has lately been wearing a number of other hats, including serving as the UW–Madison Faculty Representative to the University of Wisconsin System. In this role, he attends bimonthly Board of Regents meetings at locations ranging from the River Falls campus in the far north to Parkside in the southeast.

His responsibilities include monitoring policy proposals at the state level that might affect the UW–Madison campus and building relationships and sharing faculty perspectives with Regents and legislators and with administrators and Faculty Representatives from other UW campuses.

“At a time when state support for UW System is under severe pressure, it’s important for all of the UW campuses to present a united message regarding the value of our public universities, including the flagship Madison campus, to the future of Wisconsin,” Petty says.

### Satellite Mission *(continued from page 4)*

Micro Rain Radar (MRR) will enable long-term, high vertical resolution radar profiles associated with surface snowfall events in a region that receives copious amounts of snowfall. Complementing that instrument is the NASA-developed Precipitation Imaging Package (PIP), a high speed camera system that captures data on the shapes and sizes of falling snowflakes.

Together, these observations will help the Science Team improve satellite snowfall retrievals by better characterizing the typical microphysical compositions of different types of snowfall.

They also provide a welcome opportunity to involve AOS students in field research. Last winter’s MRR and PIP deployment, in particular, would not have been possible without the invaluable assistance of graduate students Claire Pettersen and Elin McIlhattan as well as SSEC researcher Erik Olson. Examples taken from the voluminous datasets collected by these instruments will also be utilized in future AOS remote sensing and instrumentation courses, and future field deployments will continue to give undergraduates and graduate students invaluable hands-on experience. ■

*See “Faculty Representative” continued on p. 7*



# Professor Emeritus Don Johnson Honored by Special Symposium

Last February, UW–Madison faculty, researchers, students, and alumni turned out in force for the AMS 94th Annual Meeting in Atlanta. In addition to the usual conferences, banquet, and AOS Alumni Reception, last year’s Annual Meeting included a special all-day symposium and luncheon in honor of the pioneering scientific contributions of our own Professor Emeritus Donald R. Johnson. The symposium was kicked off by invited presentations by Dr. Louis Uccellini, Director of the National Weather Service, and by Dr. Alexander E. MacDonald, Director of NOAA’s Earth System Research Laboratory, both of whom highlighted the far-reaching impacts of Dr. Johnson’s theoretical insights into thermodynamic and dynamic processes in the atmosphere. The complete program, including audio recordings and visual materials, can be found on the AMS 94th Annual Meeting web page. We also



**Louis Uccellini (BS '71; MS '72 PhD '77) speaking at the Donald R. Johnson Symposium, February 6, 2014 (photo credit: Bill Kuo).**

recommend the attractive and fascinating book that was published in conjunction with the symposium, copies of which can be ordered via the following web page: <https://www.createspace.com/4445945>

The Department of Atmospheric and Oceanic Sciences is honored to be associated with the pioneering contributions of Dr. Johnson to our field. ■



**Herb Winston ('80 MS), John Young, Kelly Redmond ('77 MS, '82 PhD), and Ed Hopkins ('84 PhD) at the 2014 AOS Robock Alumni Reception.**



**The food at the reception gets better every year, but don't take our word for it—come find out on January 6!**

## 2015 Alumni Reception Scheduled

For those planning to attend the upcoming Annual Meeting of the American Meteorological Society in downtown Phoenix, we are happy to announce that the Robock Alumni Reception is scheduled for Tuesday, January 6, from 6 to 9 PM in the Valley of the Sun A room on the 2nd floor of the Sheraton Phoenix Downtown hotel. As always, there will be good food and great conversation as we share memories and catch up on the news in each other's lives. We hope to see you there!



