The Chair’s Corner

It gives me great pleasure to welcome you to our 5th edition of our departmental newsletter. Seems just like yesterday when we started this tradition. I am again very excited to share with you some of the highlights of the past year.

I would like to start off by recognizing a few important milestones for our faculty. Justin Minder obtained tenure and was promoted to Associate Professor. Justin also received the prestigious President’s Award for Exemplary Public Engagement in recognition of his Weather and Climate Camp for local high school students. In addition to this I am very proud to let you know that Paul Roundy, Ryan Torn and Liming Zhou were all promoted to Full Professor. Bob Keesee and Dan Keyser also reached their own significant personal milestones - retiring from the Department – both made significant and well appreciated contributions that are recognized later in this newsletter. I should also like to let you know that Ross Lazear recently received the 2018 Dean’s Award for Outstanding Achievement in Teaching.

The Department had another strong year raising Federal funds for research. We currently boast 42 active Federal awards from a variety of agencies including NOAA, NSF, NASA and ONR. The funding supports students and postdocs in the Department. Indeed, we welcomed 19 new graduate students for the Fall 2018 semester, our second largest incoming class. As a result of this influx of new students, DAES now has 79 graduate students, making us one of the three largest atmospheric science graduate programs in the United States. The incoming class hails from nine different states, four different countries, and includes seven female students, who will research topics such as how hurricanes form, the predictability of Arctic storms, and the effects of atmospheric chemistry on climate. Fifteen of the 19 new students are supported on grants attained by DAES and ASRC faculty.

Our undergraduate atmospheric and environmental science majors continue to give us much to celebrate, including numerous awards and presentations at major research conferences. Thanks to generous donations from alumni and collaborating companies, we are also thrilled to be able to send our students to national conferences.

I have mentioned plans for the new building in many if not all of our newsletters. I am happy to finally say that construction has started!!!! It’s been a long journey but finally it’s becoming a reality. There is a time-lapse camera showing building progress that can be seen at the following website: https://www.workzonecam.com/projects/turnerz. The image included here shows what it looks like at the time of printing (Dec 2018) of this newsletter. We expect to be moving in during the summer of 2021 – we cannot wait!

I think I would be remiss if I did not mention that construction of the NYS Mesonet (co-led by DAES and ASRC) was completed in March 2018. This was a major effort that provides an amazing resource to NY State to support the protection of life and property in the State, and to encourage economic development as well as providing a wide cadre of research opportunities. Jerry Brotzge and his team deserve a lot of credit for this amazing achievement. It truly is a jewel that UAlbany can be proud of. More information can be found here: http://www.nysmesonet.org/.

There is so much more to share – and more to read in this newsletter.

Enjoy! Chris Thorncroft
Professor and Chair
More than $2 million in new federal funding from the Office of Naval Research (ONR) is further solidifying UAlbany’s position as a national leader in atmospheric and environmental sciences.

The funding will support three projects led by department faculty in an effort to improve Arctic weather forecasting. Total support is expected to be $2.37 million over the next five years.

“This latest federal funding highlights the variety of experts we have to address significant weather and climate issues,” said Chris Thornicroft, chair and professor. “In this case, our faculty will shed light on variability and predictability of weather in the Arctic, a particularly sensitive part of the Earth climate system that is warming due to climate change.”

Faculty include:

**Lance Bosart/Daniel Keyser**

Bosart and Keyser are collaborating on a project titled “Phenomenological and Predictability Studies of the Structure and Evolution of Arctic Cyclones, Polar Lows, and Tropopause Polar Vortices.” It will consist of analysis and forecasting, along with real-time monitoring, of Arctic weather regimes. Findings will support an ONR research initiative on the dynamics of Arctic cyclones and their relationship to the tropopause polar vortex.

**Andrea Lang**

Lang’s project is titled “Understanding the role of the stratosphere in subseasonal-to-seasonal variability and predictability of Arctic weather systems.” Her goal is quantify the relationship between Arctic weather and the polar vortex. This will help to make more informed seasonal forecasts.

**Ryan Torn**

Torn is leading a project to better understand the predictability of Arctic cyclones. This will be done through a combination of analyzing past cyclone forecasts and generating large numbers of new forecasts using a numerical weather prediction model. The project is titled “Comparison of Polar and Midlatitude Cyclone Predictability Using Ensemble-based Sensitivity Analysis.”

**By the Numbers:**

UAlbany is home to the largest concentration of atmospheric, climate and environmental scientists in New York State, and one of the largest in the nation, with close to 120 faculty, researchers and staff.

