CSAT Receives Gift for Professional Travel from Alumna

Radford University’s College of Science and Technology (CSAT) received an $11,000 gift from 1973 biology alumna and RU Board of Visitor member Ms. Nancy Artis and her husband Dr. H. Pat Artis to create the Artis Centennial Early Career Development Program for the College of Science and Technology.

The program will support CSAT tenure-track faculty members’ professional travel to present original research at regional, national and international conferences and meetings. Funding priority is given to faculty members who will present faculty student collaborative research.

“As an RU Board of Visitor member, I clearly understand the impact that the Commonwealth’s budget cuts have had on our faculty. It is our intent to provide funding to allow faculty members to participate in conferences and advance Radford’s as well as their own reputations during RU’s centennial year,” says Ms. Artis. “We believe that a donation of this kind is the clearest way for us to demonstrate our support of Radford University and its centennial theme – Celebrating the Century – Forging the Future,” adds Ms. Artis.

Nancy and Pat Artis own and manage Performance Associates, Inc. (PAI), a magnetic storage and replication technology company with clientele among Fortune 500 companies and government agencies worldwide. The Artises are long-time supporters of RU and CSAT, and this gift is one of a long list of generous commitments they have made to educational enterprises.

“The College of Science and Technology is thankful for the Artises’ support of our college, faculty and students. This program will make a direct impact on our faculty’s professional opportunities and development,” says CSAT Dean Orion Rogers.

Additionally, the unique opportunity for our students to present research at regional, national and international conferences with their faculty mentors is invaluable to their educational and professional development,” says CSAT Dean Orion Rogers.

For more information about the Artis Centennial Early Career Development Program for the College of Science and Technology application process, contact your department chair or school director.

The program will fund faculty and student travel to present research at regional, national and international meetings and conferences.
Junior biology major and Virginia Beach native Justin Drake knows that he wants to be a physician. "I've always been interested in medicine and helping people. I really like the fields of oncology and radiology," says Drake. Last summer, Drake explored his goal while working side-by-side with his faculty mentor and RU biology professor Peter Christmas in a research facility at Massachusetts General Hospital (MGH) in Boston, the teaching hospital of Harvard Medical School.

From July 7 – Aug. 2, 2009, Drake spent close to eight hours a day in the lab with Christmas and other lab personnel investigating a gene called CYP4F3, which may inhibit inflammation. Christmas is the Principle Investigator of a five-year R01 grant from the National Institutes of Health.

"The research is important because there are many diseases which result from too much inflammation, including asthma and Alzheimer's disease," says Drake.

"I now have a greater understanding of medical research because I was able to interact with the lab technicians who work for Dr. Christmas and contribute as a member of the research team," adds Drake.

Drake and Christmas are continuing this research during the spring and fall. "Dr. Christmas receives mouse samples from his Boston laboratory, and we run tests on these here at Radford," Drake says. Research at Radford also involves the analysis of human cell lines that complements the work in Boston.

Christmas is looking forward to expanding student experiences at MGH in July 2010. "Everyone has something to offer in a research group, whether it is an undergraduate student like Justin or a postdoctoral fellow," Christmas adds.

"This is a long-term project to develop knock-out mouse models which can be used to address specific questions about inflammatory disease," says Christmas. "From breeding the first generation of knockout mice to observing the effects of CYP4F18 on inflammation, students are expected to participate in a collaborative effort with emphasis on cooperative work," adds Christmas.

Christmas’ expertise is cell biology, and he has held research and teaching positions at La Jolla Cancer Research Foundation, University of Stockholm in Sweden and Massachusetts General Hospital before arriving at Radford University in the summer of 2007.

Christmas believes that undergraduate students at Radford have a unique opportunity to work in research with faculty members who take a keen interest in their students’ success in both the classroom and the laboratory.

"The research being done by faculty in our college is impressive. Our students have a choice among a wide variety of research topics and projects that may help them achieve their goals, whether it be admission into medical school, graduate school or a position in a research laboratory upon graduation," says Christmas.

Drake agrees. "This experience exposed me to a research hospital environment. I liked being around the hospital and seeing it first-hand," says Drake.

