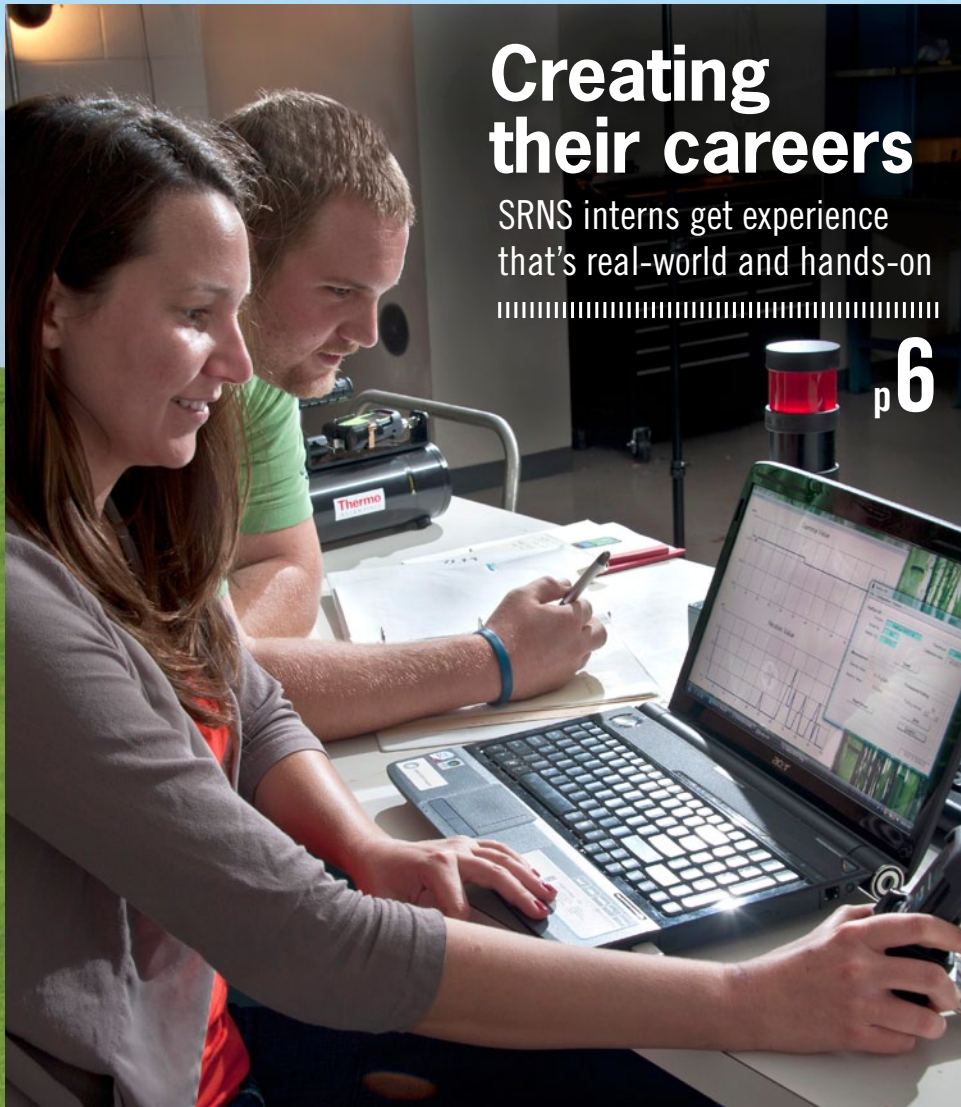


July 2012

SAVANNAH RIVER NUCLEAR SOLUTIONS

SRNS Today



Creating their careers

SRNS interns get experience that's real-world and hands-on

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Mass spectrometers
given a new lease on life

Dwayne Wilson
SRNS President and CEO



Welcome to the July 2012 edition of “SRNS Today.”

This month’s edition is all about leadership. True leaders not only set forth a vision, they rely on the ingenuity of others to make that vision a reality. With its astounding diversity of missions and commitments, Savannah River Nuclear Solutions is fortunate to have leaders in all areas, working with creative co-workers to transform vision into fact. July’s edition showcases just a few of examples of how SRNS employees are providing leadership in SRS management and operations, in community efforts and nationally in the areas of national security, clean energy and environmental stewardship.

Recently, our Senior Vice President for Support Services and Chief Business Officer Beth Bilson and H Area Materials Disposition and F Area Maintenance Manager Dennis Cheeks were honored by the SRS Leadership Association as Executive and Leader of the Year (respectively). Please join me in congratulating these two SRNS leaders on their awards.