In fiscal 2016, DAES and the University’s Atmospheric Science Research Center (ASRC) generated $17.1 million in combined research. That’s an 82.3 percent increase from the previous year and ranks among the top 50 in the industry.

The National Science Foundation (NSF) awarded $5 million to DAES climate scientist Mathias Vuille in September. Another four NSF grants worth $1.4 million were awarded to the department within just the last month.
DAES Hosts NEPARS REU Students and Faculty

In August, the Northeast Partnership for Atmospheric and Related Sciences (NEPARS) REU Program concluded in a two-day visit to UAlbany, where undergraduate participants from all around the country had the opportunity to present their summer research to DAES students and faculty. The NSF-funded program is a collaboration between Hobart and William Smith Colleges and Plymouth State University, led in part by several UAlbany alumni (Dr. Jason Cordeira, Dr. Eric Hoffman, Dr. Eric Kelsey, and Dr. Nicholas Metz). Research topics ranged from atmospheric rivers to changes in foliage to a wind chill climatology, and students presented their work in a poster session at DAES. In addition to meeting with faculty, DAES graduate students led a series of lightning talks about their own research, and a lengthy Q&A about graduate school. The students toured DAES, ASRC, the NWS, and even visited the weather observation deck on the top of Mohawk Tower. Due to flash flooding, the trip to the New York State Mesonet at Indian Ladder Farms in Voorheesville was canceled, but the REU program will return again in August 2019.

For more information about the program, visit https://www.hws.edu/academics/nepars-reu/.

International Engagement, China

In November 2018 Professors Aiguo Dai and Chris Thorncroft visited Fudan University in Shanghai and the Nanjing University of Information Science and Technology in Nanjing. The purpose of these visits was to discuss programmatic and research collaborations.

VISITING SCHOLARS & PhD STUDENTS (1/1/2018 thru 12/31/2018)

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<th>Visiting Scholars</th>
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<td>Jiechun Deng</td>
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DEPARTMENT HIGHLIGHTS

Study: Peru’s Quelccaya Ice Cap Could Meet its Demise by Mid-2050s

One of the world’s largest tropical glaciers is rapidly shrinking due to warming temperatures

If warming trends continue, Quelccaya, which until recently was the world’s largest tropical ice cap, will have reached a state of irreversible retreat by the mid-2050s, according to a new study led by climate scientist Mathias Vuille and recent Ph.D. graduate Christian Yarleque.

Scientists have observed a shrinking of the Quelccaya ice cap, located in the Andes of Southern Peru, for decades. Though still bigger than nine thousand football fields, at an average altitude of about 18,000 feet, the ice cap’s total area has decreased by 31 percent in the last 30 years.

By analyzing future air temperature projections, Vuille and Yarleque, along with a team of climate scientists and glaciologists, estimate that Quelccaya will be losing more glacier mass due to melting, than it can make up for through snowfall, even at its highest elevation, by about the year 2055.

Once the melting reaches the glacier’s summit – its demise will be inevitable.

“We divide glaciers into two parts. There is the higher part where the glacier gains its mass through snow accumulation, and then there is the melting at the bottom. The equilibrium line is the boundary between the two zones,” said Vuille.

“Our projections show that Quelccaya’s equilibrium line will be located above the summit from the mid-2050s onwards, leading to its eventual complete disappearance. If we continue to burn fossil fuels at current rates, we will soon be locked into an irreversible loss,” he added.

According to the team’s models, the central Andes can expect to see future temperature increases ranging from 3 to 5 degrees Celsius depending on the region, model and emission scenario, by the end of the 21st century.

This warming will not only melt away Quelccaya, but other glacierized surface areas in the region too, including in the Cordillera Blanca and the Cordillera Ampato, where lower elevation glaciers could equally disappear.

Mountain glaciers in the tropical Andes are critical for the millions of people who rely on the melting ice for drinking water, sanitation, agriculture and electricity production. Peru generates about 54 percent of its electricity from hydropower.

“We often think about climate change as a problem that will impact future generations,” Yarleque said. “In this case, we are only looking at about 30 years down the road.”
People who are living in Peru right now will be impacted by the glacier changes in this region.”

The melting of glacial ice that took thousands of years to form also has a symbolic meaning, according to the researchers.

“The shrinking of the Quelccaya ice cap is a visual reminder of what is happening to our environment due to global warming,” Vuille said. “People can see the change right in front of them.”

“We are not going to be able to save this ice cap without major societal changes. What we do today, matters for tomorrow,” added Yarleque.