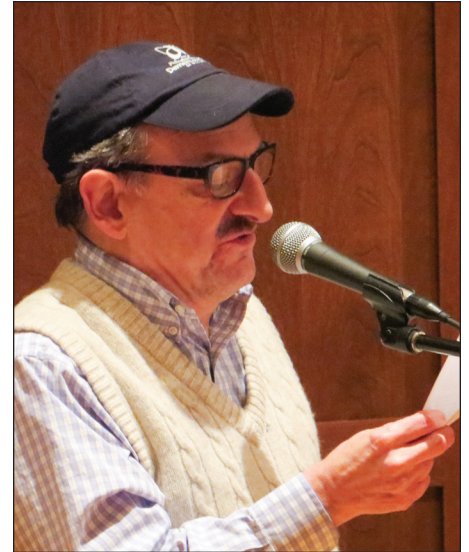
**A contingent of our graduate students traveled to Atlanta where they ably and enthusiastically represented AOS at the AMS Career Fair. Back: Jordan Gerth, Andrew Winters, and Zak Handlos. Front: Alexis Ritzer, Amanda Gumbert, Kyle Nelson, and Melissa Breeden.**



# Solstice Party 2014



As usual, our annual Solstice Party (which is still called that despite having been moved to early February!) began with a formal banquet, followed by presentation, skits, and music. Pictured here (from left) are AOS seniors Eric Loken, Mitch Ziesemer, and Alex Haugstad, and guest Lucia Vitale.



Continuing a 35+ year tradition, Dr. Robert Schlesinger ('72 PhD) gave his unique annual retrospective on the weather (and politics) of the past year.



The class of 2014 was well-endowed with musical talent, which they put to great use with their AOS-themed parody rendition of "American Pie."

## Faculty Representative *(continued from page 5)*

In addition to his service as Faculty Representative, Prof. Petty is serving the final year of his three-year elected term on the University Committee, which functions as the executive committee to the Faculty Senate. The UC meets one half day each week and works with top administrators and other shared governance bodies to make campus policy and

to respond to emerging issues affecting the UW-Madison faculty.

To cap it all off, Prof. Petty recently accepted the post of President of PROFS (Public Representation Organization of the Faculty Senate). PROFS is a voluntary, non-profit membership organization of UW-Madison faculty. Formed in 1976 by the Faculty Senate, PROFS advocates

on behalf of UW-Madison faculty before state legislators, the governor, the Board of Regents, members of Congress and the public.

While these governance and advocacy activities take a great deal of Professor Petty's time, he believes it's a worthwhile investment toward securing the future of this world-class university. ■



# MILESTONES

## Congratulations to Our Graduates

### Ph.D. recipients

#### Fall 2012:

**Wei Liu**, “*Insights from Deglacial Changes in the Southern Ocean and Atlantic Meridional Overturning Circulation During the Last Deglaciation.*” (Liu)

**Aronne Merrelli**, “*The Atmospheric Information Content of Earth’s Far Infrared Spectrum.*” (Turner)

#### Spring 2013:

**Kathleen Holman**, “*An Investigation of Historical Lake-Atmosphere Interactions in the Great Lakes Basin.*” (Vimont)

**Agnes Huei Ni Lim**, “*Assimilation of Airs Radiances for Short Term Regional Forecasts Using Community Models.*” (Ackerman)

**Dianna Nelson**, “*Large Scale Predictors of Eastern Pacific Tropical Cyclogenesis.*” (Morgan)

#### Summer 2013:

**Nicholas Bassill**, “*A Collection of Parameterization Studies Highlighting the Importance of Extended Forecast Lengths.*” (Morgan)

#### Fall 2013:

**Jordan Gerth**, “*Sky Cover.*” (Ackerman)

#### Spring 2014:

**Yun Liu**, “*Ensemble-based Parameter Estimation in a Coupled Ocean-Atmosphere General Circulation Model.*” (Liu)

**Michael Pavolonis**, “*Development of Satellite Remote Sensing Techniques for Quantifying Volcanic Ash Cloud Properties.*” (Ackerman)

### M.S. recipients

#### Summer 2012:

**Richard Hildner**, “*Observational Evidence for Anthropogenic Effects on Arctic Boundary Layer Clouds Over Eureka, Nunavut.*” (Tripoli)

#### Fall 2012:

**Nicholas Bassill**, “*Forecast Track and Intensity Sensitivities of Tropical Cyclones to Various Parameterizations Using the WRF-ARW Model.*” (Morgan)

**Caitlin Hart**, “*Interpretation of Small Particle Signatures in Satellite Observations of Convective Storms.*” (Ackerman)

#### Spring 2013:

**Alexander Kubicek**, “*Flow Fields Around Falling Conical Graupel and the Efficiencies With Which These Graupel Collide With Cloud Droplets.*” (Wang)

