

## GIS Students and Faculty Make a World of Difference

Geography and Geosciences Department faculty and staff are making a positive impact in the state, in the region and internationally.

As the East Coast recovered from Hurricane Sandy, some 50 SU geography students assisted with storm damage assessments. Working around the clock in Henson Science Hall on the weekend following the storm, the team, led by four graduate students, examined before-and-after Google Earth aerial images of New York, New Jersey and Connecticut. They labeled damage to homes and buildings on grids using a four-level classification provided by the Federal Emergency Management Agency. They also compared photographs to determine how high water levels rose. Their data was immediately shared with ImageCat, Inc., an international risk and disaster management company contracted by New Light Technologies, Inc. of Washington, D.C., to support FEMA's effort. ImageCat compiled the data with other teams' to help provide the federal government with an overall damage assessment. SU was the largest contingency to assist ImageCat, and the company paid students for their time.

SU's Eastern Shore Regional GIS Cooperative (ESRGC) was contracted for its first overseas project. Over six months, staff are developing a pilot, security-related GIS program for Texas A&M University's branch campus in Doha, Qatar. The system will allow the Middle Eastern institution to see and communicate real-time data about or impacting its personnel. The system will assist with emergency management by allowing the campus to have real-time access to the location of all its employees and their families, and showing on-demand options for routing them in critical situations.

One of the SU's geography stars, Dr. Michael Scott, founder and director of SU's M.S. in GIS Management Program and leader of the ESRGC, is serving on the Maryland Integrated Map (iMap) Executive Committee, which sets policy and advises Maryland Governor Martin O'Malley on state iMap initiatives.



## Gates-Cambridge Award Winner

Chemistry major Dominique Kunciw earned one of the world's most prestigious international scholarships, the Gates Cambridge Award, to explore the development of drugs, especially for antibiotic-resistant diseases. She will pursue a Ph.D. in chemistry at the renowned University of Cambridge.

Established by the Bill and Melinda Gates Foundation, the highly competitive scholarship is akin to Oxford's Rhodes Scholarship, or the Marshall, which also supports study in the United Kingdom. Over 4,000 people worldwide apply for the Gates annually; Kunciw was one of only 39 U.S. recipients for 2013-14.



Her father Bohdan, who teaches in SU's Mathematics and Computer Science department, attributed her academic success to her determination and ability, "endless hours" of studying, and continual search for research opportunities. Kunciw actively engaged in research on the organic synthesis of biologically active compounds at SU and at institutions in France and Germany. Her SU work, exploring the structural requirements of compounds used to treat tuberculosis, led to an article published in *Bioorganic and Medicinal Chemistry Letters* in September 2012.

At Cambridge, Kunciw will study under Dr. David Spring of the Chemistry Department and will be a member of the 600+ year old Gonville and Caius College. Among its notable fellows is physicist Stephen Hawking. Twelve Nobel Prize winners also are graduates, including Francis Crick, who co-discovered the structure of DNA.



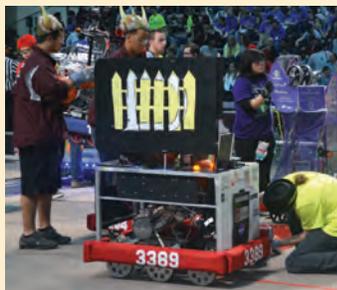
## Honors for Respiratory Therapy

Dr. Robert Joyner, respiratory therapy program director and associate dean of the Henson School of Science and Technology, was appointed as a representative of the American Association of Respiratory Care to the National Board for Respiratory Care, Inc. (NBRC). He will serve a one-year renewable term on the 31-member board for the Kansas City, KS-based organization, which provides voluntary credentialing examinations for practitioners of respiratory therapy and pulmonary function technology.

In addition to providing high-quality standardized exams for practitioners, NBRC

seeks to advance medicine by promoting the use of respiratory care in treating human ailments.

Joyner is not alone in earning regional recognition. Four seniors from the respiratory therapy program were chosen by the Maryland/District of Columbia Society for Respiratory Care to receive the 2012 Karrie Lipscomb Achievement Award. Katelyn Cass and Kurt Strudwick attend the main Salisbury campus, and Fatima Granados and Renadin Siagat are enrolled in SU's satellite program at the Universities at Shady Grove. Each year students from all two- and four-year respiratory therapy programs in Maryland and D.C. who have a GPA of 3.0 or higher are asked to submit an essay for the award.



## From Electronics to DNA

For two science students, success has moved beyond the classroom.

Physics major Sam Brown won a bronze medal for electronics technology at the 49th SkillsUSA National Leadership and Skills Conference (NLSC) in Kansas City, MO. Some 5,600 students from across the nation competed in the weeklong event. At NLSC, Brown took two exams and participated in three hands-on challenges. He was one of only two in his division to pass the International Society of Certified Electronics Technicians test, earning the highest score and a \$500 award. He also earned the Electronics Technicians Association's Customer Service Specialist certification.

In 2012, Dr. Les Erickson, Biological Sciences Department, and former student Ryan

Protzko published a paper in *BIOS*, the journal of the Beta Beta Beta national biological honor society, describing a method to produce active Taq DNA polymerase in an undergraduate classroom. The article earned the C.E. McClung Award for the most outstanding research paper published in *BIOS*. It also prompted a number of requests to the authors for materials and questions about the protocols invoked in the research.

After responding to dozens of universities in 20 countries, they decided to follow up with a second article, also published in *BIOS*. This time, they sought to develop a faster, simpler protocol that would allow labs and classes with limited equipment and supplies the ability to produce active Taq DNA polymerase more easily for teaching and research.

## Leaders in Nursing Education

SU's Nursing Department was awarded \$1,079,644 from the Maryland Higher Education Commission to expedite and expand doctoral education for nurses across the state.

SU launched its new Doctor of Nursing Practice program last fall. The three-year Nurse Support II grant will enhance this effort by assisting faculty in making courses more accessible to professionals statewide.

During phase one, faculty will transform all courses in the D.N.P. curriculum into a distance-accessible format by combining online coursework, individual activities, and synchronous meetings and webinars. This approach will keep students in close contact with professors and each other, but with limited face-to-face meetings at SU. Faculty hope this will make the program more attractive to nurse educators, executives and practitioners who work across the state and help expedite the completion of their degrees.

At the undergraduate level, SU students again earned the highest pass rate of all baccalaureate programs in Maryland on the National Council Licensure Examination for Registered Nurses. With some 97.26 percent of students passing on the first try, SU topped peers including Johns Hopkins University and the University of Maryland, according to Maryland Board of Nursing data for 2011-12.