Other researchers involved with this study included associate professor Oliver Elison Timm, Douglas Hardy of UMass Amherst, and international researchers Jorge De la Cruz (Lima, Peru), Hugo Ramos (Lima, Peru) and Antoine Rabatel (Grenoble, France).

The study was funded by a 5-year, $1 million grant from the Bureau of Western Hemisphere Affairs within the U.S. Department of State, and a 5-year, $5 million grant from the National Science Foundation. The National Oceanic and Atmospheric Administration provided support for instrumentation on the summit of the ice cap.

Students in GEO 221, “Understanding the Earth,” visited John Boyd Thacher State Park west of Voorheesville, New York. During the five-hour field trip, students were introduced to the stratigraphy and paleontology of the sedimentary rocks exposed in both the southern and northern parts of the Park and used the observations they made at various outcrops to reconstruct the depositional environments that existed in the vicinity of the Park approximately 400 million years ago. A highlight of the trip was an excursion along the newly reopened Indian Ladder Trail, which provided an opportunity for the students to examine closely the rocks that make up the Helderberg Escarpment that can be seen rising some 700 feet over the valley west of the Uptown campus. Experiential learning opportunities such as the trip to Thacher Park help bring the concepts the students learn about in the classroom “to life” and are essential components of several courses offered by the Department of Atmospheric and Environmental Sciences.

The photograph shows the students, together with Stephen Howe, the field and lab instructor for the course, and graduate teaching assistant Fangze Zhu, standing on a natural pavement formed by the upper surface of the Devonian Oriskany Sandstone near the trailhead of the Fred Schroeder Memorial Trail off of Carrick Road.
DEPARTMENT HIGHLIGHTS

Modeling Wind Power’s Impact on Local Climate
New Simulations Indicate Both Night Warming and Cooling Effects in Texas Wind Farm Region

In 2012, a study led by UAlbany atmospheric scientist Liming Zhou analyzed nine years of NASA satellite data to present the first observational evidence of turbine induced nighttime warming effects in a west-central Texas region covered with wind farms.

Zhou is now simulating those findings to further understand how wind farms may be interacting with local climate.

In his latest study, Zhou, along with a team of atmospheric scientists, simulated the land surface temperature response of 2,358 wind turbines that are located in the same west-central Texas region as his previous studies. The simulations were conducted during the month of July for seven years from 2003 to 2004 and 2010 to 2014 using the Weather Research and Forecasting (WRF) model, a next generation mesoscale numerical weather prediction system.

Over time, the simulated wind turbines reproduced the satellite observed local warming effect within about one tenth of a degree (0.20 to 0.26 °C on average). However, they also produced a downwind cooling effect (-0.2 °C on average) in the vicinity behind the wind farm region at night: something that was not found by previous studies.

Results were published in December 2017 in the American Meteorological Society’s Monthly Weather Review.

“This is the first numerical modeling study to simulate the impacts of real-world wind farms on land surface temperature driven by realistic initial and boundary conditions,” said Zhou. “The simulated cooling effect has not been confirmed by our satellite observations or any previous field campaigns. If it turns out to be true, it would suggest another potential environmental side effect for large wind farms that requires further scientific investigation,” added Geng Xia, a lead author of the study.

Zhou and his team have hypothesized that the warming effect over the wind farm region is most likely the result of a downward heat transport. The turbine acts like a fan, pulling down warmer air from the higher altitudes to the surface at night. However, the downwind cooling effect could tell a different story. Due to turbine influence, the near-surface stability over the region behind the wind farm increases, providing a favorable condition for heat to the leave the ground.

Those involved with the study caution that additional observations are needed before making definitive conclusions, especially for the downwind cooling effect.
DEPARTMENT HIGHLIGHTS

Modeling Wind Power’s Impact on Local Climate CONTINUED

“Caution should be taken when interpreting the simulated nighttime cooling signal because it has not been confirmed by any previous observations,” said Justin Minder, a co-author of the study and assistant professor.

“More research is needed to fully understand these findings. If the downwind cooling signal cannot be identified in observations, it could suggest a limitation in how the model is representing the mixing of the atmosphere in the vicinity of the turbines. Additional comparisons of simulations with observations should improve the treatment of wind turbine effects in future simulations.”

Wind power has experienced a remarkable growth in recent years and is widely acknowledged as a key resource to reducing the world’s dependence on fossil fuels. It is affordable, creates no emissions and is considered a viable renewable energy option. There are currently more than 52,000 wind turbines in 41 states, producing enough electricity for 25 million American homes.

