

FROM THE DEAN'S DESK – October 28, 2016

THE RADFORD UNIVERSITY COLLEGE OF SCIENCE AND TECHNOLOGY NEWSLETTER



Radford University President Brian O. Hemphill and College of Science and Technology Dean Orion Rogers prepare to cut the ribbon marking the official dedication of the Center for the Sciences on October 14, 2016.

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CENTER FOR THE SCIENCES DEDICATED AS A PART OF CELEBRATION WEEKEND

Radford University formally celebrated the opening of the new Center for the Sciences on Oct. 14, and humans weren't the only participants.

Drones had a role in the ribbon-cutting and dedication ceremony for the \$49 million, 114,000-square-foot facility, which officially opened for classes in spring 2016. In addition to state-of-the-art classrooms, laboratories and office spaces for the departments of biology, chemistry and anthropological sciences, the building also houses:

- The Artis Computing Laboratory for Biological Sciences
- The Forensic Science Institution
- The Novozymes Bioinnovation and Teaching Lab
- The Museum of the Earth Sciences
- A fully-digital planetarium featuring 55 theatre-style seats and an enhanced projector system.



Radford University President Dr. Brian O. Hemphill assisted in making ice cream using liquid nitrogen. It was delicious.

"This building is a gateway to the wonder and power of science and technology for our campus community and the New River Valley and Southwest Virginia communities," said Radford University President Brian O. Hemphill at the ceremony. "Inside our students and faculty will embark on challenging projects that will enable students to be immersed in collaborative learning."

Special guests acknowledged at the event included Board of Visitors member Mary Ann Hovis '65, benefactors and donors Nancy '73 and Pat Artis and Mark '84 and Cindy Hanna, Del. Joseph Yost, representatives on behalf of Sen. Mark Warner and Rep. Morgan Griffith, as well as Radford City Mayor Bruce Brown, Vice Mayor Dick Harshberger and City Manager David Ridpath.

On behalf of the student body, mathematics and biology major Hanna Mitchell shared how the new facility has already transformed her educational experience and become a "second home."

"This building is a dream-come-true, and I know others feel the same," Hanna said. "The ability to literally hide in a corner of the building and study genetics is something I dreamed about in high school."

Radford City Public Schools Superintendent Robert Graham, also in attendance, spoke of the exciting partnerships the center will spark between the city and the university.

"Thank you all for helping us make a difference in the lives of our children," Mr. Graham said. "We look forward to sharing this wonderful resource with you all. Is Monday too soon?"

College of Science and Technology (CSAT) Dean Orion Rogers joined Hemphill and university colleagues to cut the commemorative ribbon as drones captured the action from above.

"The Center for the Sciences will allow our faculty and students to take advantage of new opportunities, to create new knowledge, to go places they never imagined they could go scientifically and intellectually and to achieve academic and professional success they never dreamed was possible," Dr. Rogers said.

The spectacle was capped by a colorful salute by the Department of Chemistry play that produced billowing clouds of smoke and shot ping pong balls high into the air.

The museum, previously located in Curie Hall, has welcomed more than 25,000 visitors throughout the past decade. In its new, larger space in the Center for the Sciences, it will host exhibits, including a quarry model that has been displayed at the Smithsonian in Washington D.C.

After the ribbon was cut on the College of Science and Technology's (CSAT) new Center for the Sciences, Dean Orion Rogers honored those who have named spaces in the building through financial support.

Chemistry alumnus Mark Hanna '84 and his wife Cindy donated a \$10,000 gift to purchase a periodic table coffee table in the foyer of the building, which was unveiled during the festivities. The table is a hands-on teaching tool for Radford University students and community guests. Enclosed in the table's illuminated glass are samples of each of the periodic table elements. Mark Hanna said that it was important to him and his wife to make a difference and contribute to the learning that happens in this center. "I really can't thank Radford University enough for all they have given me. It's my pleasure to give back," said Mark.



Periodic Coffee Table

The College also unveiled two laboratories, the Novozymes Bioinnovation and Teaching Laboratory and the Artis Computing Laboratory for the Biological Sciences. International bio innovation company Novozymes Biologicals donated \$50,000 in support of its named laboratory. Pat and Nancy '73 Artis donated \$50,000 to outfit their computer laboratory with software specifically for the biological sciences.

“This building, The Center for the Sciences, is an investment in dreams of current and future students who want to pursue careers in the sciences. These classrooms and other facilities provide Radford students the means to prepare for their future in the Commonwealth,” said biology alumnus and dedicated CSAT supporter Nancy Artis ’73.