**William Line**, “*Using Isentropic Techniques to Improve the Utility of GOES Moisture Observations.*” (Ackerman)

#### Summer 2013:

**Zachary Handlos**, “*Estimating Vertical Motion Profile Shape Within Tropical Weather States Over the Oceans.*” (Back)

**Ke Li**, “*Reduced-Dimensional Retrievals of Precipitation from the TRMM Microwave Imager: Physical Insight and Information Content.*” (Petty)

**Alexander Matus**, “*A Global Survey of Aerosol Direct Effects.*” (L’Ecuyer)

**Jacola Roman**, “*Quantifying the Ability for High Spectral Resolution Infrared Sounders to Detect Regional Precipitable Water Vapor Trends Determined from Global Climate.*” (Ackerman)

#### Fall 2013:

**Alexandra Karambelas**, “*The Interactions of Biogenic and Anthropogenic Gaseous Emissions with Respect to Aerosol Formation in the United States.*” (Holloway)

#### Spring 2014:

**Croix Christenson**, “*A Synoptic-Climatology of Northern Hemisphere Jet Superposition Events.*” (Martin)

**Erik Gould**, “*Observational Challenges in Assessing the Aerosol Indirect and Semi-Direct Effect.*” (Bennartz)

#### Wei Huang (Petty)

**Kuniaki Inoue**, “*Gross Moist Stability Assessment During TOGA COARE: Amplification and Decay of Convection.*” (Back)

#### Peter Jzyk (Vimont)

**Claire Pettersen**, “*Identifying Ice Hydrometeor Signatures above Summit, Greenland using a Multi-Instrument Approach.*” (Bennartz)

**Shellie Rowe**, “*On the Role of Inertial Instability in Stratosphere Troposphere Exchange near Mid-Latitude Cyclones.*” (Hitchman)

**Alexis Ritzer**, “*Chlorophyll A Variability Due to Large-Scale North Atlantic Circulation Changes.*” (McKinley)

**Erica Scotty**, “*Sensitivity of Atmospheric Pollutants to Changes in Modeled Natural and Anthropogenic Emissions.*” (Holloway)

**Scott Trevorrow**, “*Numerical Investigation of the Dynamics Leading to Tornadoogenesis in a Supercell Environment.*” (Tripoli)



In Spring 2014, AOS hosted its own formal graduation event. Here, our new B.S. degree recipients receive applause from families and friends in attendance. The complete set of photos, courtesy of Elin McIllhatten, can be found at [tinyurl.com/AOS2014graduation](http://tinyurl.com/AOS2014graduation).





AOS reception for May 2013 graduates and their parents.

**Elena Willmot**, "Aerosol Effects on Satellite Retrievals of Cloud Optical Properties in the South Atlantic Ocean." (Bennartz)

**Summer 2014:**

**Tracey Dorian**, "Spatial and Temporal Variability of Latent Heating in the Tropics Using TRMM Observations." (L'Ecuyer)

**Kyle Nelson**, "Optically Thin Liquid Clouds: Detection and Assessment of Contribution to Greenland Melt Events Using Satellite Data." (Ackerman)

**Stephen Ogden**, "Finding Energy Pathways from a Tropical Energy Bubble to a Mid-Latitude Jet Using Wave Activity Flux Vectors." (Tripoli)

**B.S. recipients**

**Spring 2013**

Matthew Bittorf  
Melissa Breeden  
Michelle Feltz  
Amanda Gumber  
Nicholas Ofstun  
Bryan Peake  
Walter Perkins

Joseph Snarski  
Austin Thomas  
Derek Thompson  
Eric Tobias  
Joseph Urh  
Andrew Wentland

**Spring 2014**

Mohamed Amin  
Kai Bachmann  
Carissa Bunge  
Carol Costanza  
Emily Czaikowski  
Chloe Doberstein  
Marcus Guttman  
Nathaniel Loeb  
Marian Mateling  
Pornampai  
Narenpitak

Megan Ritzert  
Christopher Scheele  
Kathryn Stockwell  
Bryan Ullsperger  
Gavin Warmbold  
Nicholas Weber  
Kristina Williams  
Rachel Yuen

