Student Programs

2014-2015 Impact Data

RPSEC Student Programs for K-12 students had 35,369 program visits during the 2014-2015 school year. Of that total, 30,404 were K-12 students from 80 schools encompassing 14 public school districts in South Carolina and Georgia, as well as numerous private and home school groups. In addition, 678 teachers and 4,287 adult chaperones accompanied the students during this year’s programs. This year’s most popular programs included Animals with Backbones (1,928 student visits), In My Backyard (1,814 student visits), The Graph Club (1,652 student visits), Magnets & Motions (1,521 student visits) and Circuit City (1,497 student visits).

K-12 Student Programs 2015-2016

The deadline has passed for reservation requests for the 2015-2016 school year. Once again, we received many more requests than we will be able to serve, and our schedule is now full. We are unable to schedule additional programs at this time, but will be happy to place your request on a waiting list in the event of a cancellation. To download a reservation request form, please go to: http://rpsec.usca.edu/student/.

The RPSEC currently offers 52 hands-on, inquiry-based programs for K-12 students. All of our programs are aligned with South Carolina and Georgia academic standards, and many of our programs are interdisciplinary. Our Student Programs website includes program descriptions, standards correlations, and related Traveling Science and Mathematics Kits that support and extend each lesson. These kits contain excellent post-visit activities and are available, free of charge, for checkout. To reserve a kit, go to http://rpsec.usca.edu/traveling science/ or call (803) 641-3683.
In addition to our already vast collection of student programs we will be adding the following to meet the needs of our local students and educators.

Elements, Compounds, and Bonds – Oh My! (Gr. 7 • Oct, Jan) Students “Meet the Elements” in a fun music video; then work together to classify materials as elements, compounds, and mixtures. They will build atomic models, and discover why compounds are either ionic or covalent.

Engineering Insects: (Gr. K, 2 • May) Students will learn about the major body parts of insects. They will test different insect “mouth parts” at feeding stations, and then use the engineering design process to brainstorm inventions based on insects.

*Engineering the ISS: (Gr. 6, 8, 9-12 • Oct, Dec, Jan, Mar) How do you build a million-pound object that will stay in orbit and sustain human life? This interactive show describes how 15 nations worked together to engineer the International Space Station (ISS), a unique scientific laboratory and home in space. A rap and animations explain how weight, mass, gravity and speed are related, and why astronauts are weightless on the ISS even though there is gravity in space.

Lunar Design Challenge: (Gr. 4 & 8 • Oct, Jan, May) Students will design, build, and test a Lunar Buggy to transport astronauts and cargo on the Moon. They will collect and analyze data, take measurements, and refine their models using the Engineering Design Process.

Sun & Shadows (Gr. 1 • Nov, Dec) Students will conduct investigations that help them discover how the Sun appears to move, how shadows change over time, and how the angle at which light shines changes the brightness and spread of the light.

From January through May 2015, the RPSEC offered a series of monthly programs for home school students. Home School Mondays 2015 had a total of 1090 student visits with 60 adult chaperones.

The RPSEC is again offering a series of monthly programs for home school students. The programs will be held on Monday afternoons from January through May. One Monday per month, participants will attend (2) one-hour, back-to-back science or math programs. The two programs for the “Younger” students (Grades K-3) will be held at the same time as the two programs for the “Older” students (Grades 4-8). Over the course of the spring semester, each child will attend a total of 10 programs. Different programs will be offered each year with a 3-year rotation cycle.

Our Home School Mondays 2016 offerings will be posted online by September 8, 2015. The deadline to submit reservation request forms with payment will be Tuesday, December 1, 2015. The children will be assigned to one of eight groups. Four of the groups will meet on the first Monday of each month (January 4, February 1, March 7, April 4, and May 2, 2016). The other four groups will attend on the second Monday of each month (January 11, February 8, March 14, April 11, and May 9, 2016). A final schedule with dates and participant lists will be e-mailed to parents and posted on our website by December 15, 2015. Please check these group lists to be sure that your child has been assigned to the right group, especially if you had a special request. Please let us know as soon as possible if you see any conflicts.

The cost is $35 per student for the series and must be prepaid in full by the December 1, 2015 deadline. Reservations are first come, first served, and we may fill up before the deadline. There is a $15 per student surcharge for late requests, and we cannot guarantee that late requests can be served. You may mail or deliver the reservation request form to the RPSEC, USC Aiken, 471 University Parkway, Box 3, Aiken, South Carolina 29801. Please make checks payable to USCA.

