

New Physics Faculty Member

Students Present Research at AGU Meeting

New Wind Tunnel

May 2013 Graduates

Society of Physics Students News

New ΣΠΣ Inductees

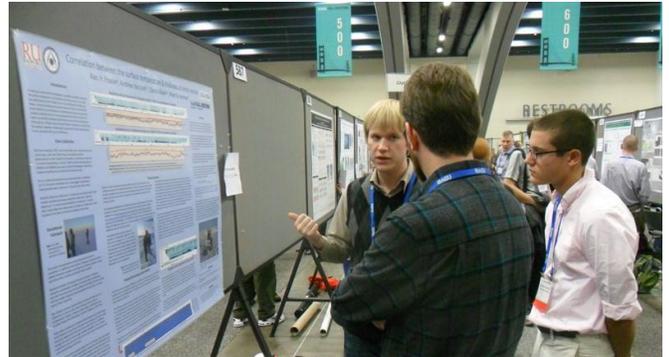
New CSAT Building Update

Our Newest Physicist

Dr. Shawn Huston will join the Department this summer. Dr. Huston received his BS in Physics from Ball State University in 2006, and his MS (2009) and PhD (2012) degrees in Physics from NC State University. For the past 2 years he has been a Visiting Research Professor at Appalachian State University. During his time at NCSU, he was responsible for designing, constructing and operating an in-house-built ultra-high vacuum cryogenic combination scanning tunneling/atomic force microscope. He used this instrument to study the surface physics of organic thin films, working to determine the morphological and electronic structures of submonolayer growths of these films. His work was motivated by the growing field of organic electronics. He mentored a number of undergraduate students while at NCSU and AppState, and we look forward to his continued work in the STM/AFM field with our students. A more thorough interview with Dr. Huston will appear in our Fall Newsletter.

Students Present Research at the AGU Meeting

Two students from the 2012 Arctic Geophysics class traveled to San Francisco December 3-6 to present their research on the Arctic sea ice. Alec Frazier (junior Physics major) and Andrew Vaccaro (Southwest Virginia Governor's School/Radford High School) worked with Dr. Herman and Mr. Dan Blake (Southwest VA Governor's School, RU Physics Adjunct Instructor) to find a correlation between the temperature of the surface of the sea ice and the thickness of the ice.



Alec Frazier (left) and Andrew Vaccaro (right) present their work to an ice researcher at the Fall 2012 AGU Meeting.

The February/March 2012 research trip to Barrow, Alaska was the most challenging trip to date for a number of reasons. One of these was the group experiencing the coldest temperatures so far on this trip, with wind chills approaching (-)60°F. This led to a number of equipment malfunctions and even some equipment breakages. However, by the end of the two weeks, the groups had obtained their data. The group deployed a new infrared sensor designed by Dan Blake and his students to determine the temperature of the ice surface to $\pm 0.1^\circ\text{C}$. The data from this instrument had a strong visual correlation with the data obtained by the OhmMapper electrical resistivity array—further work is ongoing to establish a statistical correlation between the two data sets.

New Wind Tunnel



In the spring of 2006, RU Physics graduate Nathan Tatman built a wind tunnel and studied fluid dynamics for his Senior Honors Thesis. In September 2012, RU obtained a new wind tunnel to take its place. From Hampden Engineering Corporation, the new equipment is a marvel, with a 12-inch-by-12-inch test section, a number of probes and test sections, and the capability of sustained wind speeds of 150 miles per hour! Students have already been working with the wind tunnel, with more scheduled to start a regular rotation this coming fall.

May 2013 Graduates

There were 7 Physics graduates on May 11. Two of the grads were in the 3:2 Physics/Engineering program with Virginia Tech and were participating in their “first graduation” (Tech’s graduation was the week after RU’s). Pictured here in front of Reed Hall are (l-r) Liz G. Boysha (and her son Niko, named after Nikola Tesla!), David Roop (Physics/Electrical Engineering), Daniel Wirdzek (Physics/Electrical Engineering), Matt Trayer, JP Venable, and Marc Eaton. Not pictured: Rocky Brown II.



Society of Physics Students



The Society of Physics Students had a busy year in 2012-2013. Led by President Matt Trayer and the other officers, the SPS participated for the first time in the RU Scream Halloween program, sponsored by Residence Life. The SPS created and staffed a Haunted House in Reed 119 and had a number of kids visit their setup of mummies, Tesla coils, black light, witches, spooky sounds, and other scary things.

They visited the NASA Langley Research Center over spring break, exploring a number of wind tunnels and talking with aerospace researchers. They sponsored a talk on the historical foundations of Quantum Mechanics, presented by Dr. Rhon Keinigs. Dr. Keinigs is a physicist who retired from the Los Alamos National Laboratories and who settled in Radford. They helped the physics faculty host the Fall Meeting of the Chesapeake Section of the American Association of Physics Teachers.



New ΣΠΣ Inductees

On March 21, 2013, five new inductees were accepted into ΣΠΣ, the Physics Honor Society. Congratulations to Alec Frazier, Jon Hefta, Sarah Montgomery, Brian Uthe, and Andy Andis. Unlike previous years, none of these new students are graduating (although Jon is headed to Tech under our 3:2 program). Thus ΣΠΣ will have a full complement of members for the coming year.



New CSAT Building Update

The new CSAT building ran into some delays this year, ironically enough due to the improving economy. The state of Virginia had approved \$42 million for construction (this does not include several \$million for planning and contents) of the building. However, in early November of 2012, the bids came in at \$49 million. According to Chris Willis, Assistant Vice President and Chief Facilities Officer, bids were higher due to the improving economy, with contractors no longer being so desperate for work and thus raising their bids. It took nearly 8 months, but the building was slightly redesigned and construction is again in progress. The original completion date of Fall 2014 is now summer of 2015. However, the wait will be worth it.



Image taken from the roof of Curie Hall, looking where the Curie parking lot used to be. The new planetarium will be near the light-blue plastic towards the left of the picture.

Nothing functional has been lost due to the re-design re-bidding process. What has been reworked involve features that were not essential to the programs that are scheduled to occupy the building. For example, tens of thousands of \$\$ were saved by having a single distilled water pump in the building, instead of piping distilled water into most of the labs in the building. The dome of the planetarium was originally scheduled to be zinc cladding, but it's now going to be clad in a different, cheaper, but just-as-nice (this author will personally vouch for that) stainless steel. The hoped-for green roof on top of a small part of the Main Street Floor will no longer be green, and the bio-wall will not be installed. However, everything is in place for their future installation if (when?) donors can be found to allay those costs. The bottom line is that the building will still be amazing, with nothing removed that will affect any programmatic offering that we (faculty on the Building Committee) had planned.

Contact Us

Let us know what you're doing, how you're doing, and where you're doing it!

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Online

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