

FROM THE DEAN'S DESK – April 10, 2015

THE RADFORD UNIVERSITY COLLEGE OF SCIENCE AND TECHNOLOGY NEWSLETTER



PAGE 2 - RU BIOLOGY STUDENTS RECEIVE RESEARCH AWARDS

PAGE 4 – GEOLOGY PROFESSIONAL ASSOCIATION GATHERING FEATURES RU RESEARCH

PAGE 6 – ARMING THE CONFEDERACY EXPLORED IN NEW BOOK BY GEOLOGY PROFESSOR EMERITUS

PAGE 7 - RU RECEIVES NSA GRANT TO HELP PREPARE STUDENTS FOR CYBER SECURITY CHALLENGES

PAGE 8 - ANTHROPOLOGY CLUB PRESENTATION BY DR. JOHN VERANO FROM TULANE

PAGE 9 - RU BIOLOGY RESEARCH FEATURED IN THE VIRGINIA JOURNAL OF SCIENCE

PAGE 9 – SCORE FILM FESTIVAL TO BE HELD APRIL 25

PAGE 10 - LOCAL LANDMARK DISAPPEARANCE FEATURED IN MUSEUM OF EARTH SCIENCES LECTURE

PAGE 12 - RADFORD UNIVERSITY BIOLOGISTS PURSUE CROWDFUNDING FOR NEW PROJECT

PAGE 12 - RU CHAPTER OF SIGMA XI TO HOLD INAUGURAL SCIENCE CAFÉ ON APRIL 25

PAGE 13 - RU PRE-DENTAL CLUB HOSTS RUN FOR HOPE 5K

PAGE 13 - RU BIOLOGIST DR. SARA O'BRIEN FEATURED ON PUBLIC RADIO'S WITH GOOD REASON

PAGE 14 –RUGS SPEARHEADS RIVER CLEAN-UP

PAGE 15 – CAMP INVENTION AT RU SCHEDULED FOR JUNE

PAGE 15 – SUMMER BRIDGE APPLICATION DEADLINE EXTENDED FOR SELECT TRACKS

RU BIOLOGY STUDENTS RECEIVE RESEARCH AWARDS

Each year, the RU Biology Department selects one outstanding undergraduate student for the Ruth Bricker Painter Award, a \$3,000 competitive award to fund a student-designed research project. The name of the winning student is added to a plaque in the Biology Department.



Emily Guise

Emily Guise is the 2015 recipient of the Biology Ruth Bricker Painter Award. Her research will investigate the effects of endocrine disrupting chemicals (environmental pollutants) that interfere with an organism's natural endocrine system function. Emily's proposed project is entitled, "Ecologically relevant multi-generational effects of trenbolone on behavior, physical appearances, and foraging efforts of *Gambusia holbrooki* (eastern mosquitofish)". Faculty mentor: Dr. Sara O'Brien.

Additional students are selected annually for **Biology Student Research Awards**, \$1,000 awards to support independent student research. Recipients of the 2015 Student Research Awards are:

Cassie Bonavita –"Examination of intestinal bacteria in mosquitoes of the Amazon rain forest in relation to Dengue virus infection". Faculty mentors: Dr. Justin Anderson and Dr. Jason Davis



Cassie Bonavita



Shane Brandes

Shane Brandes – “Parental response of eastern bluebirds in the presence of a bird of prey” Faculty mentors: Dr. Judy Guinan and Dr. Jason Davis

Jesse Daniels – “Threat analysis of invasive plant species at Selu Conservancy”. Faculty mentor: Dr. Christine Small

Matti Hamed – “Assessment of population demographics and examination of migratory habits of *Ambystoma jeffersonianum* (Jefferson salamander) at Selu Conservancy”. Faculty mentor: Dr. Matt Close



Matti Hamed



Chelsea Rasnic

Chelsea Rasnic – “The effects of Vespa Amino Acid Mixture (VAAM) on the male aggression and mating behaviors in *Drosophila melanogaster* (fruit fly)”. Faculty mentor: Dr. Jason Davis

These awards recognize outstanding biology majors and provide opportunities for students to design and conduct original research and achieve advanced levels of scientific scholarship. Faculty mentors work closely with student researchers to provide guidance as the students design and conduct their independent research projects. Award recipients are selected for the strength of their proposed research, faculty recommendation letters, GPA and academic / research experience, and benefits for long-term academic or career goals.