We look forward to seeing you soon!
Service Learning at CE-MIST Schools

Undergraduate students enrolled in EDPY A334 Adolescent Growth and Development classes are asked to complete a 10-20 hour service learning project at Leavelle McCampbell Middle School, A. L. Corbett Middle School, or JET Middle School. They are asked to mentor a young adolescent, collect data, and write reflections about the experience. Over the course of the 2014-2015 school year, the pre-service teachers logged a total of 362 service learning hours. This project was sponsored by the Center of Excellence in Middle-level, Interdisciplinary Strategies for Teaching (CE-MIST).

Science and Technology Enrichment Program (STEP)

The Science and Technology Enrichment Program (STEP) is a cooperative effort between Savannah River Nuclear Solutions, Silver Bluff Audubon Center, and the Ruth Patrick Science Education Center. Two field trip locations for STEP include the Savannah River Site and the Silver Bluff Audubon Center. At each location, STEP students utilize classroom and outdoor laboratories to conduct scientific investigations on topics such as water and soil ecology, wildlife, forestry, archaeology, navigation and more. For program information please visit the STEP website at: https://rpsec.usca.edu/step/

NOTE: To visit the Savannah River Site, there are specific procedures that must be followed two weeks prior to your visit for badging purposes.

Summer Student Programs at the RPSEC

During the summer, the DuPont Planetarium and the RPSEC offers programs to daycare centers, church groups, summer camps, and civic organizations. Summer programs offered this year included Animals with Backbones, The Mad Scientist, Grossology, Digistar Virtual Journey, Engineering the ISS, Ancient Sky Lore, and In My Backyard. A new series of summer programs offered in June 2015 included Brilliant Butterflies, Squish and Squirm, Catapult Creations, and Rev Up Recycling. There were a total of 615 student and 77 adult visits for summer student programs.

Allendale and Fairfax Students Visit

A group of students from Allendale Elementary and Fairfax Elementary attended a Juilliard performance at the Etherredge Center in the morning, followed by programs at the Ruth Patrick Science Education Center in the afternoon. The RPSEC programs included Solar System Adventure Tour, Animals with Backbones, May the Force Be With You, Circuit City, Sound-sational, Planet Earth Rocks, Merry Measuring, The Water Dance, and The Graph Club. There were a total of 277 students and 16 teachers. This project was sponsored by Savannah River Nuclear Solutions and the RPSEC.

Family Literacy Project in Ridge Spring

CE-MIST and the Aiken Writing Project, with funding from the Kellogg Foundation and the National Writing Project, sponsored a series of Family Literacy Nights at Ridge Spring-Monetta (RSM) Elementary School. The purpose of the Family Literacy Night project was to promote a bridge between the homes of English Language Learner (ELL) students and the school. Twenty families and fifty students in 4-K, 5-K, first, second, and third grades at RSM Elementary participated throughout the year in the Family Literacy Project. Teachers and families developed a story-oriented quilt in September, shared recipes in November, enjoyed educational games in February, and celebrated with a Mexican feast in March. Two students were awarded for perfect attendance at all four family literacy evenings, and received Apple I-Pad Minis. (More info pg.4)
Building Bridges for ESOL Families in Ridge Spring

The Aiken Writing Project, with funding from the Kellogg Foundation and the National Writing Project, has sponsored a series of Family Literacy Nights at Ridge Spring - Monetta (RSM) Elementary School. On Monday, March 30, two students were awarded for perfect attendance at all four literacy evenings: Jonathan Gonzales, a 5-K student in Ms. Havird’s class, and Melvin Martinez, a 1st grader in Ms. McCurry’s class. Principal Callie Herlong presented each student with an Apple I-Pad Mini.

The purpose of the Family Literacy Night project was to promote a bridge between the homes of English Language students and the school. Twenty families and fifty students in 4-K, 5-K, first, second, and third grades at RSM Elementary participated throughout the year in the Family Literacy Project.