Pat Artis said that the center is more than a building that provides space for students to study. “It inspires the students that come here to achieve things that they never believed would be possible. Our objective in funding this computing lab was to provide them more of the facilities to achieve those dreams,” said Pat Artis.



Dean Orion Rogers, President Hemphill and Pat and Nancy '73 Artis in front of the new Artis Computing Laboratory for the Biological Sciences.



Dr. Jake Fox showcasing materials in the Anthropological Sciences research spaces.

Throughout the afternoon and on Saturday during Family Weekend and Homecoming, tours of the facilities were conducted resulting in hundreds of new guests to the building.



Guests, including Mary Ann Hovis, member of the Radford University Board of Visitors, were treated to a demonstration of the anatomage table.



The greenhouse was popular with guests for the weekend.

MUSEUM OF THE EARTH SCIENCES GRAND OPENING

A new home in Southwest Virginia for all things related to the planet Earth was christened on Saturday, October 15 at Radford University. The greatly expanded and improved Museum of the Earth Sciences celebrated a Grand Opening as a part of Homecoming and Family Weekend events as Museum Director and Professor of Geology Dr. Steve Lenhart cut the ribbon and opened the doors to the public. Obviously, there was a pent up demand for entrance to the space as more than 850 guests visited the Museum, a new one-day record.



Dr. Joe Keiper, Dr. Orion Rogers, Dr. Steve Lenhart, and museum staff members prepare to official open the MES with a ribbon cutting ceremony.



Dr. Rogers and Dr. Keiper assisted Dr. Lenhart during the ribbon cutting ceremony.

In addition to old favorites like “Stan” the Tyrannosaurus rex, the Museum hosts new exhibits including a quarry model that has appeared at one time in the Smithsonian Institution in Washington D.C. A video component of the quarry display is narrated by regional celebrity and Chief Meteorologist for WDBJ 7 TV in Roanoke, Robin Reed who join Dr. Lenhart in celebrating the Grand Opening.

To learn more, please visit www.radford.edu/mes

Scholars from across the Commonwealth shared in the celebration as Dr. Joe Keiper, Executive Director, Virginia Museum of Natural History and Dr. Chuck Bailey, Professor and Chair, Department of Geology, College of William and Mary both delivered presentations on the relevance of science museums in the 21st century and Virginia’s geologic history, respectively.



Robin Reed, Chief Meteorologist for WDBJ7 in Roanoke, with Dr. Steve Lenhart, Director of the Museum of the Earth Sciences.

MILLION DOLLAR MOONSHOT WITHIN REACH FOR CSAT

The College of Science and Technology has been challenged by the Mary Morton Parsons Foundation to raise \$700,000 during 2016. If that challenge is met, CSAT will receive an additional \$350,000 making the total for the year over 1 million dollars. This would be a milestone for the college and would provide opportunities for scholarship, research, equipment, and more activity in the Center for the Sciences.

To date, \$560,000 has been accounted for, but the college needs an additional \$140,000 to reach the goal and receive the grant. Every gift to any department in the new Center for the Sciences or any gift to that facility or any area within will count toward the total.

A moonshot is any major goal that might seem to be nearly impossible to reach, but one that is transformative to the organization and achievable with the help of many participants.

The college will be asking all CSAT alumni to consider helping in making this "Million Dollar Moonshot" a reality.

Founded in 1988 by Mrs. Mary Morton Parsons, The Mary Morton Parsons Foundation supports the capital needs of charitable organizations. To date, the foundation has awarded approximately \$73 million to qualified grantees.

CSAT MILLION DOLLAR MOONSHOT



The College of Science and Technology has the opportunity to have a million dollar year, but we need your support to make it to the final goal. With just an additional \$100,000 we will meet our requirement and be eligible to receive \$350,000 from the Mary Morton Parsons Foundation.

This gift will help fund student research and scholarships enabling even greater progress forward.

Your gift will help us reach our goal and complete our Million Dollar Journey.

For more information, please visit: <http://www.radford.edu/content/advancement/home/giving-guide/giving-stories/Parsons-grant.html>

BIOLOGY STUDENTS TAKE ROACHZILLAS ON THE ROAD



Radford University students thrilled guests of all ages at the VT Science Festival.

Biotransformers were on display throughout October on campus, in Blacksburg for the Virginia Tech Science Festival and Hokie Bugfest and in Roanoke at the Science Museum of Western Virginia's Science Spooktacular. Roaches from the Radford University Ecophysiology lab were used as part of a science outreach exhibition in all locations. Immensely popular with participants, the display was also a hit with local media. The Roanoke Times newspaper covered the Science Festival event with the following:

A long line formed at Radford University's Madagascar hissing cockroach display.