GEOLOGY PROFESSIONAL ASSOCIATION GATHERING FEATURES RU RESEARCH

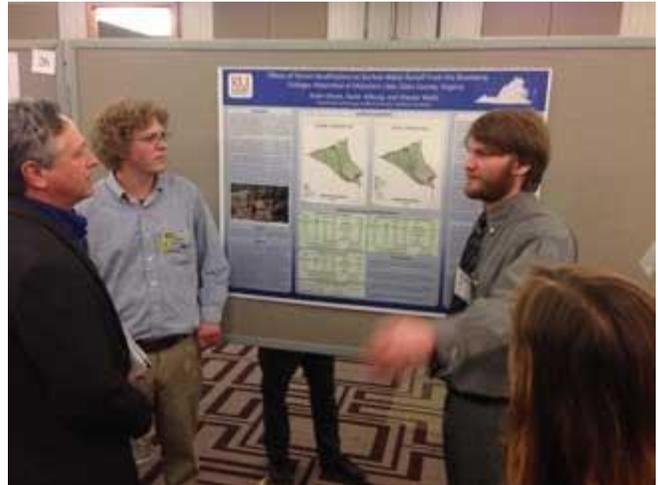
Radford University geology students and faculty presented talks and poster sessions of original research at the 2015 annual conference of the Southeastern Section of the Geological Society of America (GSA) March 19-20 in Chattanooga, Tennessee.

Radford University Associate Professor of Geology Elizabeth McClellan was also installed as Chair of the Southeastern Section as part of the event's proceedings.

"GSA is one of the world's largest international geological organizations, and the Southeastern Section is a traditionally strong and vibrant community. I am honored to be chosen as the Chair of the Southeastern Section for 2015-16," said McClellan, a GSA member since 1985.

The GSA provides access to elements that are essential to the professional growth of earth scientists at all levels of expertise and from all sectors: academic, government, business and industry. GSA membership includes international earth scientists in a common purpose to study the mysteries of our planet and share scientific findings.

"The end result of research is to disseminate science," said Department of Geology Chair Jonathan Tso. "The students worked in the field and lab, created posters on that work and then shared their ideas, hypotheses and techniques with peers and professionals - a very important part of the scientific process."



At the 2015 annual conference of the Southeastern Section of the Geological Society of America, Dylan Dwyer (left) and David Imburg (right) discuss their research poster, titled "Effects of terrain modification on surface water runoff from the Blueberry Cottages Watershed at Mountain Lake, Giles County, Virginia."



The Radford University contingent at the 2015 annual conference of the Southeastern Section of the Geological Society of America (GSA) March 19-20 in Chattanooga, Tennessee, from left: Professor Skip Watts, Kent Weidlich, Elise Brown, Instructor George Stephenson, Allison Murrie, Professor Beth McClellan, Professor Jon Tso, Dylan Dwyer, Patrick Trout and David Imburg.



At the 2015 annual conference of the Southeastern Section of the Geological Society of America, Emeritus Professor of Geology Bob Whisonant (right) discussed his recently published book with, left to right: Instructor George Stephenson, Professor Jon Tso and Ron Doering of Springer Publishing.

Allison Murrie, a senior geology major from North Copper Hill, Virginia, reflected on the value of the professional experience.

"I really enjoyed being able to attend presentations on Appalachian geology that went more in-depth into topics than we've covered in my classes," said Murrie. "Based on what I learned at the conference, it has encouraged me to look forward to future research opportunities and graduate school."

The scientific program was composed of oral and poster presentations organized into themed sessions plus an array of research in general discipline areas. RU students making poster presentations were:

- Elise Brown and Murrie on their research titled "Geochemistry of rhyolite clasts from the Lower Mount Rogers Formation, SW Virginia." Their faculty mentor was Professor Elizabeth McClellan.
- Dylan Dwyer and Kent Weidlich on their research titled "Potential water sources for Mountain Lake, Giles County, Virginia." Their faculty mentor was Professor Skip Watts.
- David Imburg and Dwyer on their research, titled "Effects of terrain modification on surface water runoff from the Blueberry Cottages Watershed at Mountain Lake, Giles County, Virginia." Their faculty mentor was Watts.
- Derek Stokes with Patrick Trout on research titled "Testing age relationships in the Mount Rogers Formation, SW Virginia through provenance analysis of conglomerates." Their faculty mentor was McClellan.
- Trout and Stokes on research titled "Assessing volcanism in the Mount Rogers Formation, SW Virginia: Stratigraphic placement of the Bearpen rhyolite." Their faculty mentor was McClellan.