Zhou and his team are dedicated to studying the interaction between wind farms and climate to ensure sustainable growth for the industry.

“Wind power is playing a crucial role in mitigating climate change by accelerating meaningful reductions in our use of fossil fuels,” said Jeff Freedman, an atmospheric scientist at UAlbany’s Atmospheric Sciences Research Center (ASRC). “We need to understand the physical processes and mechanisms driving the interactions between these large wind turbines and the local weather and climate as wind energy continues its rapid growth as a viable and beneficial alternative to non-renewable polluting energy sources.”

Other researchers involved with this study included Matthew Cervarich at the University of Illinois, Somnath Baidya Roy at the Indian Institute of Technology in New Delhi and Pedro Jimenez at the Research Applications Laboratory in Boulder, Colo.

AWARDS CEREMONY
Honoring Legacies and Celebrating Excellence

On October 12, 2018, DAES recognized seven students at the DAES Annual Award Ceremony. This year the department added a seventh award, funded by the department to recognize a graduate student for unselfish service to the department and community by leading and engaging in activities that provide positive contributions to department life, inclusion and diversity, and the education of the students and the public.

This award, together with the generosity of past and present professors and their families brings us to seven scholarships and awards used to recognize the excellence of both undergraduate and graduate students.

The 2018 recipients are:

- Bernard Vonnegut Teaching Award to Joshua Alland
- Arthur Loesch Scholarship to Jacob Shultis
- Bosart Family Scholarship to Luke Lebel
- Narayan R. Gokhale Research Award to Michael Fischer
- George Tai-Jen Chen, PhD ’71 Scholarship to Chelsea Snide
- Vince and Carol Idone Endowed Scholarship to Terence Allard
- DAES Distinguished Service Award to Matthew Vaughan

From left to right, Luke LeBel, Terence Allard, Matthew Vaughan, Joshua Alland, Jacob Shultis, Michael Fischer, Chelsea Snide
DAES continued to strengthen our connections with the local community through hosting numerous outreach events over the past year while forging new partnerships with local education groups. 9 graduate students continued the tradition of visiting Voorheesville High School in March to teach atmospheric physics to several science classes. The department’s Sixth Family Earth Day again featured “weather friends” who gave out signed trading cards to attendees as they visited various science demonstration tables staffed by more than 25 other DAES students and faculty. Rise High, a Schenectady-based education program committed to exposing youths from under-resourced communities to opportunities in STEM fields, visited the department in April as a part of their spring curriculum to learn about career opportunities in weather and climate.

In July, Girls Inc, working to inspire girls to be strong, smart, and bold, held their 4-week Eureka! summer science program at SUNY Albany, with DAES and ASRC hosting a week-long segment on atmospheric science. Professor Justin Minder continued running the UAlbany Weather Camp for the fourth time, featuring DAES graduate and undergraduate students assisting Dr. Minder with atmospheric science activities for camp participants during the second week of August. In September, DAES students performed demonstrations, operated a green screen, and served on the planning committee for the Science Festival at the Museum of Science in Schenectady.

K-12 outreach was a strong component of DAES service during the Fall semester with graduate students visiting Guilderland Elementary and the Bet Shraga Hebrew Academy of the Capital District to give demonstrations on storm surge, cloud formations and other weather related topics. Finally, several DAES women visited Reid Middle School in Berkshire county, Massachusetts as part of the Flying Cloud Institute’s Young Women in Science program to serve as mentors and perform atmospheric science demonstrations for 6th and 7th grade girls interested in STEM fields.

DAES Hosts 9th Annual Alumni Reception in Austin, Texas

On January 9, 2018 DAES hosted the 9th annual alumni reception at the American Meteorological Society (AMS) annual meeting at the Hilton Austin Downtown. Over 150 faculty, students, alumni and friends of the department were in attendance.

Special thank you to the Accuweather, Albany Alumni Association, MESO, Riskpulse, and Weather Routing for sponsoring both the event and for sponsoring travel for eight undergraduate students.

Join us on Tuesday January 8, 2019 6:00pm – 9:00pm at the 10th annual alumni reception in Phoenix, Arizona. Alumni and friends of the department are welcome to attend.
The Department of Atmospheric and Environmental Sciences (DAES) welcomed 19 new graduate students for the Fall 2018 semester, our second largest incoming class. As a result of this influx of new students, DAES now has 79 graduate students, which makes us one of the three largest atmospheric science graduate programs in the United States. The incoming class hails from nine different states, four different countries, and includes seven female students, who will research topics such as how hurricanes form, the predictability of Arctic storms, and the effects of atmospheric chemistry on climate. Fifteen of the 19 new students are supported on NSF, NASA, NOAA, and Office of Naval Research grants attained by DAES and ASRC faculty.