There Radford undergraduates Alex Atwood and Erin Dudley convinced people to handle the roaches, which are much larger than native varieties, and are related to the praying mantis.

The Madagascar roaches are a tropical species that can't breed in Virginia outside of captivity, Atwood said. They're extreme omnivores and eat larger quantities of food than most other insect species, he said. Dudley and Atwood are working on a project examining the best way to use the roaches to convert food waste into fertilizer on a large scale.

Kids could write down a food they think the roaches would not eat, and Dudley said she will introduce the foods to the roaches back at the lab. She'll post videos of what the roaches do, so the kids who participated can see if their guesses were right.

"It's a little crash course in science," Dudley said.

Carroll Yonker, 7, of Floyd answered as Atwood quizzed him about the roaches. But the youngster had a secret. "He has a whole colony at home," said Justin Yonker, Carroll's dad.



A Stormtrooper from the 501st legion examines a cockroach.

"All my adults died," Carroll said. But he's got a number of young ones that are quickly growing up, he added. "I like them because they hardly look anything like cockroaches," Carroll said. "He wants to be a zoologist," Yonker said. At least, that's the idea right now.

"I like how animals are so different from us," Carroll said. "But basically, we're the same family."



Roaches on display in Roanoke.

The roachzilla display continues to be an excellent example of the science education outreach at Radford University.

RADFORD UNIVERSITY INFORMATION TECHNOLOGY STUDENTS COMPETE AT CYBERSEED CONFERENCE



Top information security professionals and business leaders met to discuss emerging cybersecurity trends and formulate strategies for tackling current and future threats. Dozens of Universities competed in unique cybersecurity challenges for prizes. All of this was CyberSEED 2016 and Radford University was right in the middle of the event.

Three teams of RU students competed well over the course of the program, sometimes scoring in the very top of several categories. In the end, while the Radford teams didn't take home a prize, they did receive a wealth of new information, experiences, and contacts with industry professionals.



The Social Engineering team at the 2016 Cyber Seed Competition gets on the scoring board early. This is one of three teams at the University of Connecticut hosted event.

Student Roster for 2016 Cyber Seed Competition:

Joseph Burt

Liam Epperly

Jacob Walters

Mehdi Himmiche

Amanda Blair

Kayger Duran-Mateo

Danielle Pompa

Johnny Myers

Harry Alan Frank

Matt Wallace

Michael Moran

Travis Guyer



CyberSEED2016 participants from Radford University in front of Lady Liberty on their way to Connecticut.

WOMEN IN COMPUTING CLUB TO HOST WORKSHOP

ADVANCED IDE WORKSHOP

ADVANCED WORKSHOP ON IDE FEATURING VERSION CONTROL, BUILDING, DEPLOYING, AND DEBUGGING

RADFORD UNIVERSITY SPEAKERS:
JACKIE MCNABB, DIRECTOR OF WEB & MOBILE TECH
STEVEN TAYLOR, MANAGER OF WEB SERVICES, IT ENTERPRISE SYSTEMS

When: Wed Nov 2 2016
9:55-10:50 am
Where: Davis 043

HOSTED BY: THE WOMEN IN COMPUTING CLUB
FOR MORE INFO/ WEBINAR ACCOMMODATIONS CONTACT:
AMANDA BLAIR, ABLAIR3@RADFORD.EDU

The Radford University Women in Computing Club will hold a workshop for students interested in learning more about Integrated Development Environments featuring speakers with professional knowledge of this area.

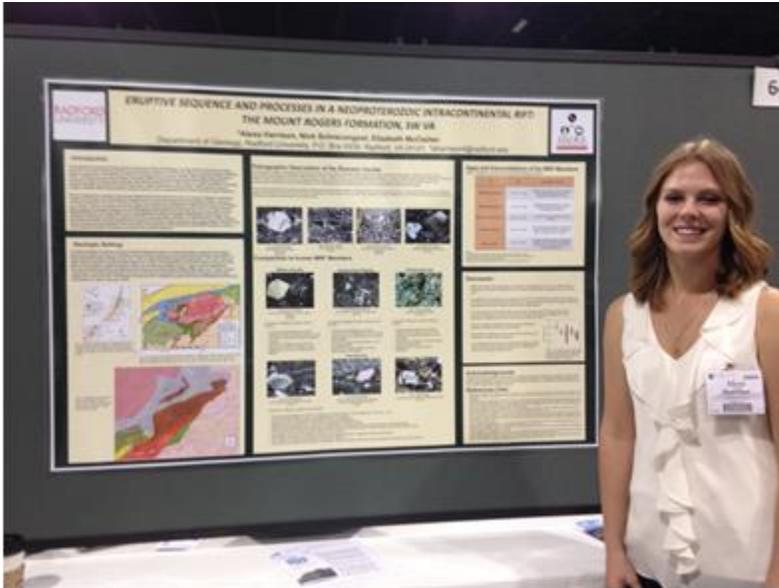
The event is Wednesday, November 2 from 9:55am - 10:50am in Davis Hall 043.

