
Department of the Earth Sciences Newsletter

SUNY College at Brockport, Fall 2015

Alumni Fellowship

Randy Chase (Meteorology '16) was awarded a NASA Earth Systems Science fellowship for continuation of his graduate studies in atmospheric science at the University of Illinois.



Ernest F. Hollings Scholarship

Aidan Kuroski (meteorology, water resources)

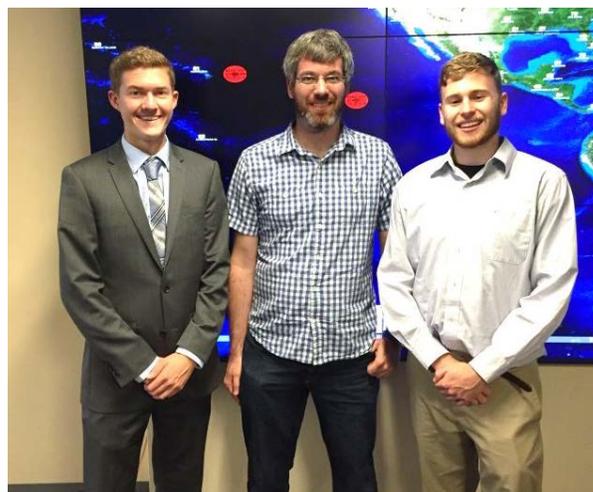
As part of the NOAA Hollings Scholarship that I received last year, I spent the summer on a research project with the National Weather Service Office in Wichita, KS. My mentors for this project were Kenneth Cook and Jerilyn Billings-Wright and both helped me in many ways, including adjusting to life in Wichita. My research focused on using Dual-Polarization radar to see if there are features that could be useful in operational forecasting. I examined Differential Reflectivity (ZDR) columns to determine if they could show characteristic of a storm and its structure. After several weeks of investigating tornadic storms, I discovered signatures that were visible prior to tornadic formation in supercell thunderstorms. This could potentially be useful, and I am continuing this project for my senior research project at Brockport. This experience provided lots of useful skills outside of research because I was living on my own in a place that I knew

little about, knowing very few people and without a car. I also learned about the small differences in culture compared to home, and that red meat is much tastier in Kansas! Overall this was a great experience that will help me in my career as well as my daily life.

National Science Foundation Research Experience for Undergraduates 2015

Randy Chase (meteorology, water resources)

This summer I was invited back to Pennsylvania State University as part of their REU on climate science and meteorology, funded by the National Science Foundation. I was one of 13 students selected from around the country. I continued my research on the redistribution of ozone in the lower atmosphere with Dr. Jose Fuentes and Dr. Tobias Gerken. My part of the project examined the transport of mid-tropospheric ozone to the surface by downdrafts in storms for two sites in the Amazonian region. I will be presenting my research at the American Meteorological Society Annual Meeting in New Orleans, LA. With the experience from this program, I feel ready to pursue my interest in meteorology in graduate school.



Summer Research 2015

Grant Barney (earth science)



During the summer of 2015, I participated in the Institute of Engaged Learning Summer Research Program at SUNY Brockport. My project examined the potential influence of climate change on discharge in streams in the northeastern U.S. I looked at annual peak discharge, daily mean discharge, annual precipitation, number of days with more than 0.5 in of precipitation, and annual peak precipitation for 33 stream gauges in rural areas. I used common statistical methods as well as ArcMap GIS to analyze the data. I found a general increase in all five variables through time. The increasing trends in precipitation and discharge suggest that climate change is influencing stream discharge. In addition there seems to be a faster rate of increase in annual peak discharge nearer the Atlantic Coast. Increasing discharge in the Northeast could increase the potential risk for flooding in the future. This research will be presented at the Geological Society of America Annual Meeting in Baltimore, MD.

Dominique Adams (geology)



This past summer I returned to the Wyoming Dinosaur Center, Thermopolis, WY, as a staff member. Each day I guided a new family as they dug in one of the museum's active quarries and learned how to remove bones from the rock in the fossil preparation lab. Every family was different and it was exciting to work with such a variety of people. On my days off, I worked on my senior research project. I will be doing a geochemical analysis of black shales. While in Wyoming, I took samples of the Mowry and the Thermopolis shales, which I brought back to Brockport for analysis. I will be looking for geochemical evidence for changes in sea level when the shales were deposited about 100 million years ago.