Led by Ms. Jessica Martin and Ms. Melvia Kerby, with assistance from Ms. Betsie Davenport, an ESOL teacher for the Aiken County School District, teachers at RSM Elementary participated throughout the year in the Family Literacy Project. Additionally, two Aiken Writing Project directors from USC Aiken, Dr. Lynne Rhodes and Ms. Vicki Collins, provided resources such as books and writing materials, educational game, and activities.

The families developed a story-oriented quilt in September, shared recipes in November, enjoyed various games in February, and celebrated with a Mexican feast in March.

Several students in Deborah McMurtrie’s Adolescent Development class in the USCA School of Education assisted with childcare. Students in Ms. Collins’ Adolescent Literature class in the USCA Department of English also provided a Traveling Literacy Trunk which was given to the teachers at RSM Elementary.

Aiken Writing Project was one of six sites awarded a grant for Family Literacy projects in the United States. Other sites include writing projects in San Jose, CA, Arizona, Wisconsin, Chicago, and Norman, OK.

The Aiken Writing Project held its annual Summer Institute this June at USCA. Anyone interested in participating in future institutes should contact Dr. Lynne Rhodes at USCA at lynner@usca.edu or 803-641-3571.

(SC)² Annual Conference
November 4-6, 2015
Columbia Metropolitan Convention Center
http://www.scscience.org/
Grant Funded Student Program Visits

We are pleased to announce two new grant projects that will provide scholarships for student program visits during the 2015-2016 school year.

Research shows that students in early elementary grades have strong interest in and curiosity about science, technology, engineering and math (STEM), but by the time these same students reach middle and high school, they often become disinterested and apathetic toward STEM disciplines. The Ruth Patrick Science Education Center seeks to engage students of all ages and infuse a love for learning. Our hands-on approach to teaching is designed to help people experience the beauty, the order and the power of science and mathematics, as well as the interest and fun of discovery. We are grateful for the support of the Border Bash Foundation and the Wells Fargo Foundation this year.

**Border Bash Foundation**
The Border Bash Foundation Discovery 360 project will provide scholarships for economically disadvantaged 6th grade students at Glenn Hills Middle School, a Title I school from Richmond County, to visit the Ruth Patrick Science Education Center at USC Aiken for a series of programs, free of charge, during the 2015-2016 school year. The students will visit the DuPont planetarium and participate in hands-on classroom programs that are designed to actively engage students in hands-on, inquiry-based learning. The project provides funding for transportation costs and program fees. The programs include To the Moon and Beyond, Kinesthetic Astronomy, and Under the Sea. We are so grateful for the support of the Border Bash Foundation!

**Wells Fargo Foundation**
The Wells Fargo STEM Success project is designed to provide access to, and increase middle school students' interest in, science technology, engineering, and mathematics (STEM). This grant will enable every student at Ridge Spring Monetta Middle School in grades 6, 7, and 8 to attend a series of field trip experiences at the Ruth Patrick Science Education Center (RPSEC) at the University of South Carolina Aiken during the 2015-2016 school year. The project provides funding for transportation costs and scholarships for program fees. The students will visit the DuPont planetarium and participate in hands-on classroom programs that are aligned with academic standards and infused with exploration and discovery. The programs include Blown Away: The Wild World of Weather, May the Force Be With You, and Animal Adaptation Stations for grade 6. Programs for grade 7 include Journey into the Living Cell, Chemicals Matter, and Elements, Compounds, & Bonds. Students in grade 8 will attend Mission to Mars, Are You Dense? and Minerals, Ores, & Fossil Fuels. We are so grateful for the support of the Wells Fargo Foundation!
Adopt an Animal

The Ruth Patrick Science Education Center is looking for sponsors to help support the cost of feeding and caring for the animals used in our K-12 educational programs. An animal may be adopted by an individual, a business, or a group such as an elementary school class or a scout troop. The sponsors’ names will be displayed on donor recognition kiosks at RPSEC, and they will be recognized in the Center’s publications and website as Friends of the RPSEC. Donations are tax deductible; sponsorship opportunities January through December 2015 are listed below.

For more information, please contact Gary Senn at GaryS@usca.edu or (803) 641-3558.