**Scholarships and Awards**

**Spring 2013 Departmental Awards**

**Christopher Scheele** received the Horn Award for excellence in overall performance as an undergraduate.

**Alex Kubicek** received the Lettau Award for outstanding master's thesis.

**Andrew Winters** received the Wahl Award for outstanding performance as a Teaching Assistant.

**Marc Collins** received the Schwerdtfeger Award for excellent performance in the first year of graduate studies.

**Ross Dixon** received the Colloquium Service Award for creative dedication to the intellectual life of the Department.

**Kristina Williams** received the Sunkel Award for exceptional scholarly potential.

**Pornampai (PingPing) Narenpitak** and **Eric Loken** received the Lettau-Wahl Award for excellence in overall performance as undergraduates.



Graduating Ph.D. student Aronne Merrelli gives a short recap of his dissertation research at AOS's May 2013 Hooding Ceremony.

**Katie Holman** received the Reid Bryson Award from the Center for Climatic Research

**2013 Poster Session Awards**

**Graduates**

**Pei Wang** (winner)  
**Ke Li** (honorable mention)  
**Haidi Chen** (honorable mention)

**Undergraduates**

**James Kralj** (winner)  
**Britta Gjermo** (honorable mention)  
**Michelle Feltz** (honorable mention)

**Spring 2014 Departmental Awards**

**Alex Haugstad** received the Horn Award for excellence in overall performance as an undergraduate, with **Eric Loken** receiving an honorary mention.

**Alex Matus** received the Lettau Award for outstanding master's thesis.

**Shellie Rowe** received the Wahl Award for outstanding performance as a Teaching Assistant.

**Nicholas Ofstun** received the Schwerdtfeger Award for excellent performance in the first year of graduate studies.

**Croix Christenson** and **Ross Dixon** received the Colloquium Service Award for creative dedication to the intellectual life of the Department.

**Joe Nettesheim** received the Sunkel Award for exceptional scholarly potential.

**Sam Hartwick** received the Lettau-Wahl Award for excellence in overall performance as undergraduates.

**2014 Poster Session Awards**

**Graduates**

**Alexandra Karambelas** (winner)  
**Vijay Limaye** (honorable mention)  
**Elena Willmot** (honorable mention)

**Undergraduates**

**Mitch Ziesemer** (winner)  
**Marian Mateling** (honorable mention)  
**Alyson Douglas** (honorable mention)



Prof. Emer. John Young congratulates Katie Holman on her Ph.D.

# ALUMNI NEWS

**Pam Knox ('82, M.S.)** is an agricultural climatologist for the University of Georgia, working on communicating climate variability and change to farmers in the Southeast. Married to John Knox, PhD 1996, who is an associate professor in the Geography Dept. at the University of Georgia.

**John Knox ('96, Ph.D.)**, Associate Professor in the Department of Geography at the University of Georgia, was selected by the Council for the Advancement and Support of Education and the Carnegie Foundation for the Advancement of Teaching as one of only 31 state winners of U.S. Professors of the Year for 2014.

**Ed Shimon ('90, B.S.)** worked as a Communications Officer for the US Navy through July 1993. That period included military activity in the Middle East in support of the first Gulf War. He now works as a Senior Forecaster for National Weather Service Central Illinois, Lincoln, IL, having entered the NWS in November 1994 in Madison. He moved to NWS Duluth MN in 1996 before coming to Lincoln in 2005. He finished the Wisconsin Ironman triathlon in September 2010 with a time of 12 hrs and 51 minutes. Ed was working with the radar operator for the Washington, Illinois EF4 tornado on November 17, 2013.

**Greg Robbins ('90, B.S.)** is working for the National Weather Service at a Center Weather Service Unit in Longmont Colorado, aka Denver Air Route Traffic Control Center, as an aviation meteorologist.

**Danny Costello ('90, B.S.)** is a Hydrologist/Meteorologist with the National Weather Service Detroit/Pontiac.

**Robert Holmes ('90 B.S., '94 M.S.)** is the founder and President of Spectrum Weather and Specialty Insurance, Inc., providing weather-based insurance products to outdoor events and other weather-sensitive entities.