Amanda Burke & Jillian Reynolds (meteorology)



Over the summer we worked with Dr. Jessup to develop a database of severe weather events (tornadoes, severe thunderstorms, flash floods, hail) in the northeastern U.S. Radar data for flash flooding events were examined to determine areas of highest rainfall. Data from the National Climate Data Center was collected to determine where the highest rainfall occurred. The timing of flash floods was then determined by when high reflectivity crossed the area of heaviest rainfall. In addition, we classified flash flooding events by their shape, orientation and persistence. With this information, operational forecasters in the Northeast could identify what could produce severe flash flooding.

Internships 2015

Emily Noonan (meteorology)

For the past two summers I have interned at WETM 18 News in Elmira, NY. Through this process I found an even greater passion for broadcast meteorology. This past summer was one of the most eye opening experiences of my

life and profession. I broadened my knowledge of the media and broadcast world. I shot and edited video as well as created voice overs, all of which are very important in a broadcasting



career. Not only was I able to present my forecasts on the green screen, but I was able to go out into the field to do something I had never done before, reporting. I had one-on-one interviews with people in the community. This was a valuable experience because it will open up opportunities for me after graduation that I had never imagined.

Katelynn Groh (earth science)

For this academic year, I am interning with the American Red Cross of Greater Rochester, under the supervision of William Platt, Disaster Specialist, and Jose Latalladi, Disaster Program Manager. Since I have been there, I have been part of an airport drill, practicing what the Red Cross would do if there was an accident at Rochester International Airport; trained as a presenter for the Pillowcase Project, a preparedness education program for children in grades 3-5; and trained for the WRECK-IT Drill, where all emergency management departments practice their emergency procedures. Bill and Jose have much more in store for me in the coming months, helping me to learn more about Emergency Management, a career I want to pursue after I graduate in May.

Alex Steria (geology)

This past summer I interned with the Wyoming Dinosaur Center, a small paleontology museum. It was an amazing experience working in the field on dinosaur excavations and in the lab to remove rock from the bones. I would recommend this internship to any geology student even if you don't intend to work in paleontology. The people there are amazing and fun to work with.

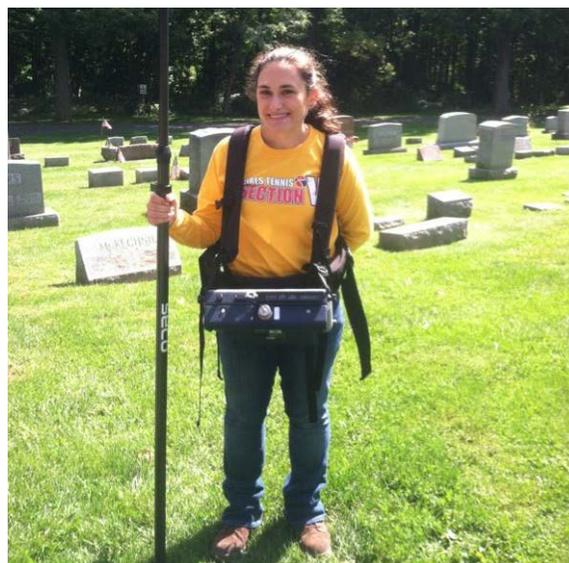
I had a great time and would definitely go back and either visit or work for them again

Jessica Camuto (meteorology)