He is looking forward to continuing his research in Boston, enrolling in medical school upon graduation, becoming a physician, and ultimately helping people.
Chemistry Student’s Love of Science Started with a “Magical Penny”

Senior chemistry major Sarah Davis remembers her first introduction to science in the eighth grade. Her school, Riverview Elementary and Middle School in Grundy, Va., hosted an all-night science lock-in to celebrate its new science facilities. She says RU chemistry professor Francis Webster’s “Magic of Chemistry Show” was a part of that event.

“Dr. Webster did a demonstration with liquid nitrogen and made raspberry ice cream. And he took a regular penny, soaked it in a solution to turn it silver, and then heated it to turn it gold. I still have that penny and keep it in my vanity at home,” says Davis.

Since that lock-in, Davis was motivated to explore science and math. “I really enjoyed chemistry in high school. I always liked math and science. The combination of the two was interesting to me. Then, when I was able to experience chemical reactions in the lab, it pulled me toward chemistry as a major,” says Davis.

As an RU chemistry major, Davis has traveled with Webster throughout southwestern Virginia and assisted him during two chemistry shows for children. “It seems like magic to the kids, but it is all chemistry,” Davis adds. She will be graduating in May after three years at RU, due to taking dual enrollment courses in anatomy, English, political science and western civilization that were offered at Grundy Senior High School and a few summer courses at her local community college and RU.

While at Radford, Davis has explored the pharmacy field. “I worked for a year at the Kroger pharmacy in Blacksburg as a pharmacy technician. After working with the pharmacists, I realized what they do for the community, how they serve their patients, and how everyone appreciates them. It makes me want to do the same thing for the community,” says Davis.

Davis is looking forward to attending pharmacy school in the fall. She hopes to complete a Pharm.D. and a Ph.D. combination. “I’m interested in drug compounding. I shadowed a compounding pharmacist. Compounding is mixing up specialized medication for sensitive patients,” adds Davis.

She says she has cherished her “magical gold penny” she received during the 8th grade because it symbolizes the beginning of her realization of how science can make a difference in people’s lives. Davis adds, “it’s not magic, but it can do amazing things.”

IT Student Creates DSS Application for International Medical Supply Business

Information technology major Mohammad Alsawwaf created an application to easily determine profit and unit cost for international medical supply company Al-Sawaf Trading Establishments in Saudi Arabia. The application was created by Alsawwaf to fulfill project requirements in information technology professor Dan Spillman’s ITEC 485 class, but will be used by the student’s father, who owns the company.

The application will allow the company’s management to convert currencies, determine unit quantity discounts, and determine decrease or increase in profit based on international shipping costs. Ultimately, this application will help Al-Sawaf Trading Establishments to create competitive bids to serve hospitals and health care providers located in the western region of Saudi Arabia including cities of Jeddah, Makkah, Madinah, and the small populated areas in between. This will also facilitate international business to Europe, the United Kingdom and the United States.

According to Alsawwaf, this application is also a part of a much larger project to assist the company to reduce paperwork and the storage of that paperwork.

Information technology student Mohammad Alsawwaf presents his DSS application for The Al-Sawaf Establishment during Dan Spillman’s class ITEC 485. Alsawwaf created the application as a class project, but it will be used in international business.
VanLooy Will Participate in Prestigious Climate Change Symposium

Geography faculty member Jeff VanLooy is invited to present research at the Dissertation Initiative for the Advancement of Climate Change Research (SISCCRS) symposium March 13—20, 2010 at Saguaro Lake Ranch, Tonto National Forest in Arizona. Approximately 175 research scientists from around the world applied to participate. Only 34 were chosen.

“Basically, anyone can apply whose research involves any area of study related to climate change and how it affects, and is affected by, various aspects of our environments,” says VanLooy.

VanLooy’s research is in glaciology and how glaciers have changed over the last century in relation to climate change. He uses satellite imagery and Geographic Information Systems data, specifically with Digital Elevation Models and Optical Satellite Imagery in his research.

“Basically, I use Digital Elevation Models to understand how the glacier surface elevations have changed over several decades, which can then be used to calculate sea level rise rates,” says VanLooy. This data is then compared with climate data to understand the relationship between glacial changes and climate changes, he adds.