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<tr>
<th>BIRDS</th>
<th>Adoption Information</th>
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<tr>
<td>Raleigh, Barred Owl (Strix varia) Non-releasable male</td>
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<td>Lina, Eastern Screech Owl, brown phase (Megascops asio) Non-releasable female</td>
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<tr>
<td>Charlotte, Eastern Screech Owl, brown phase (Megascops asio) Non-releasable female</td>
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<tr>
<td>Hunter, Eastern Screech Owl, red phase (Megascops asio) Non-releasable male</td>
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<tr>
<th>REPTILES: CROCODILIANS</th>
<th>Adoption Information</th>
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</thead>
<tbody>
<tr>
<td>Al, American Alligator (Alligator mississippiensis) male, hatched 2012</td>
<td>ADOPTED by Mr. John M. Hutchens</td>
</tr>
<tr>
<td>Holden, American Alligator (Alligator mississippiensis) male, hatched 2014</td>
<td>ADOPTED by Ms. Barbara Fenstermacher</td>
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<th>REPTILES: SNAKES</th>
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<tr>
<td>George, Eastern Kingsnake (Lampropeltis getula getula)</td>
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<tr>
<td>Bonquiqui, Grey Rat Snake (Elaphe obsoleta spiloides)</td>
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<td>Maize, Corn Snake (Elaphe guttata) female</td>
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<tr>
<td>Corny, Corn Snake (Elaphe guttata) male</td>
<td>ADOPTED by Tristan Davis</td>
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<tr>
<td>Casper, Albino Corn Snake (Elaphe guttata)</td>
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<th>REPTILES: TURTLES</th>
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<tr>
<td>Romeo, Box Turtle (Terrapene carolina Carolina) male</td>
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<tr>
<td>Fatty, Box Turtle (Terrapene carolina Carolina) female</td>
<td>$75</td>
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<tr>
<td>Peewee, Box Turtle (Terrapene carolina Carolina) juvenile</td>
<td>$75</td>
</tr>
<tr>
<td>Durtle, Snapping Turtle (Chelydra serpentina) male</td>
<td>ADOPTED by Mrs. Linda &amp; Mr. James Ferrell</td>
</tr>
<tr>
<td>Donatello, Chicken Turtle (Deirochelys reticularia)</td>
<td>$75</td>
</tr>
<tr>
<td>Raphael, Red-Eared Slider Turtle (Trachemys scripta elegans) female</td>
<td>ADOPTED by Dr. Joette G. Sonnenberg</td>
</tr>
<tr>
<td>Michaelangelo, Red-Eared Slider Turtle (Trachemys scripta elegans) male</td>
<td>$75</td>
</tr>
<tr>
<td>Leonardo, Yellow-Bellied Slider Turtle (Trachemys scripta scripta)</td>
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</tr>
<tr>
<td>Marie, Red-Eared Slider Turtle (Trachemys scripta elegans) female</td>
<td>$75</td>
</tr>
<tr>
<td>Pierre, Red-Eared Slider Turtle (Trachemys scripta elegans) male</td>
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<tr>
<th>REPTILES: Lizard</th>
<th>Adoption Information</th>
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</thead>
<tbody>
<tr>
<td>Lizzy, Eastern Fence Lizard (Sceloporus undulates)</td>
<td>ADOPTED by Ms. Elizabeth F. Eberhard</td>
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</table>

<table>
<thead>
<tr>
<th>AMPHIBIANS</th>
<th>Adoption Information</th>
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</thead>
<tbody>
<tr>
<td>Gerald, Barking Tree Frog (Hyla gratiosa)</td>
<td>ADOPTED by Dr. Carol S. Botsch</td>
</tr>
<tr>
<td>Kermit, Green Tree Frog (Hyla cinerea)</td>
<td>ADOPTED by Dr. Carol S. Botsch</td>
</tr>
<tr>
<td>Buddha, Southern Toad (Bufo terrestris)</td>
<td>ADOPTED by G B Corporation</td>
</tr>
<tr>
<td>Bubba, Southern Toad (Bufo terrestris)</td>
<td>ADOPTED by Mr. &amp; Mrs. Robert Moore</td>
</tr>
<tr>
<td>Spot, Spotted Salamander (Ambystoma maculatum)</td>
<td>$50</td>
</tr>
<tr>
<td>Louie, Tiger Salamander (Ambystoma tigrinum)</td>
<td>$50</td>
</tr>
<tr>
<td>Fireball, Red Salamander (Pseudotriton ruber)</td>
<td>$50</td>
</tr>
<tr>
<td>Marley, Marbled Salamander (Ambystoma opacum)</td>
<td>$50</td>
</tr>
</tbody>
</table>
In partnership with Invent Now, the Ruth Patrick Science Education Center was again pleased to offer the nationally-acclaimed Camp Invention program to 110 children entering grades one through six this summer.