Oral presentations by RU faculty were:

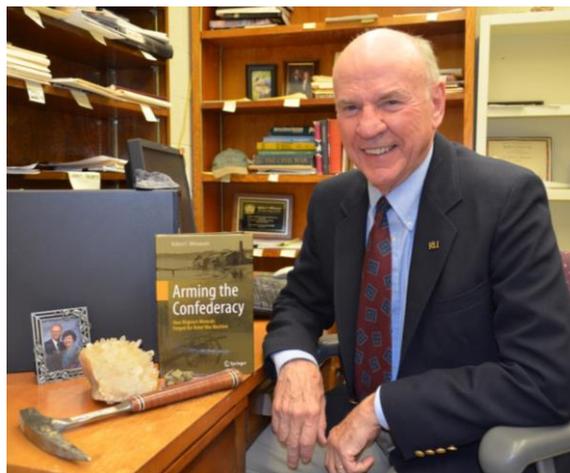
- Skip Watts, professor of geology, on "Water loss at Mountain Lake, Giles County, Virginia: Likely effects of a leaky colluvial dam in conjunction with drainage basin modification on the water budget."

Robert Whisonant, professor emeritus of geology, presented a tour of southwest Virginia mineral-producing sites.

Dr. Whisonant's new book, "Arming the Confederacy: How Virginia's Minerals Forged the Rebel War Machine" by Springer Press, was also released at the conference.

ARMING THE CONFEDERACY EXPLORED IN NEW BOOK BY GEOLOGY PROFESSOR EMERITUS

A new book by Dr. Robert Whisonant has recently been published regarding the value of mineral resources in Southwest Virginia to the effort of the Confederacy during the American Civil War. Entitled "Arming the Confederacy," the book is a fresh look at the natural resources necessary to keep armies in the field and is the product of two great passions in Dr. Whisonant's life: history and geology. "I always loved history and I likely would have been a history major, but I didn't know what I would do with the degree since I felt that I didn't want to teach history" recalls Dr. Whisonant. "At Clemson during my undergraduate experience, I had to take a science and discovered Geology and I was enthralled." The two subjects blend together very easily for Dr. Whisonant. "Geology IS history, the history of the whole planet" he says. "And the geology of an area can help tell the story of that region."



Dr. Robert Whisonant, Professor Emeritus, RU Department of Geology

After completing his degree work, Dr. Whisonant found himself in Radford in the Department of Geology. "It was a wonderful offer to come to this area and once I arrived, I began to discover that the mineral products needed by the Confederacy to fight were concentrated in this region: the lead mines near Wytheville, the salt works at Saltville, numerous saltpeter caves and iron furnaces, and even some coal." he recalls. "This led me to write a series of articles over the years about these mineral resources and that was really the genesis of my book."

There is much that Dr. Whisonant has learned over the years that is not readily apparent to citizens of Southwest Virginia. "Our story here is really the story of the civil war. The CSA really had significantly less than the Union in the way of material resources and much of what they did have, came from this region", he says emphatically. "Over half the bread baked for Lee's army in Northern Virginia came from SWVA wheat and lead from the mines in the New River Valley traveled through Radford east along the Virginia and Tennessee railroad."

More than two decades of exploration into this story had given Dr. Whisonant plenty of ammunition for his publication, but he wanted to continue to enrich the articles by adding context as to why these resources were important and to help further explain the role of Southwest Virginia in this important period of U.S. history. "There was room to expand the story and I felt like I finally got it to the point I was happy with so I was ready to publish. It was a good time to do so as the folks at Springer International Publishing were looking to expand their line into more popular science in addition to the textbooks they normally produce" he adds.

Dr. Whisonant hopes that folks interested in the conflict, geology, the region or perhaps a mix of all three will find the book enlightening. "Some people are surprised to hear about the contributions of Southwest Virginia to the Rebel War Machine and I hope that this book will help start them on that path to discovery."