We’re also helping future leaders get their start. The SRNS internship program offers students a chance to put their academic skills to work here at the Site, and to accustom these young people to the real world of their prospective professions. Please see Pages 6-7 for more about this important program.

In addition, SRNS employees are leading the way in the community, preparing local school children to excel in the areas of science, technology, engineering and mathematics, or STEM. This month, engineering and robotics education were in the forefront both in Blackville, S.C. (see Page 4), and in Evans, Ga. (see Page 10).

I hope you enjoy this edition of “SRNS Today.” As always, thank you for your interest in Savannah River Nuclear Solutions.



Savannah River Nuclear Solutions, LLC, is a Fluor partnership with Newport News Nuclear and Honeywell. Since August 2008, SRNS has been the management and operating contractor for the Savannah River Site, a Department of Energy-owned site near Aiken, South Carolina, including the Savannah River National Laboratory. The SRNS corporate and community offices are located in the renovated 1912 “Old Post Office” building in Aiken, S.C.

The primary initiatives of SRNS are national security, clean energy and environmental stewardship.

SRNS Today is published monthly by SRNS Corporate Communications to inform our stakeholders of the company’s operational and community-related activities. If you have questions or comments, please contact us at 803.952.9584.

For additional information about SRNS, please visit our website at savannahrivernuclearsolutions.com.

Bilson, Cheeks honored with awards from the SRS Leadership Association

SRNS Senior Vice President for Support Services and Chief Business Officer Beth Bilson and H Area Materials Disposition and F Area Maintenance Manager Dennis Cheeks were recently presented with leadership awards by the SRS Leadership Association (SRSLA), the SRS chapter of the National Management Association (NMA).

Bilson was presented the Executive of the Year Award and Cheeks was awarded Leader of the Year at a banquet held at the Center for Hydrogen Research.

The Executive of the Year Award recognizes a senior executive who has gained significant recognition for managerial and leadership accomplishments, conducted both personally and through business affairs in accordance with the NMA’s Code of Ethics. The Leader of the Year Award recognizes a manager who has demonstrated the same outstanding qualities as the Executive of the Year.

Bilson was chosen as Executive of the Year for her leadership skills through more than 25 years of management experience in environmental and chemical processing industries, including executive level positions within the U.S. government and private sector. Bilson is a member of the SRNS Executive Welfare Committee and chair of the SRNS Change Control Board. She was the chair of the Safety Framework Call to Action Team and she is also a supporter of the Leaders Emerging Among Professionals Program

Cheeks was recognized as Leader of the Year for embodying the same qualities as Executive of the Year in his role as manager for H Area Materials Disposition and F Area Maintenance. He was chosen for his support of SRNS safety and process improvement initiatives such as IDEAS and the Lean Initiative. Cheeks is a member of the 2S Conduct of Operations Committee, the Senior Electrical Review Board and is an active member of the Senior Maintenance Forum. He has also won numerous IDEAS Evaluator Awards and Advocate Awards including Evaluator of the Year. In 2011, he was recognized by IDEAS America with a Silver Advocate Award for promoting employee involvement and process improvements in the work place.



Beth Bilson



Dennis Cheeks

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Awards and accolades



Padezanin receives award from American Red Cross chapter

SRNS Director of Health, Safety and Medical Services Pat Padezanin (pictured at right) recently received the Jack B. Patrick Award for Volunteer Services at the annual meeting of the Augusta Chapter of the American Red Cross. The chapter’s executive director Jennifer Pennington (left) presented the award, which is given annually to recognize outstanding volunteer service to the chapter. Padezanin has served on the American Red Cross Board of Directors for nine years and has taken an active role in all aspects of chapter operations. She is chairman of the Service Delivery Committee which has oversight responsibility for the areas of Disaster, Service to the Armed Forces, and Health and Safety. “It is gratifying to support an organization like the American Red Cross that helps people in difficult situations,” said Padezanin. “It’s an honor to be chosen from among the many other volunteers who give their time.”