This exciting week began on June 15th, when Ruth Patrick Special Programs Director John Hutchens directed the Camp Invention Inducted program. Children worked together to seek innovative solutions to relevant problems and sharpen critical 21st century learning skills as they rotate through different modules that reinvent summer fun.

This year’s Camp Invention curriculum called Illuminate™ was inspired by some of our nation’s most brilliant minds including experienced educators, Inductees of the National Inventors Hall of Fame and members of the United States Patent and Trademark Office. Illuminate™ encouraged children to explore their inventiveness in the Design Studio: Illuminate module, investigating circuits and taking on a nature-inspired design challenge. As they dreamed, built and made discoveries, children had a chance to build a prototype from scratch and explore math from a new angle when they created origami flight models during team-building exercises.

Camp Invention students experience winning, success and victory, along with an adrenaline rush that comes with competition among students and successful completion of challenging projects. Camp Invention provides a great opportunity for inventive young minds to exercise their creativity and use their imagination in ways they don’t normally get to—through real-world problem-solving challenges, they build things, take things apart, explore different types of technology and so much more. Many times, the students are having so much fun, they don’t even realize they are learning and developing new skills.

Parents tell us Camp Invention improves their child’s outlook on learning and increases their child’s interest in using science to solve problems.

Local educators facilitated the program modules, and enthusiastic high school and college students served as Leadership Interns, ensuring that one staff member was in place for every five children.
Future City is a national, project-based learning program where students in 6th, 7th, and 8th grades imagine, research, design, and build cities of the future. Keeping the engineering design process and project management front and center, students work in teams to ask and answer an authentic, real-world question: How can we make the world a better place?

Students involved in the Future City Competition spend approximately four months creating cities that exist at least 100 years in the future. Each city must incorporate a solution to a citywide challenge that changes each year. This year’s challenge—Waste Not, Want Not—asks students to design an innovative citywide solid waste management system. In January, students present their cities before a panel of judges at the Regional Competition. The team that wins the regional competition receive airfare and hotel accommodations for five members of their team to attend the National Competition held in Washington, DC, in February.

NEW! Program Framework
NEW this year, Future City has been redesigned and uses the engineering design process as a framework to guide students through the creation of their cities. Within this framework, students apply specific project management methods to plan and complete their competition deliverables. Both processes work together, helping students to design, research, build, and deliver their city of the future.

The Future City handbook and website have been updated to walk your team through the engineering design process and project management stages. As they create their city, students also use their Project Plan (a project management tool used by engineers and other professionals) to record their goals, make schedules, check in on project progress, and reflect on their final product.

Educators from across the country pilot tested the new framework last year. They found it easy to use and helpful in guiding their students through the competition. They also reported it was an effective way to teach about engineering and project management.

Want more information?
Plan to attend one of our TEACHER / MENTOR INFORMATION WORKSHOPS
August 27th and September 15th 4:00-6:30PM - RPSEC

Call John Hutchens 803.641.3474 to register for the workshop.