RU RECEIVES NSA GRANT TO HELP PREPARE STUDENTS FOR CYBER SECURITY CHALLENGES



www.nsa.gov

The RU Department of Information Technology recently received \$45,000 from the National Security Agency's Mathematics and Engineering Partnership Grant Program to help provide educational materials and programs to further cyber security training in primary and elementary schools across the mid-Atlantic region.

"The NSA: Scare, Prepare and Dare grant will expand our efforts to incorporate critical K-12 cyber security education in Virginia and Maryland" said Dr. Prem Uppuluri, primary investigator of the grant. "We are partnering with Dr. Davina Pruitt Mentle of Education Technology Policy and Outreach group in Maryland to expand these efforts. Our goal is to provide high impact training modules that teachers can use to motivate students who may never have considered majoring in a STEM area."

As a part of the ongoing effort to encourage high school age students to consider STEM and more specifically cyber security, the Department of Information technology concluded the RU Capture the Flag Cyber Defense Contest on March 28. Around 52 students from Southwest Virginia Governor's School; Shenandoah Valley Governor's School; Mountain Vista Governor's School; Stone Bridge High School; Radford City High School; Thomas Jefferson High School and Blue Ridge Community College attempted around 60 challenges from March 23 - 28 in various areas of cyber security.

The winners were:

- (1) The Flying Circus - Thomas Jefferson High School for Science and Technology
Team members: Eric Wang; Haicheng (Charles) Zhao; Susanna Bradbury and Grey Golla
- (2) Justin Anderson's Appendix - Shenandoah Valley Governor's School
Team Members: Ailec Wu; Josh Allen and Anthony DiOrio
- (3) Mountain Vista Governor's School
Team members: Tony Lunsford; Chris Li; Shane Yuhasse and Quintin DeGroot

The winners will receive trophies for their school, certificates, scholarship offers and will be given preference (if they qualify) to the RU-NextGen Leadership program in STEM (www.radford.edu/sstem).

"A big round of applause to RU's own Michael Ramos and Danielle Capezzuto for helping with the contest and developing some interesting problems" said Dr. Prem Uppuluri. Participants had to successfully navigate these problems to capture a virtual flag and win points in the event sponsored and partially funded by the National Security Agency (NSA) and Cyberpath. RU contest organizers were faculty and students in the Department of Information Technology, Dr. Prem Uppuluri, Dr. Joe Chase, Dr. Jeff Pittges, Michael Ramos and Danielle Capezzuto. Competitions like this help prospective students become more proficient in cyber security skills and to also learn more about Radford University program elements.

ANTHROPOLOGY CLUB PRESENTS NEW FINDINGS BY DR. JOHN VERANO FROM TULANE UNIVERSITY

On Tuesday, April 2 at 5pm in Russell Hall 113, the RU Anthropology Club sponsored a special presentation by Dr. John Verano entitled "Human Sacrifice on the North Coast of Peru: Recent



Dr. Verano pointing out some of the marks found on bones he has helped to excavate

Discoveries Pose New Questions." Dr. Verano is a professor of anthropology at Tulane University who also conducts field research in Peru where a number of discoveries of human sacrifices have been made in the northern coastal area over the past decade. Nearly every new discovery calls into question previous models that have attempted to characterize and interpret ritual killing in Pre-Columbian Peru. With this growing sample, scientists are seeing increasing variability in the demographic profile of victims, the ways in which they were sacrificed, and the location and manner in which their bodies were buried.

Dividing lines between traditional categories such as executed captives, retainer and dedicatory burials, and ritual offerings are becoming blurred as new discoveries are made. Careful contextual and bioarchaeological examination of these assemblages is required if we are to make some sense of this growing corpus of data.

Dr. Verano shared some of the data collected during more than twenty five years of excavation and analysis of these Peruvian sacrificial sites; some include only small numbers of victims while others have involved more than a hundred individuals. During his presentation, Dr. Verano discussed a fairly new discovery of a sacrificial site near the town of Huanchaquito at which excavation was completed during summer 2014. Evidently, this site was created by the Chimú State about six hundred years ago, and provides a unique window into a previously unknown form of mass offering.

Dr. Verano shared some of the more unique elements of the discovery and also some ways in which it is similar to other north coast sacrifices. Through the use of new analytical methods in stable isotope geochemistry, he and his team were able to gain new insight into the identities and origins of the sacrificial victims. "The scenario is hard to prove, but it is possible that this site is due to a heavy rain event in the ancient community and the sacrifices of both children and llamas were conducted as a gift to the gods to help stop the disaster" stated Dr. Verano. "We feel that this discovery may have been just the tip of an iceberg, but due to development of housing and other structures on nearby property, we were unable to continue our search which may have led to more answers."