Robots roll into Blackville

SRNS provides funding for STEM initiatives

SRNS Executive Vice President and Chief Operating Officer Fred Dohse recently visited a science, technology, engineering and mathematics (STEM) summer camp held in Blackville, S.C. The camp was held to uphold a commitment made last year to SRS and the children of Blackville by Blackville Town Administrator Ian Kaiser. “It’s imperative to introduce STEM models to the rural population, for the survival of these small communities,” said Kaiser. “Our partnership with SRNS and focus is to build a skilled work force, essential for our future.” The camp was held in partnership with the Boys and Girls Club of Southern Carolina and was focused on engineering and robotics. Dohse visited the camp during a two-week period when the focus was on engineering and robotics. Students demonstrated their LEGO® Mindstorm customizable and programmable robots while teachers and camp staff shared their vision for an after-school program. “It was great to see the level of enthusiasm for math and science this program has generated for the children attending the camp,” said Dohse. In support of that vision, SRNS donated \$500 to the city of Blackville for STEM initiatives.



Photos: (clockwise from above) Camp Team Leader Brandon Walters watches Anias Williams try out his robot; Destiny Martin concentrates on her project; SRNS Executive Vice President and Chief Operating Officer Fred Dohse watches as students (from left) Alexis Buckley, Cloe Bates, Brooklyn Benjamin and Kiana Sander assemble their robots.



SRNS upgrades system for recovery and management of helium-3

SRNS Tritium Programs recently completed a project to design, build and relocate a new system for separating and capturing helium-3. An important byproduct of the tritium manufacturing process, this form of helium gas is primarily used in radiation detectors employed by the U.S. Department of Homeland Security to detect neutron activity from nuclear material.

SRNS is responsible for the recovery and management of helium-3 as one of their key missions for the National Nuclear Security Administration (NNSA). The recovery system upgrade project paves the way for a larger initiative to maintain and modernize Tritium Operations while reducing operational footprint and costs. The Tritium Responsive Infrastructure Modifications initiative will leverage technology advancements, so that the large, aging and more expensive processes will move from Cold War-era facilities into newer, smaller and less expensive accommodations, thereby reducing operating expenses by \$28 million annually.

The previous helium-3 recovery system had been operating for over 40 years and was no longer cost effective to operate or maintain. The age of the equipment, potential for contaminants and the need to relocate the recovery process out of the previous Cold War-era facility, drove the requirement to install an upgraded system in a new location.

Shop fabrication activities began in November 2010 and field activities began in April 2011 to provide a state of the art, oil, mercury and lead free system that would separate and bottle helium gas. To accomplish this, the project required the construction of a glovebox to house approximately 1,200 feet of stainless steel piping connected by approximately 1,300 welds, four vacuum pumps, three compressors, two zeolite beds and 20 instruments. In addition to the glovebox, the new system incorporates two stainless steel tanks for feed and waste, a control panel, oxygen monitor, exhaust ducts and several interfaces to existing Tritium plant systems.

“The helium-3 recovery system upgrade project and others like it are critical for the SRS tritium operation to continue providing safe, secure, reliable and cost-effective solutions to meet national needs,” said NNSA Savannah River Site Office Manager Doug Dearolph. “Relocating this process not only enables us to vacate our older facilities in the future, but it also positions us to effectively support the NNSA’s helium-3 recovery mission for years to come.”

Modernizing and right sizing the tritium operations infrastructure, as well as increasing the supply of helium-3 are two national security initiatives within the Enterprise•SRS strategy for leveraging Site capabilities and expertise to provide solutions to national problems.



Operator Cindy Sizemore installs a tank to be filled with helium-3, a byproduct of the tritium manufacturing process.

Awards and accolades

IDEAS program wins national awards for excellence

The SRNS employee suggestion program recently accepted two prestigious awards presented by the nationally recognized Center for Suggestion System Development (CSSD). “The Elite (Top) Ten” and “Outstanding Suggestion Program Manager of the Year” awards honored the SRNS IDEAS program, which has been heralded nationally as one of the top employee suggestion processes. In a letter to SRNS, CSSD President Thomas Jensen stated, “My heartfelt congratulations on these deserved accomplishments. It is truly an achievement and an honor to be the recipient of these awards.”

“Not only is the SRNS intern program beneficial to students by offering paid experience in their chosen field, but it is also advantageous to SRNS. We hope to fill our pipeline with skilled workers who have already become acclimated to our company culture, and who will want to come back and work with us in the future.”

Angela Martin
SRNS Strategic Staffing

Creating *their* Careers

SRNS interns hone their skills in a 310-square-mile classroom

Tae Cruz is a hands-on kind of guy, which is why he chose mechanical engineering as his major in college. This summer, his internship with the Fire Engineering Department at SRNS has helped him see what his career will look like in the future.