Left to right: Mansour Riachy, Cameron Paquette, Chin-An Lin, Cidny Ramirez, Zhaoxiangrui He, Alex Mitchell, Katrina Fandrich, Tyler Leicht, Mike Main, Jonathan O'Brien, Alex Tomoff, Thomas Favata, Krista Dotterer, Rebecca Orrison, Emily Paltz, Christopher Lawrence, Peyton Capute, Yichen Cai. Not pictured: Brianna Lydon.

Congratulations Class of 2018!

Commencement Student Awards, Class of 2018

Outstanding ATM Students: Mike Main and Marqi Rocque
Outstanding ENV Student: Robert O’Lansen
Atmospheric Science Program Best Forecaster: Mike Main

Bachelor of Science – Atmospheric Science
Ashley Petersen, Briah’ Davis, Cidny Ramirez Martinez, Cameron Paquette, Erin Lynch, Josephine Crouch, Leann Anthony, Matthew Brewer, Michael Main, Michael Muhlhausen, Mansour Riachy, Marquette Rocque, Rosa Vargas Martes

Bachelor of Science – Environmental Science

Large Wave of PhD Students Graduate

During the 2017-2018 academic year, the department had a record number of students who completed PhD degrees. Between Summer 2017 and Spring 2018 semester, 15 students successfully defended his/her Ph.D. by carrying out research into diverse topics, such as agricultural forecasting, land surface modeling, flooding, tropical cyclones, and the stratosphere. Furthermore, two students (Rosimar Rios-Berrios, Geng Xia) were selected for the University’s distinguished doctoral dissertation award. Our graduates are currently working as scientists at several federal agencies (NCAR, NASA, NOAA, NRL), private companies, and international universities. Congratulations to the Class of 2018!
WELCOME NEW POST-DOCTORALS

Dr. Ernesto Tejedor Vargas

Dr. Ernesto Tejedor Vargas earned his Ph.D. from the University of Zaragoza (Spain) in May 2017. Tejedor’s Ph.D. research focused on understanding past climate variability, particularly that which precedes the pre-industrial era, through the combination of high-resolution proxies (such as tree-ring records) and Climate Model Simulations. In July 2018, he joined the research group of Dr. Mathias Vuille at UAlbany and is currently working on the PIRE Create project to better understand Last Millennium climate variability and societal impacts over the Americas.

Dr. Alexander ‘Sasha’ Keyel

Dr. Alexander ‘Sasha’ Keyel completed his Ph.D. at Tufts University, and has previous postdoctoral experience at the University of Goettingen in Germany and at Colorado State University. His research aims to bridge the climate research at the Department of Atmospheric and Environmental Sciences at University at Albany and the vector and disease expertise at the Wadsworth Center. Currently, he is working on forecasting West Nile virus outbreaks as part of a larger regional collaboration.

Dr. Chunlue Zhou

Dr. Chunlue Zhou earned his Ph.D. of Atmospheric Science at Beijing Normal University in June 2018. His research focused on land-atmospheric interactions and regional temperature/precipitation changes by use of in-situ observation, satellite and climate modeling. Specifically, he has reconstructed high-frequent homogeneous near-surface air temperature dataset to quantify the modeling biases in reanalyses and explore the causes; he has also independently put forward a suite of methods to isolate relative contributions of human influence and natural variability to temperature/precipitation extremes via observation-model data integration, and further investigated the attribution uncertainties. After graduating, he joined in the NOAA-funded project as a postdoctoral associate co-led by Prof Aiguo Dai and June Wang at UAlbany and is currently working on homogenization and analysis of daily radiosonde data, which will be beneficial for the use in atmospheric reanalyses and studying extremes.

GRADUATE DEGREE RECIPIENTS

The department is proud to announce the recent Masters and Ph.D. graduates of Atmospheric Science.