Learn more by contacting Amanda Blair at ablair3@radford.edu

RADFORD UNIVERSITY GEOLOGY STUDENTS AND FACULTY ATTEND GSA MEETING

Six Radford University students and two faculty participated in the 2016 Geological Society of America meeting in Denver on September 24 to present original research.

Students Antonio Conde, Alexa Harrison, Nick Schrecongost, Dylan Philippart, Abdullah Zulfiqar and Hans Voll along with Associate Professor of Geology Elizabeth McClellan and Geology Professor Skip Watts represented RU at the event, which had more than 7,000 attendees from across the globe.



Alexa Harrison, winner of the Sigma Gamma Epsilon Best Undergraduate Poster award.

The Geological Society of America (GSA) is one of the premier geoscience organizations in the world. The organization has a large international division as well as six sections across the United States and Canada.

Students in Radford's Department of Geology have regularly presented research at the GSA Southeastern Section meetings held in the spring. The past two years, they've also had a big presence at the annual meeting.

Two of the student presenters, Hans Voll and Abdullah Zulfiqar, were awarded Summer Undergraduate Research Fellowships (SURF) through OURS to conduct their research. They are mentored by Dr. Watts.

Dylan Philippart, a Scholar-Citizen Initiative grant recipient, is mentored by Geology Professor Parvinder Sethi.

Antonio Conde is mentored by Dr. McClellan, Geology Instructor George Stephenson and Professor Emeritus Bob Whisonant.

Alexa Harrison and Nick Schrecongost are mentored by Dr. McClellan. Nick is also a SURF awardee, and both he and Alexa received Geological Society of America Southeastern Section Undergraduate Research Grants. During the conference, the Radford University team was pleased to learn that Alexa Harrison won the Sigma Gamma Epsilon Best Undergraduate Poster award.

“All of our students have been excellent ambassadors for Radford University, and have had lots of interest in their work” said Dr. McClellan. “They make us proud!”

Their research topics are:

Boy Scouts Rock: Updating and Digitizing Legacy Geologic Information for the Blue Ridge Scout Reservation, Antonio Conde

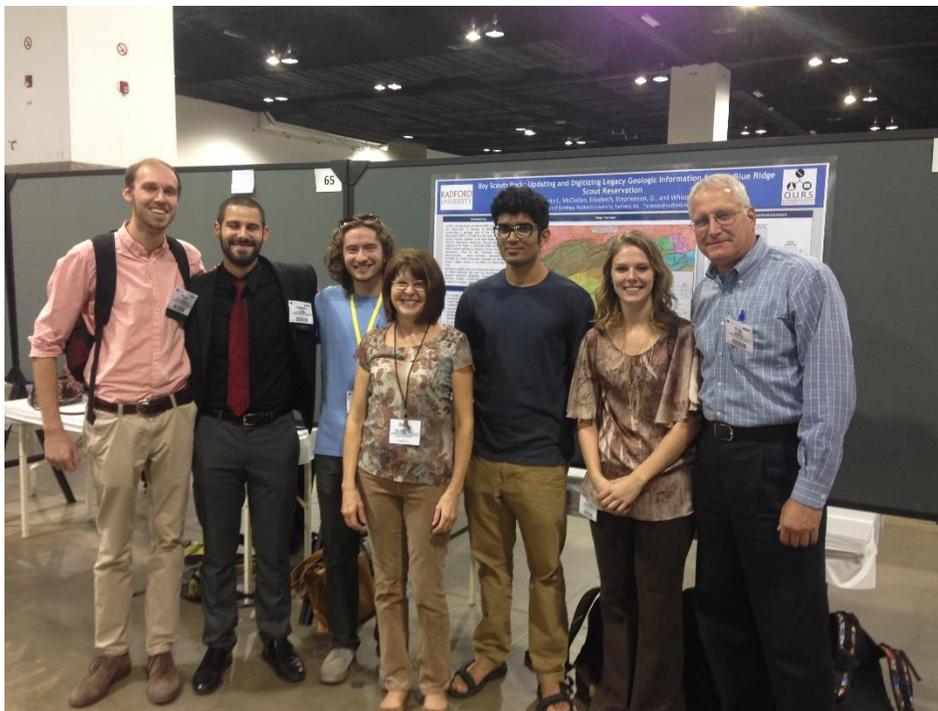
The Use Of Unmanned Aerial Systems for Digital Topographic and Thermal Modeling o Mountain Lake Virginia, Abdullah Zulfiqar