Cruz is only one of the 138 SRNS interns working at SRS this summer in fields such as radiological control engineering, public affairs and finance, as well as in many different positions at Savannah River National Laboratory (SRNL).

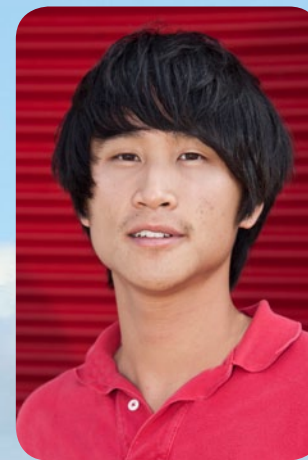
The SRNS intern program offers a unique opportunity for students to come to SRS to acquire real-life experience in an array of professions. Internships are paid, offered to college students ranging from freshman to post-doctoral and are mutually beneficial to the students and SRNS managers.

“I love the internship program at SRS because it provides actual experience for real world situations,” said Sarah Kendrick, a Clemson University senior who is working on lithium air batteries at SRNL. “This experience will not only help me decide what I want to do with my career and my future, but it will enable me to take back this knowledge to my classes and let my classmates know how the working world really is compared to academia.”

Zachary Huffman is a rising sophomore at Mercer University who is majoring in biomedical engineering. “What is taught in a classroom setting and what is actually done within the workforce are two completely different things, and I now know what lies ahead of me when I go to search for a career after college,” said Huffman. “The practical experience I have received at SRS will have me accustomed to how engineering in a business setting operates, and will have me prepared for a career. I would recommend SRS internships to my classmates because of the unique, practical experiences and opportunities SRS presents to college students pursuing engineering.”

“Not only is the SRNS intern program beneficial to students by offering paid experience in their chosen field, but it is also advantageous to SRNS. We hope to fill our pipeline with skilled workers who have already become acclimated to our company culture, and who will want to come back and work with us in the future,” said Angela Martin of Site Strategic Staffing.

Seven interns have so far been offered full time employment with SRNS, with more offers expected by summer’s end.

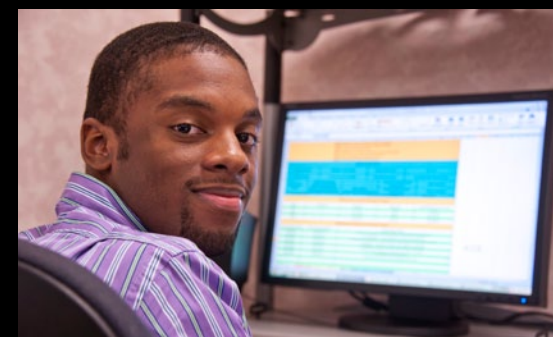


“My first internship experience at SRS has been fascinating since I am working on various engineering tasks involving Fire Protection Engineering Services. I have learned and observed how engineers work with others on Site, which will be a lesson I can take with me into my career. I would highly recommend SRNS internships to my fellow classmates, because I strongly believe that the Savannah River Site offers various career opportunities for our generation.”

Tae Cruz, Mechanical Engineering student from Georgia Institute of Technology, working with SRNS Fire Protection Engineering Services



Emily Wade (left), a Masters of Science graduate from Oregon State University, discusses radiation measurement with Michael Spaulding, a Radiation Control and Management major at Aiken Technical College. Nicole Martinez (right) is a Colorado State University PhD candidate in Radiological Health Sciences. All three are working for SRNL.



Kaylan Adams (left), a mechanical engineering major at the University of South Carolina in Columbia, works in the Tritium Facilities. SRNS President and CEO Dwayne Wilson (right) talks with some of the SRNS interns who attended a recent reception in their honor. Wilson, members of SRNS senior staff and the interns later posed for a group photo.



Annual SRNS United Way softball tourney raises more than \$20,000

Awards and accolades

Duignan elected as Fellow of ASME

Mark R. Duignan, a fellow engineer with SRNL, was elected as a Fellow of the American Society of Mechanical Engineers (ASME). Dr. Duignan is a mechanical engineer with 28 years of experience in experimental heat transfer and fluid flow, aerosol testing, small column ion exchange testing, and pilot plant project development, including the design, fabrication, instrumentation, calibration and procedure development. He is recognized by DOE's research community for his work in the field of fluid flow and thermal analysis. Dr. Duignan worked on crossflow filtration development for the Hanford Site Waste Treatment and Immobilization Plant, which separates high level waste from low level waste. Dr. Duignan serves as the chairman of the ASME Fluids Engineering Division, Multiphase Flow Technical Committee.