2015 Regional Winners -Paul Knox Middle School
# Public Shows

## DUPONT PLANETARIUM SCHEDULE

<table>
<thead>
<tr>
<th>DATES</th>
<th>SHOW NAMES</th>
<th>SHOW TIMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 August 1, 8, 15, 22, 29</td>
<td>Worlds in Motion, Digistar Virtual Journey</td>
<td>8:00 pm, 9:00 pm</td>
</tr>
<tr>
<td>2015 September 5, 12, 26</td>
<td>Ancient Sky Lore, To the Moon and Beyond</td>
<td>7:00 pm, 8:00 pm</td>
</tr>
<tr>
<td>2015 September 19</td>
<td>Observe the Moon Night</td>
<td>Dark Shadows, 7:00 and 8:00 pm</td>
</tr>
<tr>
<td>2015 October 3, 17, 24, 31</td>
<td>Mission to Mars, Blown Away: Wild World of Weather</td>
<td>7:00 pm, 8:00 pm</td>
</tr>
<tr>
<td>2015 October 10</td>
<td>S.E.E.D.</td>
<td>Digistar Virtual Journey, I Spy the Sky, 10:00, 11:00, 12:00, 1:00, 2:00, 10:30, 11:30, 12:30, 1:30, 2:30</td>
</tr>
<tr>
<td>2015 November 7, 14, 21, 28</td>
<td>Engineering the International Space Station</td>
<td>7:00 and 8:00 pm</td>
</tr>
<tr>
<td>2015 December 5, 12, 14</td>
<td>Season of Light</td>
<td>7:00 and 8:00 pm</td>
</tr>
<tr>
<td>2015 December 19, 21, 28</td>
<td>Season of Light</td>
<td>6:00, 7:00 and 8:00 pm</td>
</tr>
<tr>
<td>2016 January 2, 9, 16, 23, 30</td>
<td>Ancient Sky Lore, Digistar Laser Fantasy</td>
<td>7:00 pm, 8:00 pm</td>
</tr>
<tr>
<td>2016 February 6, 13, 20, 27</td>
<td>Follow the Drinking Gourd, Explorers of Mauna Kea</td>
<td>7:00 pm, 8:00 pm</td>
</tr>
<tr>
<td>2016 March 5, 12, 19, 26</td>
<td>Engineering the International Space Station, Blown Away: Wild World of Weather</td>
<td>7:00 pm, 8:00 pm</td>
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<tr>
<td>2016 April 2, 9, 16, 23, 30</td>
<td>In My Backyard, More than Meets the Eye</td>
<td>7:00 pm, 8:00 pm</td>
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<tr>
<td>2016 May 7, 21, 28</td>
<td>Larry Cat in Space, To the Moon and Beyond</td>
<td>8:00 pm, 9:00 pm</td>
</tr>
<tr>
<td>2016 May 14</td>
<td>Earth &amp; Sky Night</td>
<td>Engineering the International Space Station, 7:00, 8:00 and 9:00 pm</td>
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<tr>
<td>2016 June 4, 11, 18, 25</td>
<td>Mission to Mars, Digistar Virtual Journey</td>
<td>8:00 pm, 9:00 pm</td>
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<tr>
<td>2016 July 2, 9, 16, 23, 30</td>
<td>Engineering the International Space Station, Digistar Laser Fantasy</td>
<td>8:00 pm, 9:00 pm</td>
</tr>
<tr>
<td>2016 August 6, 13, 20, 27</td>
<td>Two Small Pieces of Glass, Digistar Virtual Journey</td>
<td>8:00 pm, 9:00 pm</td>
</tr>
</tbody>
</table>

All shows last one hour unless otherwise noted. Most shows include a live “sky tonight” portion.

## Special Events

- International Observe the Moon Night: September 19, 2015 - 7-10 pm
- S.E.E.D.: Science Education Enrichment Day: October 10, 2015 – 10 am-3 pm
- Family Earth & Sky Night and National Astronomy Day: May 14, 2016 - 6:30-10:30 pm

For Planetarium information call: 803-641-3654
From Augusta: 803-278-1967 ext. 3654
More information is available on our website: [http://rpsec.usca.edu/Planetarium/](http://rpsec.usca.edu/Planetarium/)

## Become a Galactic Guardian for 2015

How would you like to adopt a celestial object and be its Galactic Guardian for a year? There are a number of celestial objects that need a caring person, family or group to look out for their best interests over the next year. Additionally, you will have the opportunity to support programming at the Ruth Patrick Science Education Center with your tax-deductible donation. For more information, please call the main office at 803-641-3313 or email RPSEC@usca.edu.
Infusing the Love of Science, Technology, Engineering, and Mathematics!

Masters Degree in Educational Technology
Earn Your USCA Degree Online

Are you interested in integrating technology into your instruction? Would you like the flexibility of a high-quality, online program? If so, you should consider applying to the program for the M. Ed. in Educational Technology. The program is a joint program offered by USC Columbia and USC Aiken and it is entirely web-based (online). You can find out more about the program (which is a total of 36 hours) and courses by visiting the web site at: http://edtech.usca.edu

Students in the program are from all over the state of South Carolina and the region. Many are educators from K-12 and higher education, and others work in industry as instructional designers or related fields.

You may enroll in one or two courses prior to applying to the program if you wish to try them out. Also, by taking four specific courses, you can become qualified to teach in the SC Virtual School Program.