The symposium will include biologists, climatologists, geologists, geographers and human researchers. During the seven-day symposium, the invited members will give oral and poster presentations, attend workshops on improving grant writing skills, and enhance collaboration through networking with other climate change researchers.

“The symposium invitation is significant because I see this as an opportunity to greatly enhance my research potential and collaborative contacts,” says VanLooy.

The symposium is sponsored by the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA), and is in its fifth year. Symposium sponsors will fund VanLooy’s travel and symposium expenses.

McClellan Presents Final MES Lecture of Fall Semester

RU geologist Elizabeth McClellan presented “The Secret Life of Garnets and Other Mineralogical Tales” on Dec. 1 in the Hurlburt Auditorium.

During her presentation, she discussed how the microscopic view of minerals can tell us much about the history of Earth.

The Museum of the Earth Sciences will begin its spring lecture series on Tuesday, Feb. 2, 2010 with Dr. Paul Marino from the National Technical University of Athens, Greece. He will discuss the geology of Athens including issues of urban geology for land use, construction of major engineering structures, hazard assessment and sustainable development.
Biology Student Discusses Research During Chalk Talks

Biology major Jordan Hixon presented his research during November’s Chalk Talks on Thursday, Nov. 19 at 5 p.m. in Reed 215.

Hixon is working with faculty mentor Gary Cote’ on research involving protein that makes crystals in plant cells. The College of Science and Technology encourages students to conduct research with their faculty mentors. Chalk Talks is one of the many opportunities for student researchers to discuss their work with students and faculty across disciplines in the college and university.

Chalk Talks is an informal presentation of student research in which students can receive feedback and initiate discussions about their work. It is held the last Thursday of each month during the fall and spring semesters. Students interested in presenting their research should contact biology faculty member and Chalk Talks coordinator Gary Cote’ at gcote@radford.edu.

STEM Club Hosts Mathemagician Arthur Benjamin

The CSAT STEM Club will host “Mathemagician” Arthur Benjamin on Thursday, Jan. 28 at 7 p.m. Location is yet to be determined. The event is free and open to the public.

Benjamin is both a professor of mathematics at Harvey Mudd College in Claremont, Calif., and a magician. He has combined his two loves to create his presentation “Mathemagics,” which is suitable for audiences of all ages. During his show he demonstrates and explains his secrets for performing rapid mental calculations faster than a calculator.

He has appeared on many television and radio programs including, The Today Show, CNN, Amazing Discoveries! and NPR. He has also been profiled in The New York Times, Los Angeles Times, USA Today, Scientific American, Discover Magazine and Reader’s Digest.

“Dr. Benjamin’s presentation ranks among the very best. He is able to entertain, motivate, stimulate, and educate simultaneously, a rare ability that helps to bring the joy of math and science into the lives of his audiences,” says Dr. Steven Murov, Director of Modesto Area Partners in Science.

For more information about Benjamin, visit his website at www.math.hmc.edu/~benjamin/mathemagics.htm.
CSAT STEM Club Spotlight: Activities and Upcoming Events
By Arielle Reynolds, STEM Club secretary

The CSAT STEM Club is excited to be joining the physics club on its trip to the National Radio Astronomy Observatory in Green Bank, WV, January 22—24, 2010. On Thursday, January 28, at 7 p.m., Art Benjamin, the Mathemagician, will perform on campus. The location will be announced soon. Also, a Smithsonian trip is being planned for March 20. The spring semester will be very busy for our club!

The turnout from the canned food drive in November was great! We collected 314 canned food items and $55.00 in monetary donations. Dr. Laura Spielman and STEM Club president Gabby Ness delivered the items to the Radford/Fairlawn Daily Bread during Thanksgiving break. The CSAT STEM Club would like to thank everyone who participated. Together we tripled our original goal of collecting 100 cans.

The CSAT STEM Club members display the canned goods donated by faculty, staff, and students of the College of Science and Technology. This food drive was inspired by the university’s centennial service challenge.

Mathemagician Art Benjamin will perform on campus Jan. 28 at 7 p.m. His presentation is sponsored by the CSAT STEM Club.