**Giulia Panegrossi ('04, Ph.D.)** "I am Researcher at the Institute of Atmospheric Sciences and Climate of the National Research Council of Italy. Proud to be back in Rome, my home town, and to have brought back what I learned at AOS and during my 11 years of American life in Madison."

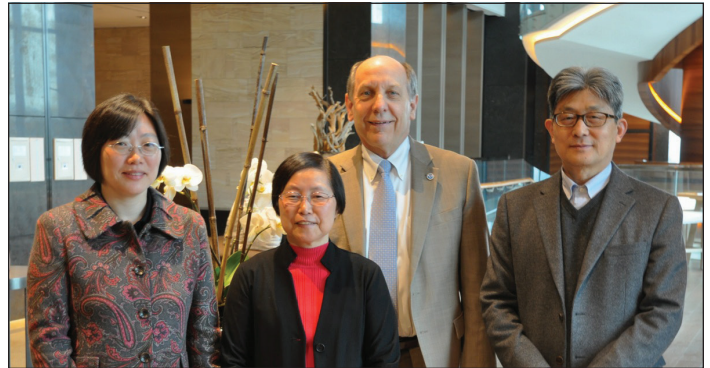
**Sara Kobilka ('05, B.S.)** "I've recently returned to UW-Madison and am now working in the Institute for Chemical Education. I've been highly involved with science outreach and will continue to do that on campus (so don't be surprised if you hear from me or I introduce someone to you for those of you still in town)."

**Brad Miller ('10, B.S.)** began working in November as an on-air meteorologist at WIFR in Rockford, Illinois.

**Chian-Yi Liu ('10, Ph.D.)** Assistant professor at the National Central University in Taoyuan, Taiwan. His research is on satellite data assimilation for regional high-impact weather prediction and on FORMOSAT-3/COSMIC Radio Occultation (RO).

**Karen Russ ('11, M.S.)** is pursuing PhD in Geography at UW-Madison. Published first peer-reviewed paper (Back et al., 2013) in *Journal of Climate: Global Hydrological Response to Rapid and Slow Global Warming*.

**Caitlin Hart ('12, M.S.)** is currently working as an image scientist for Exelis, Inc. (formerly ITT Geospatial Systems), using satellite-based images to perform validation for a new instrument. "The company is doing the thermal analysis for the JWST as well as building the Advanced Himawari Imager for Japan and the Advanced Meteorological Imager for Korea's KOMPSAT. And the GOES-R ABI, of course. One of these days I hope to transfer over to the environmental remote sensing department."



A rare gathering of AOS alumni occurred on March 19, 2014 in Seoul, Korea. Dr. Louis Uccellini (BS '71; MS '72 PhD '77, advisors: C. Anderson and D. Johnson), Director of NOAA/NWS visited Korea for a bilateral meeting with the Korea Meteorological Administration (KMA) accompanied by Dr. Jae-Kyung Schemm (nee Eom, MS, '72, advisor: Houghton) of NOAA/NWS/CPC. Quick action by a KMA official made this impromptu AOS alumni gathering possible with Drs. Dong-Kyou Lee (Ph.D, '81, advisor: Houghton) and Hyun-Me Kim (PhD, '02, advisor: Morgan). Dr. Lee is a professor emeritus at Seoul National University and Dr. Kim is a professor at Yonsei University in Korea. Pictured from left are Hyun-Me Kim, Jae-Kyung Schemm, Louis Uccellini and Dong-Kyou Lee.

## In Memoriam

Peter Lamb  
June 21, 1947–May 28, 2014

Peter Lamb, George Lynn Cross Research Professor in the School of Meteorology and Director of the University's Cooperative Institute for Mesoscale Meteorological Studies (CIMMS), passed away suddenly at his home in Norman, Oklahoma on May 28, 2014. Peter Lamb received his PhD from UW-Madison in 1976. He was a strong advocate for UW-Madison and for the historic department he attended. His primary research interests were in the physical and dynamical processes of climate and its short-term fluctuations. He is well known for the personal touches he made to the lives of his colleagues and the people he mentored. He was a tireless leader of CIMMS and of all of the NOAA Cooperative Institutes and the research they conduct in support of NOAA and the nation. His soft-spoken, authoritative voice and personal warmth is a loss to us all.



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Photo by graduate student Elena Willmot, Summit Station, Greenland, July 11, 2013.

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