Mark Duignan

The eighth annual SRS United Way Softball tournament completed another successful year, raising more than \$20,000 to benefit 15 local United Way agencies.

"It's gratifying to see the fundraiser go from a concept to a very successful event—an event that keeps getting larger every year," said Eric Schiefer, who develops a player draft for the tournament each year. "When I was first approached with the idea, I never thought it would grow to an over \$20,000 charitable fundraiser."

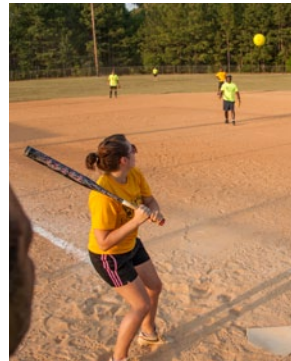
This year, over 200 players participated in the tournament with more than 30 volunteers umpiring and keeping score. In addition to Schiefer, SRNS volunteers Alex Ruderman and Jerry Zipperer coordinated this event.

"The hard work pays off when the team owners get competitive and want the best team, so more money is raised, thereby creating an ever increasingly large donation to their charities," said Schiefer.

Each team is owned by a top executive in every participating organization. Owners raise money for their team and then "buy" team members. The cost of a softball player can range from \$20 to \$600 depending on skill level.

SRNS Deputy Director of EM Operations Steve Howell's team, "\$20 Beast," took first place in the tournament. They donated their winnings to the United Way agency ACTS (Area Churches Together Serving). Each team is awarded a portion of the total money raised according to their final place in the tournament.

"We couldn't have hoped for a better tournament," said coordinator Alex Ruderman. "The turnout was great, and we had talented teams who gave the spectators something to cheer for."



SRNL brings new life to vital instrumentation from New Brunswick Lab

In the hands of experts from SRNL and other SRNS departments, a once-unneeded device from another DOE facility has become a priceless resource for ensuring that SRS retains an important analytical capability.

Mass spectrometers – analytical devices for determining the precise composition of gases – are used at several National Nuclear Security Administration (NNSA) sites to measure gases used in production, surveillance and development activities. When the manufacturers of certain types of spectrometers announced a few years ago that they would no longer produce the equipment and would cease support of existing devices, SRNL began examining ways to ensure that NNSA could keep this crucial capability.

Now, an instrument that has been sitting idle for years has given those efforts at SRS a welcome boost.

When DOE's Mound Plant in Ohio closed in 1989, a mass spectrometer was sent from the plant to the New Brunswick Laboratory (NBL), located at Argonne National Laboratory, where it sat for over a decade. This mass spectrometer shares key spare parts with at least two of the instruments at SRS. Recently, several SRS personnel went to Argonne to uncrate the mass spectrometer, sort out the components that had value for SRS use, repackage those components and ship them to SRS.

"The replacement cost of one of these highly specialized mass spectrometers exceeds \$1 million, while its actual value to SRS is even greater, since they are no longer available," said Joe Cordaro, SRNL's lead engineer for the program to maintain future mass spectrometry capability at SRS.

For the investment of labor and shipping costs, SRS received 10 to 12 critical spare components that are no longer available from the manufacturer. SRNL previously had to build several components from scratch to repair the instruments at SRS. In addition, SRNL personnel are using the "flight tube" from the transferred mass spectrometer to learn how to rebuild this component.

"The equipment from NBL represents a ready storehouse of needed spare parts and the information to support the rebuilding of several critical components for our instruments," said Jim Dollar, Director of Tritium Programs at SRS.

The use of the NBL mass spectrometer is just one project in the SRNL-led initiative to retain, and even enhance, this vital analytical capability at NNSA facilities across the country.

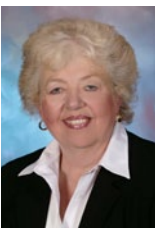


SRNL's Joe Cordaro inspects a mass spectrometer.



Jantzen named to NAS Nuclear Studies Board

Carol M. Jantzen of SRNL has been appointed to the National Academy of Science (NAS) Nuclear and Radiation Studies Board (NRSB), formerly known as the Board on Radioactive Waste Management. The NRSB organizes and oversees studies on safety, security, technical efficacy, and other policy and societal issues related to the application of nuclear and radiation-based technologies. Dr. Jantzen is recognized within SRNL, SRS, DOE and internationally for her expertise in high level waste vitrification, the transformation of waste into a stable glass form for disposal. Her contributions have also been recognized by her peers in the American Ceramic Society (of which she was the first woman president), ASTM standards development organization (formerly known as the American Society for Testing and Materials), American Nuclear Society, and the Materials Research Society in which she actively participates. She has served on the U.S. Nuclear Technical Advisory Group of the International Standards Organization.