In addition to his work at Huanchaquito, Dr. Verano has also explored high-altitude sacrifices, some as high as 26,000 feet in the region, and has aided National Geographic in producing documentaries on the ritualistic sacrifices of the Moche people.

RU BIOLOGY RESEARCH FEATURED IN THE VIRGINIA JOURNAL OF SCIENCE

Dr. Karen Powers, Associate Professor of Biology, and Kelsey Townsend, Class of 2013 B.S. Biology are co-authors of an article in the Virginia Journal of Science Volume 65. Their article is titled

"Survey of the Ectoparasites of the Invasive Small Indian Mongoose (*Herpestes auropunctatus* [Carnivora: Herpestidae]) on St. John, U.S. Virgin Islands"

Brief summary -

In March 2012, live trapping surveys were conducted for invasive small Indian mongoose (*Herpestes auropunctatus*) on St. John, U.S. Virgin Islands. Forty mongoose were sampled (31 males, 9 females) for ectoparasites, and cat fleas (*Ctenocephalides felis*) were discovered on 17 individuals. There was no difference in the number of ectoparasites per mongoose across age classifications ($r = 0.109$, $P = 0.579$). However, males had more cat fleas than females, even when mass was taken into account (males are generally heavier). Future behavioral studies may explain these sex differences. Although management suggestions from this research are limited, these data contribute to an understanding of ectoparasite distributions on these invasive mongoose in the Caribbean.

SCORE FILM FESTIVAL TO BE HELD APRIL 25

The Radford University SCORE (Scholarly Outreach Research Engagement) program helps undergrad students to develop & produce multimedia outreach showcasing their original scholarship and research. The culmination of the 2014-15 effort will be on display at the Radford Theatre on Saturday, April 25 from noon until 2pm. The program promises to present cool, crazy and beautiful moments from around the region and across the globe as RU students present images and video from their research activities.

The event is free and open to the public.



Sc.O.R.E. Film Festival
All Ages Welcome!
Actual students doing actual research!

FREE Raffle
April 25
12 pm - 2 pm
At the Radford Theater

Check us out at:
<https://www.facebook.com/rupubscorere>
<https://twitter.com/rupubscorere>

SCORE
Scholarly Outreach Research Engagement

MYSTERIOUS LOCAL LANDMARK DISAPPEARANCE FEATURED IN FINAL 2015 MUSEUM OF EARTH SCIENCES LECTURE

Radford University Geology Professor Skip Watts and Geology Lab Coordinator George Stephenson presented the case of the disappearing Mountain Lake in the Museum of the Earth Sciences Lecture on April 7, at 7 p.m. in the Hurlburt Student Center Auditorium.

Dr. Watts began the program by explaining a little about his work in geologic engineering and how that really set the stage for his involvement with the folks at Mountain Lake.

“Mountain Lake in Giles County is one of only two naturally formed lakes in Virginia” said Dr. Watts “the other being Lake Drummond in the Great Dismal Swamp in the Southeastern portion of the state.” He added “Throughout history, the Giles County lake has fluctuated in size and has even been known to almost disappear, most recently in the 1600s.”