Leveraging Gigapan Imaging Technology for Helping Introductory-Level Geology Lab Classes for Understanding Glacial Processes and Global Climate Change, Dylan Philippart

An Investigation of Thermal Conductivities for Several Different Soil Types in Southwest Virginia, Hans Voll

Eruptive Sequence and Processes in a Neoproterozoic Intracontinental Rift: The Mount Rogers Formation, Southwest Virginia, Alexa Harrison

Bracketing the Age of Neoproterozoic Glaciation in the Virginia Blue Ridge, Nick Schrecongost



Dylan Philippart, Antonio Conde, Nick Schrecongost, Associate Professor of Geology Elizabeth McClellan, Abdullah Zulfiqar, Alexa Harrison, and Geology Professor Skip Watts at the 2016 Geological Society of America Meeting.

\$34M RENOVATION PLANNING APPROVED FOR REED AND CURIE HALLS

Radford University's College of Science and Technology (CSAT) recently received exciting news that a nearly \$34 million renovation approved for funding in the 2016 bond package has been authorized to proceed with planning. The project will fund a major renovation of Reed and Curie Halls that will also include, among many substantial updates, a Cyber Security Training and Education Lab (CTEL) for teaching, research, modeling and simulation of cyber threats.

The anticipated \$33,882,000, state-funded project will renovate 94,840 square feet of space and provide modern facilities for several of the university's science departments, including geospatial science, biology, chemistry, geology and physics. The renovations will include new teaching and faculty and student research laboratories, engagement spaces for lectures, student support areas, office spaces, and a cybersecurity suite.

The planned renovation comes at a particularly opportune time for CSAT.

For example, the CTEL, along with the Watch Center and Emergency Operations Center (EOC) in the new College of

Humanities and Behavioral Sciences building that opened this semester, will provide cross-disciplinary opportunities for constituencies across the Commonwealth, including businesses, K-12 teachers and students, law enforcement agencies, public sector administrators, and other organizations.

Radford University students in cyber and information technology disciplines are among the most sought after by industry due to their preparation, as reflected by their strong showing in national level competitions and Radford University's recent designation as a National Center of Academic Excellence in Cyber Defense Education (CAE-CDE) by the National Security Agency (NSA) and the U.S. Department of Homeland Security (DHS).

Through 2021, Radford will be at the forefront of preparing graduates in cyber security and meeting the evolving demands of cyber security education. Radford is one of only six four-year institutions in Virginia designated as a CAE-CDE institution and is one of only 127 four-year institutions in the country to earn the prestigious national designation.

"This renovation project will significantly benefit our students and faculty to advance both knowledge and research in the sciences, as well as the Commonwealth," said Radford University Brian O. Hemphill. "The timing also is perfect to contribute to the demands of our state's future economy given, for example, the stated need for cyber and computer science professionals and Radford's growing expertise in this area."



Reed Hall

Faculty members in the departments that will be located in Reed and Curie Halls after the renovation have submitted needs analysis documents and will be working closely with the architect and engineering firm selected to design the new spaces.

Reed and Curie halls are contiguous buildings located on the north side of campus. Reed Hall was constructed in 1939 as the original home for the sciences and named for Dr. Walter Reed, American Pathologist and Bacteriologist. Curie Hall was built in 1971, named for Marie Curie, Nobel Prize winning Physicist and Chemist and is connected to Reed Hall. Design and construction for the renovation are scheduled to take place over the course of three years.

"We are incredibly excited about the forthcoming enhancements to both science buildings," said CSAT Dean Orion Rogers. "The project solidifies Radford University's commitment to providing the best learning and teaching environments and transforming CSAT into a premier science, technology and mathematics destination. The renovations will create new synergies between faculty and students and provide enhanced research opportunities."



Chemistry students in Curie Hall

The renovation of Reed and Currie Halls is the latest initiative in an innovative transformation of science and technology education opportunities and facilities at Radford University, and will optimize the use of scarce state resources by modernizing the space to meet the need of current and future students.

In early 2016, the 114,000-square-foot, \$49 million Center for the Sciences opened adjacent to Curie Hall. The facility features a state-of-the-art planetarium, the Museum of the Earth Sciences, high-tech classrooms and laboratories, spaces dedicated to student-collaborative learning, and serves as the modern home of the interdisciplinary and innovative Radford University Forensic Science Institute.