Masters:  Fall 2017: Jonathan Blufer, Zachary Murphy, Michaela Rosenmayer, Rebecca Steeves
Spring 2018: Kaitlyn Krzyzaniak, Yilin ‘Ellen’ Lu
Summer 2018: Eric Bunker, Macy Howarth, Siyu Li

Ph.D.:  Fall 2017: Matthew Gibbons, Benjamin Moore, Philippe Papin
Spring 2018: Hannah Attard, Alicia Bentley, Travis Elless, Charles ‘Chip’ Helms, Yangyang Song, Stephanie Stevenson, Geng Xia, Christian Yarleque
Summer 2018: Patrick Duran, Michael Fischer, Sergey Kivalov, Robert Setzenfand
ALUMNI NEWS

Jason Dunion (PhD ’15) along with Professor and Chair Christopher Thornicroft, were presented with the Banner I. Miller award for their paper titled, “The Tropical Cyclone Diurnal Cycle of Mature Hurricanes.”

Patrick Duran (PhD ’18) started working as a Research Associate at NASA in Huntsville, AL in August 2018. He also won the Max Eaton Prize at the AMS Hurricanes and Tropical Meteorology Conference in April 2018.

Michael Fischer (PhD ’18) started working as a National Research Council Postdoctoral Fellow at the Hurricane Research Division of NOAA in August 2018. Michael was also the recipient of the Outstanding Oral Presentation at the AMS Hurricanes and Tropical Meteorology Conference in April 2018.

Reid Kisselback (BS ’17) is a broadcast meteorologist at WKTV in Utica, NY.

Erin Lynch (BS ’18) is a member of AmeriCorps (National Civilian Community Corps).

DJ McGuinnes (BS) accepted a position as meteorologist with Weather Routing, Inc., in Glens Falls, NY.

Kyle Pallozzi (BS and MS ’17) is working at the National Weather Service in Sterling, VA.

Philippe Papin (PhD ’18) won the Outstanding Poster award at 2018 AMS annual meeting.

Rosimar Rios-Berrios (PhD ’17) and Geng Xia (PhD ’18) received the 2017-2018 Distinguished Doctoral Dissertation Award. This prize is awarded to the best dissertation in any field in the College of Arts and Sciences.

Nicholas Schiraldi (PhD ’17) is the Data Analytics and Visualization Specialist at UAlbany.

Stephanie Stevenson (PhD ’18) started working as a Research Scientist at the National Hurricane Center in Miami, FL, November 2017.

STUDENT NEWS

Graduate students Joshua Alland and Jeremy Berman spent part of the summer conducting research at the National Center for Atmospheric Research (NCAR). The visit was supported through participation in NCAR’s Graduate Visitor Program.

Jeremy Berman received the Best Student Oral Presentation Award at the AMS 29th Conference on Weather Analysis and Forecasting (WAF)/25th Conference on Numerical Weather Prediction (NWP) in Denver Colorado.

Students Patrick Duran and Michael Fischer were both awarded for their presentations at the American Meteorological Society Hurricane and Tropical Meteorology Conference.

PhD student, Jennifer Gahtan, placed 2nd for her oral presentation at the 2018 AMS annual meeting.

Undergraduate students Luke LeBel and Katy Hollinger received the 2018 NOAA Ernest F. Hollings Undergraduate Scholarship.

Senior undergraduate Environmental Science major, Aleks Siemenn won the AGU’s Data Visualization and Storytelling Contest.

Senior Chelsea Snide attended the NCAR Undergraduate Leadership Workshop in Boulder, Colorado.

PhD student Brendan Wallace won the Best Student Oral Presentation Award at the 2018 AMS Conference on Mountain Meteorology.

STAFF NEWS

Ross Lazear received the College of Arts and Science 2018 Dean’s Award for Outstanding Achievement in Teaching.

Kevin Tyle (MS, ’95) was honored for his book, Synoptic-Dynamic Meteorology Lab Manual at the College of Arts and Sciences Authors and Artists event.
Assistant Professor Andrea Lang was selected to participate in the American Meteorological Society’s inaugural Early Career Leadership Academy.

Associate Professor Justin Minder received the 2018 UAlbany Presidential Award for Exemplary Public Engagement for his work on the UAlbany Weather & Climate Camp. He also won the AMS Mountain Meteorology Outstanding Early Career Award.

Department Chairman and Professor, Christopher Thorncroft, along with DAES graduate Jason Dunion ’15 were presented with the Banner I. Miller award for their paper titled, “The Tropical Cyclone Diurnal Cycle of Mature Hurricanes.”

GCOS Reference Upper-Air Network (GRUAN) named Junhong Wang as co-chair of the Working Group to the network.

THANK YOU DONORS!
July 1, 2016 thru June 30, 2017.

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Teresa M. Bals-Elsholz, Ph.D. ’01
Randell J. Barry, Ph.D. ’83
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Amanda Bevacqua
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Dr. John Zack
Daniel A. Zelinski ’72
Patricia E. Marcune Zelinski ’73
Liming Zhou, Ph.D.
What got you interested in meteorology?