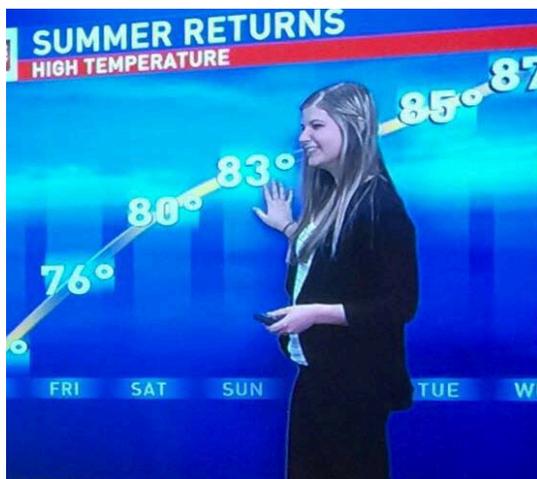
This past summer I interned at WHAM-TV in Rochester. I worked alongside Chief Meteorologist Glenn Johnson, a Brockport alumnus, and meteorologists Mark Mclean and Kaylee Wendt, a 2013 Brockport graduate. I prepared five-day forecasts, which I then compared and discussed with Glenn Johnson. I also updated the 13-WHAM Weatherline, added daily data to the website, and created animations for the evening broadcast. In addition, I also worked with the green screen to better develop my presentation skills. This experience has increased my knowledge of broadcast meteorology, the career that I wish to pursue. My favorite part of my time at WHAM was working with the green screen. I felt like a natural the first time I worked with it

Nicole DeRose (geology)



Over the summer I worked for the Genesee County AmeriCorps by surveying a 10.75 acre cemetery in Leroy, NY. My first step was digitizing the headstones from oblique photography using the Pictometry Online Interface environment. Using a GPR (ground penetrating radar) system, I created profiles along existing graves to determine the presence of caskets. This involved pulling a control unit, with an antenna that sent pulses of radar energy into the ground, through the rows of headstones. Then, I used a RTK (real time kinematic)-GPS to create a set of files that could be uploaded to ArcMap to create maps of the cemetery. This opportunity has given me experience in collecting and interpreting ground penetrating radar data, as well as using an RTK-GPS for surveying.

Laura Myers (meteorology)



This summer, I spent two months working with Chief Meteorologist Glenn Johnson at WHAM-TV. Every day I made a seven-day forecast and then compared it with Glenn's. We would have an in depth discussion of the similarities and differences in our forecasts, and then I would

Class of 2017 Senior Seminar Projects

Miles Bliss: Effect of a shortwave trough on the resulting snow-to-liquid ratio of lake effect snow events occurring in the Tug Hill Plateau.

Jessica Camuto: Comparison of EF1 Tornadoes in Oklahoma & Waterspouts off the Key West Coast.

Michael C. Byrnes: The influence of topography on severe thunderstorms in the Hudson River Valley

Cecilia McCaffrey: Testing Wave Height Prediction Models on the Long Island Coast

Jillian Reynolds: Influence of severe weather on flood-producing rainfall

Alex Steria: Possible locations in Onondaga County for a new landfill using GIS mapping of soil types and other urban planning criteria.

Jeremy Kilbury: Source identification of salt contamination in a well water supply

Amanda Burke: Prediction and identification of microbursts in the northeastern U.S.

Kristian Oliver: An analysis of parameters involved in hurricane-induced tornadoes

Briana Walker (meteorology)



.use his forecast to update graphics, the website, and the weather line. My favorite part of the internship was getting to watch Glenn in the studio during live broadcasts, and trying out the green screen myself. I recommend this internship to any meteorology major who wants to get into operational or broadcast meteorology.

This semester I have an internship at WHAM-TV

performing various tasks that meteorologists complete on daily basis. I have improved my forecasting skills by creating daily forecasts and comparing my forecasts those of chief meteorologist Glenn Johnson. I record phone forecasts for the WHAM Weatherline, create weather graphics, and update forecasts for the stations website. I can also observe the evening news broadcasts inside the studio. I have begun working on the green screen, with guidance from meteorologist Kaylee Wendt, a recent Brockport graduate. This internship has allowed me to experience the daily tasks of a broadcast meteorologist. None of this would be possible without the opportunities I have had in the SUNY Brockport meteorology program, and the supportive professors who have guided me along the way. I will be graduating in May with many mentors eager to see me succeed in broadcast meteorology.

For more information on our programs and students, visit our website:
<http://www.brockport.edu/esc>
or call the Earth Sciences department at 585-395-2636 to arrange a visit.