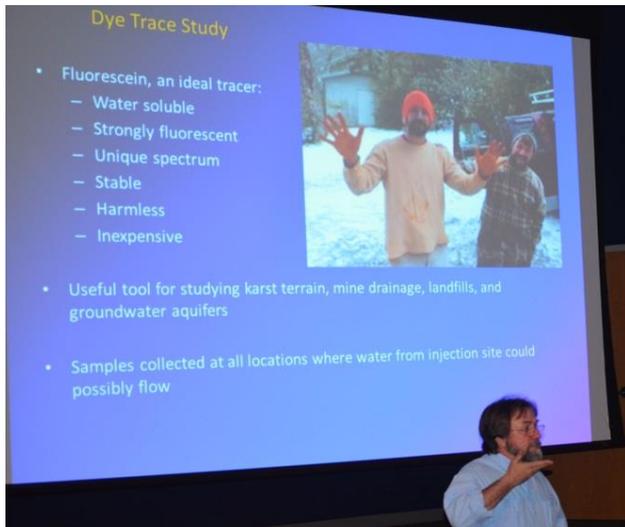


Mountain Lake as seen from the air via Google Earth both in 2003 and 2008

For most of the 20th Century, the lake was robust and at or near full pond which prompted the development of a resort community around the property. “Over the last decade as the lake receded, the owners of the resort knew they needed to find an answer to fix this problem” stated Dr. Watts. The property is owned by the Mary Moody Northen Endowment, a charitable foundation which awards grants to support environmental, social service, educational and historical projects benefitting people and institutions in Virginia and Texas. With that in mind, the foundation wanted to find

a solution that would be environmentally acceptable and that led to Dr. Watts and his team. “The lake is primarily fed by a stream that enters from the south end near the hotel and meanders through the bed before exiting at the northern end of the property” explained Dr. Watts. “When the water input is less than the water loss at the northern end, the level of the lake drops and it can become quite small.”

The “dam” that holds the water into the lake was likely caused by some type of landslide centuries ago and is “leaky” which can contribute to the lake’s reduction in size. Dr. Watts and Mr. Stephenson recapped the high-tech research into the geology of the ancient lake that they, along with RU geology students, have explored using a remotely operated submarine, sonar, electric resistivity, quad copters, seismic mapping and flow monitoring. They began to get a pretty good picture of the lake bed and what was happening.



Mr. Stephenson explains the use of dye to determine water flow

“We also needed to determine where the water was going and to find the places where it was leaking from the lake” stated Mr. Stephenson. “We used a dye trace study by injecting fluorescein into some of the drain holes and then placed devices at a number of sites downstream to capture the harmless tracer.”

He added “There could have been a number of places that the water was going and that might have made our task more challenging, but fortunately we discovered that it appeared that most of the water was exiting the lake into a stream that it would naturally have flowed toward if it were to spill over the rock dam at the northern end of the property.”

This discovery combined with the data collected about the site allowed the geologists to make several recommendations to the property owners to help mitigate the problem. The Foundation had a local contractor “nudge” some of the natural rock material into the leaking holes and that allowed the lake to begin to refill over the last several seasons reaching a level of about one-third of the full pond status.

The Mountain Lake story is ongoing and has both environmental and economic impacts for the region. The Radford University Department of Geology is continuing to work to help uncover answers that can lead to a return of this natural resource to the region.

“While we seem to have successfully found a way to help limit the water that is exiting the lake, it appears that there is less water coming into the stream that feeds the lake than in past decades and that is a new challenge that we are helping the property owners tackle” stated Dr. Watts.



Dr. Watts and Mr. Stephenson display some of the equipment they have used as they have explored Mountain Lake

RADFORD UNIVERSITY BIOLOGISTS PURSUE CROWDFUNDING FOR NEW PROJECT



From March 30 through April 25, The RU College of Science and Technology is venturing down a new path for funding projects with a crowdfunding campaign for an undergraduate research project. Emily Guise and April Tingle, two senior biology majors, have had their proposal accepted by the Crowd funding Research Experiences for Undergraduates (CREU) program.

Entitled: "From Disposal to Disease: exploring how pollutants affect mosquito-borne diseases", this project will investigate how endocrine-disrupting chemicals affect predatory-prey relationships between *Gambusia* mosquitofish and mosquito larvae. Morphological and developmental characteristics will be followed in both organisms, and the ability to locate prey or avoid predators will be assessed using behavioral software.

Emily and April wrote the proposal under the mentorship of Drs. Sara O'Brien and Justin Anderson, and they will conduct the experiments during the summer of 2015 if funded. That is where the students and faculty are seeking help. Crowdfunding Research Experiences for Undergraduates (CREU) is an independent, nonprofit organization dedicated to increasing funding for undergraduate research projects. All projects are approved by the host institution and reviewed by an independent expert. All raised funds are awarded to the host institution to be used to fund the project.

To learn more, please visit <https://creu.tilt.com/from-disposal-to-disease-exploring-how-pollutants-affect-mosquito-borne-diseases> before April 24, 2015.

RU CHAPTER OF SIGMA XI TO HOLD INAUGURAL SCIENCE CAFÉ ON APRIL 25

You are cordially invited to RU's inaugural Science Café, Saturday, April 25th at 11am at the Radford Theatre. This event will be hosted by RU Sigma Xi and organized and moderated by Dr. O'Brien's BIOL 460 "Science and Society" class.