I grew up in Minnesota - and Minnesota has all the weather you can dream of! Everyone knows about the extreme winter cold, blizzards, and snow, but don’t forget the spring tornadoes, the summer heat (dewpoints higher than Miami), and fall droughts. Like many meteorologists, I simply became fascinated with the power, grace, and mystery of it - starting around age 12. My Grandpa and Dad would always talk about the weather, and they likely influenced my interest as well.

What made you choose UAlbany for your graduate studies?

I had an interest in operational forecasting and wanted desperately to work for the National Weather Service. UAlbany was just awarded one of the first Collaborative Science Technology, and Applied Research (CSTAR) Program grants to sponsor graduate student projects relevant to operations. Check! But also my undergraduate professor was Dr. Bob Weisman. Bob had earned his Ph.D. at UAlbany in the late 80s and came to Minnesota to teach. I resonated with his synoptic and mesoscale knowledge and teaching approach, and his connection to operations. Why not go where he went?

Give us a synopsis of what you enjoyed about the program.

It was both challenging (who uses tensors!?) and supportive. In many ways I had choices of what to pursue in both classwork and research. I also enjoyed the Teaching Assistant work - as explaining “why the sky is blue” is actually not that easy and it makes you better. The teachers were terrific in their knowledge and leadership. I remember one off-handed remark in the first semester to the effect of ‘accuracy matters when you will be a manager and supervisor’. I hadn’t even thought I could rise to those ranks at the time. And most of all, I enjoyed the bonds and comradery of classmates as we would study together, challenge each other, and support each other.

Who were your most memorable professors or courses at UAlbany?

Lance Bosart - who else comes direct just from testifying on snowstorms on Capital Hill to the classroom with thoughtful puns galor? Lance taught me the connections between all scales and it’s OK to enjoy all of it. Dan Keyser, who taught me the importance of being exact and mentored me in research approaches. And Chris Thorncroft, who gave me a shot to be his very first Teaching Assistant for Dynamics. We had fun.

Comment on how your career trajectory has evolved following the completion of your Ph. D.

Yes, there’s the hard work and long hours, but there were so many 'happenstances' in my career trajectory - and part of it is having the courage to take a chance and say 'yes' to the unknown. My very first opportunity job opportunity was a posting on a job board for a Fire Weather Technician at the National Weather Service Office in Fairbanks, Alaska. I took the chance to apply - received an interview, was offered the job (I was their second choice). Now, they gave me two weeks to get up there. I quickly organized and headed to Fairbanks. It was terrific! Fast forward a few years and I entered the National Weather Service at a Regional Headquarters on Long Island - talk about culture shock for a Minnesota boy! Fast forward several more years and somehow I found myself in the position of applying for a Senior Executive Position (Director of the Weather Prediction Center) at age 35. Recently, I’ve said ‘yes’ to challenging and uncomfortable assignments at Headquarters - each time learning and expanding my view of weather forecasting and the weather enterprise. Saying ‘yes’ to the unknown is important. Overall I’m so very grateful for my educators, my mentors, and my supportive family who make it all possible.
Professor Daniel Keyser received his undergraduate and graduate degrees from the Department of Meteorology at The Pennsylvania State University. He received a B.S. with highest distinction in 1975, his M.S. degree in 1977, and his Ph.D. degree in 1981. He held research meteorologist positions with Research and Data Systems, Inc. in 1981–1982 and NASA/Goddard Space Flight Center from 1982–1987 where he was affiliated with the Severe Storms Branch of the Laboratory for Atmospheres. He joined the faculty of the Department of Atmospheric and Environmental Sciences at the University at Albany/SUNY as an Associate Professor in 1987. He became a Full Professor in 1992, a position he holds today. Professor Keyser has won numerous awards including the Editor’s Award (Monthly Weather Review) from the American Meteorological Society in 1989 and the Clarence Leroy Meisinger Award from the American Meteorological Society in 1989. Professor Keyser also was elected as a Centennial Fellow by the College of Earth and Mineral Sciences at The Pennsylvania State University in 1996. Professor Keyser became a Fellow of the American Meteorological Society in 2005. More recently, Professor Keyser received the prestigious Edward N. Lorenz Teaching Excellence Award from the American Meteorological Society in 2014.