Carol Jantzen

Oversized load – really!



The SRS Tritium Extraction Facility recently received a new waste container designed for storage and disposal of previously extracted Tritium Producing Burnable Absorber Rods. The 174,000-pound container was delivered on an oversized truck that required a driver at each end of the rig, and was unloaded in E Area with the use of a 250-ton crane. The safe receipt of the waste container came after months of planning coordination involving several SRS organizations.

Awards and accolades

Maciaszek named Fellow of Fire Protection Engineers

Stan Maciaszek, fire protection engineer for Tritium Operations, was recently inducted as a Fellow of the Society of Fire Protection Engineers (SFPE).



Stan Maciaszek

A Registered Professional Engineer, Maciaszek is a system engineer and design authority for the Tritium Facilities and is responsible for the nuclear safety related fire suppression systems. He promotes fire protection and fire protection engineering through mentoring, National Engineer Week activities and other education outreach programs. Within SFPE, Maciaszek is an active member of the Engineering Licensing Committee, where he is a subject matter expert in the water-based systems category. Maciaszek is president of the Central Savannah River Area chapter of SFPE. He received the South Carolina State Firefighter's Association Citizenship Award for his work in providing sprinkler systems for Habitat for Humanity projects and he participates in the National Fire Protection Association's Technical Committee for Fundamentals of Fire Alarm Systems.

SRNL engineers guide local kids in Moonbots Challenge competition

Two engineers from SRNL and a trio of very enthusiastic 10-year-olds are channeling their fascination with engineering into a project that shares that enthusiasm with other young people.

John Bobbitt of SRNL is the coach of the Evans Robot Raptors, a team formed to compete in MoonBots 2012: A Google Lunar X PRIZE LEGO® MINDSTORMS® Challenge.



SRNL's John Bobbitt is the coach of the Evans Robot Raptors.

While the MoonBots challenge involves designing robots and imagining lunar exploration, the focus of the judging, Bobbitt said, is on how well the kids perform science, technology, engineering and math (STEM) outreach to other kids. As an engineer whose career has clearly influenced the boys, Bobbitt is proudest of this outreach component. "This way you are not just reaching the kids who are interested in robotics, who were already probably focused on STEM education, but on other kids who maybe never had the same exposure to STEM education," he said.

In addition to Bobbitt, SRNL engineer Matt Folsom is helping with the team's robot design by teaching the boys about circuit design and how to solder.

For the first phase of the competition, the teams had to answer a question that demonstrates their creative thinking about lunar exploration, and an outreach question that shows how they would use their work in the second phase to reach out to other young people. If their team is among the 30 phase-one winners, they will go on to phase two: designing a Lego® robotics based game, programming a robot to compete in the game and then demonstrating it to a group of kids.

In their video response to the creative question, the boys explained what they would leave behind on the moon and why. Not surprisingly for a team coached by one of the engineers who works with SRNL's rapid prototyping capability (SRNL is a leader in the DOE complex in the application of this capability, which is essentially 3-D "printing" that can produce items directly from CAD design) one of the items the boys would leave is a rapid prototyping machine to build parts needed by future lunar missions. The trio—who are also members of the same soccer team—would leave a soccer ball for future astronauts to use in their free time; as they explain in their video, the gravity on the moon is really good for soccer.

If chosen to advance to the second phase, the Robot Raptors plan to demonstrate their game at a local children's hospital. "There are children there with chronic health conditions that would prevent them from ever becoming astronauts," Bobbitt said. "They want to show those kids that while they might not ever travel to the moon in person, they can learn science and engineering to design and operate robots and visit the moon and beyond remotely. Science, engineering and math can open up whole new worlds for them."

The team's video can be viewed on their webpage: www.evansrobotraptors.blogspot.com.

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Scenes of SRNS

A blue heron keeps an eye out for prey at a Site wetland north of H Area. The bird is standing on a bin used by the Savannah River Ecology Laboratory to monitor leopard frog tadpoles. (Photograph by Steve Ashe)

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Putting our world-class nuclear knowledge to work for the nation

National Security • Clean Energy • Environmental Stewardship



We never take our eye off the ball.