It will be held in conjunction with Dr. Jason Davis' first annual RU SCORE Film Festival at the Radford Theatre from 12-2 pm. The Sigma Xi Science Café begins at 11am and precedes the film premieres. The program will consist of student-led science trivia sessions of current events in science, with winning prizes and pizza.

RU PRE-DENTAL CLUB HOSTS RUN FOR HOPE 5K



Mission of Hope volunteers unpack the medical supplies that were purchased with the proceeds of last year's Mission of Hope 5K.

The Pre-Dental Club at Radford University is hosting the second annual Run for Hope 5K on April 12 at 1 p.m. in Bisset Park. The race will benefit the [Mission of Hope](#), a surgical clinic in Santa Cruz, Bolivia.

Jacob Vaught, a senior biology major and president of the Pre-Dental Club, spent a week as a dental assistant in Haiti on a medical mission in March. The needs of Mission of Hope were obvious to him as a result of his experience.

"At the end of the day, we're in the position to help, so 'why not?'" he said. "The Pre-Dental Club sees this as an initiative to be part of the international health care community and to help the organization help as many as possible."

Last year's inaugural race raised more than \$6,000 and Vaught is eager to build upon the success.

"The campus and Radford and dental communities have been very supportive," said Vaught, who highlighted the many businesses who have donated raffle prizes and other support as well as the race's Gold Sponsor, Piedmont Dental.

The Run for Hope 5K is open to the public and registration is \$35. To encourage registration by groups, the club is offering campus and community groups the chance to enter a minimum five-person team for a minimum donation of \$125. To register, visit the [Run for Hope website](#). For more information, contact Vaught at jvaught@radford.edu.



Runners take the turn at last year's Run for Hope 5K on behalf of Mission of Hope, a surgical clinic in Santa Cruz, Bolivia. The second annual Run for Hope 5K is set for Sunday, April 12, at 1 p.m. in Bisset Park.

RU BIOLOGIST DR. SARA O'BRIEN FEATURED ON PUBLIC RADIO'S WITH GOOD REASON

For Earth Day, the public radio show "With Good Reason" is taking the planet's pulse. Synthetic hormones are flooding the waterways, so biologist Sara O'Brien (Radford University) is conducting experiments to pinpoint the source of human-made hormones and to determine the consequences of exposure to them. The canary-in-the-coal-mine for O'Brien's research is the ubiquitous "mosquito fish". Dr. O'Brien's interview will be featured on the edition of the show beginning April 11.

In the Radford/Roanoke market, "With Good Reason" airs Tuesday at 6pm on WVRU Radford 89.9fm and Sunday at 1pm on Radio IQ in Blacksburg WWVT at 1260am. Additional Radio IQ stations are listed here: <http://wvtf.org/radio-iq-schedule-0>

CAMP INVENTION AT RU SCHEDULED FOR JUNE



Camp Invention is a nationally recognized, non-profit elementary enrichment program backed by the National Inventors Hall of Fame.

Over the past 40 years, and in partnership with the U.S. Patent and Trademark Office, the Camp Invention program has encouraged nearly two million children, teachers, parents, college students and independent inventors to explore science, technology and their own innate creativity, inventiveness and entrepreneurial spirit.

Kids from the first through sixth grades can participate in Camp Invention at RU this June 22 – 26. Local educators will serve as faculty to lead the week of hands-on fun at Radford University, sponsored by the College of Science and Technology.

Registration is now open. For more information, please visit:

<http://inventnow-web.ungerboeck.com/programsearch/moreinfo.aspx?event=12027>

SUMMER BRIDGE APPLICATION DEADLINE EXTENDED FOR SELECT TRACKS

The Radford University College of Science and Technology Summer Bridge STEM program is a week-long residential experience for rising sophomore, junior, and senior high school girls interested in science, technology, and mathematics. The 2015 edition of the program will take place from Sunday, July 12 – Friday, July 17, 2015. More than 70 students have already been accepted into the program, but due to the generous donors of the program, additional scholarships are available for select tracks including space exploration, geology and environmental science.

More information and application instructions are available at:

<http://www.radford.edu/content/csat/home/summer-bridge.html>