Professor Keyser’s research interests are in the broad area of synoptic-dynamic and mesoscale meteorology. He has devoted his career to bridging the gap between theory and observation through the application of dynamical models and atmospheric diagnostics to a wide variety of weather systems. He has made seminal research contributions in the area of extratropical cyclones, fronts, jet streaks, banded precipitation systems, coherent tropopause disturbances, inertia-gravity waves, and extreme weather. Professor Keyser has published numerous very influential and widely cited refereed journal articles on these subjects. Professor Keyser has taught lower-division courses in introductory atmospheric science, upper-division courses in atmospheric thermodynamics and dynamics, and graduate-level courses in synoptic-dynamic meteorology, the structure and dynamics of extratropical cyclones, and mesoscale dynamics. He has also sponsored or cosponsored six postdoctoral scholars and he has advised or coadvised more than 40 graduate students. Professor Keyser’s receipt of the prestigious Edward N. Lorenz Teaching Excellence Award from the American Meteorological Society in 2014 attests to his broad, deep, and continuing contributions to the education of generations of undergraduate and graduate students.

Professor Keyser also played a major role in establishing the UAlbany CSTAR (Collaborative Science Technology and Applied Research) program with National Weather Service (NWS) in 2000. Professor Keyser, along with NWS-Albany then Meteorologist-in-Charge Eugene Auciello, was instrumental in getting NOAA to award the Department of Atmospheric and Environmental Sciences at the University of Albany a three-year CSTAR research grant. This grant supported five graduate students and focused on the occurrence and prediction of high-impact and extreme weather events in the Northeastern United States. These high-impact weather events, which included damaging winds and hail, widespread and localized flooding, and heavy snow and ice accumulations, had the potential to cause substantial societal and economic disruption as well as significant urban dislocation. The CSTAR program at the University at Albany, which continues today under the able leadership of Professor Kristen Corbosiero, has been very successful and attracts graduate students from all over the country. Graduate school applicants in the atmospheric sciences clamor to attend graduate school at the University at Albany because of research opportunities available through the CSTAR program thanks to Professor Keyser’s visionary thinking 20 years ago. CSTAR-funded research benefits graduate students, NOAA/NWS operations, and the broader scientific community.
Prof. Robert G. Keesee retired this past August after a long and productive period as a DAES faculty member. Bob arrived at U-Albany in the summer of 1991, after several years as an Assistant Professor of Chemistry at The Pennsylvania State University. Prior to that, he was an Associate Program Director at the NSF. He also spent time as a Research Associate at NASA-Ames and the Department of Chemistry at The University of Colorado, Boulder. He received his doctorate in Physical Chemistry from the University of Colorado, Boulder, in 1979. An atmospheric chemist by training, Bob would contribute to the department and our program in many ways beyond his original research expertise.

One of his greatest contributions was to serve as the head of the Graduate Committee for many years, an administrative role that he carried out with particular distinction and attention to detail. His tenure in this role is a department record, without question.

Bob is renowned for being affable and manifesting a ready sense of humor, often accompanied by a hearty laugh. This was obvious to all who interacted with him. What was not so obvious is that Prof. Keesee was a truly dedicated instructor, often demonstrating incredible patience in dealing with students. Indeed, there were several occasions when I left my office (next to Bob’s) and noted Bob working with a student, only to return hours later and find him still working with the same student.

Bob taught a wide range of courses, many of which he was asked to create to address critical programmatic needs. With enthusiasm and genuine commitment, he developed courses like Air Quality, Sustainable Development: Energy and Resources, and Introduction to Environmental Science. Certainly, these courses were critical to building our undergraduate Environmental Science program. Indeed, Prof. Kessee contributed to the original proposal to initiate this degree, and he has made major contributions throughout. Bob also taught large General Education courses. In dealing with the same instructional challenge, I can state unequivocally that my conversations with Bob on this issue were decidedly beneficial.

Lastly, Prof. Keesee has not just taught about the environment. He has practiced environmentalism and sustainability. He would often cycle to work, sometimes even during snowstorms! He also served as the faculty advisor to the U-Albany Students for Sustainability. The University community recently recognized his longstanding efforts in this regard by designating him as the Fall 2017 faculty recipient of the Terra Award (https://www.albany.edu/gogreen/5.Past_Terras.shtml). As noted by the University in designating this honor, “His passion is infectious and he has inspired our students who share his interest to be involved and feel connected to the school.”

We wish Prof. Keesee the very best in his well-deserved retirement. He has already become involved with assisting the Albany Pine Bush Preserve Commission, and he has told us that he has “plenty of projects to tend to at home.” We are happy for him, but we will miss his collegial presence and his considerable teaching acumen.
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