Application via Aiken campus is available at http://web.usca.edu/graduate-admissions/application/

Those students who enter the program through Aiken campus receive a laptop computer for use while in the program!

If you are interested in enrolling in the program or just wish for more information, contact Dr. Tom Smyth (smyth@usca.edu).

Foundational Core Courses (6 hours)
EDRM 700 – Introduction to Research in Education
EDET 709 – Applications of Learning Principles

Design Courses (15 hours)
EDET 603 – Design and Development Tools I
EDET 703 – Design and Development Tools II
EDET 722 – Instructional Design and Assessment
EDET 755 – Design and Evaluation of Information Access and Delivery
EDET 793 – Advanced Instructional Design and Development

Technology Core Courses (12 hours)
EDET 650 – Internship in Educational Technology
EDET 735 – Technological Applications for Diverse Populations
EDET 746 – Management of Technology Resources
EDET 780 – Seminar in Educational Technology

Electives (3 hours chosen from the following courses)
EDET 652 – Design and Evaluation of Games and Simulations
EDTE 731 – Integration of Technology and Instruction
SLIS 706 – Introduction to Information Technologies
TSTM 790 – Advanced Study in Technology Support/Training Management

Animals and Raptors Outreach

RPSEC staff members presented a number of programs at public libraries during the summer. Participants observed and interacted with live animals, including salamanders, frogs, turtles, snakes, a small alligator, an Eastern Screech Owl, and a Barred Owl. Sites included public libraries in Bamberg, Blackville, Denmark, Edgefield, Johnston, Wagener, and Williston, South Carolina.

STEAM Day at North Augusta Middle School

North Augusta Middle School celebrated its first annual STEAM (Science, Technology, Engineering, Arts, and Mathematics) Day on May 28, 2015. More than 300 students visited the RPSEC station, where they experimented with chromatography, dissected owl pellets, and built circuits using batteries, wires, bulbs, motors, fans, and switches.

http://facebook.com/RuthPatrickScienceEducationCenter
Galactic Guardians

How would you like to adopt a celestial object and be its Galactic Guardian for a year? There are a number of celestial objects that need a caring person, family or group to look out for their best interests over the next year. Additionally, you will have the opportunity to support programming at the Ruth Patrick Science Education Center with your tax-deductible donation. For more information, please call the main office at 803-641-3313 or email RPSEC@usca.edu.

**$400 Level:**
1. Milky Way 
   Adopted by Ms. Barbara Fenstermacher
2. Sun -
3. Moon

**Planets:**
4. Mercury
5. Venus
6. Earth
7. Mars
8. Jupiter
9. Saturn
10. Uranus
11. Neptune
12. Pluto (Dwarf $399.99)

**$150 Level:**
**Zodiac Constellations:**
13. Virgo
14. Libra
15. Scorpius
16. Ophiuchus 
   Adopted by Dr. Gary J. & Mrs. Senn
17. Sagittarius
18. Capricornus
19. Aquarius
20. Pisces
21. Aries
22. Taurus
23. Gemini
24. Cancer
25. Leo

**$75 Level:**
**Galaxies and Nebulae:**
26. Cat’s Eye Nebula, NGC 6543
27. Cat’s Paw, NGC 6914
28. Crab Nebula, M1
29. Dumbbell Nebula, M27
30. Flame Nebula, NGC 2024
31. Helix Nebula, NGC 7293
32. Horsehead Nebula B33, IC434
33. Horseshoe Nebula, M17
34. Lagoon Nebula, M8
35. Orion Nebula, M42
36. Owl Nebula, M97
   Adopted by Dreiborah McMurchie
37. Pillars of Creation (M16)
   Adopted by Dr. Joelte and Mr. L.K. Sonneberg
38. Ring Nebula, M57
39. Rosette Nebula, NGC 2237
40. Seagull Nebula, IC2177
41. Stellar Spire (M16)
42. Tarantula Nebula, NGC 2070
43. Trifid Nebula, M20
44. Andromeda Galaxy, M31
45. Black Eye Galaxy, M64
46. “Cigar” Galaxy, M82
47. Pinwheel Galaxy, M101
48. Sombrero Galaxy, M104
49. Sunflower Galaxy, M63
50. Tadpole Galaxy, UGC 10214
51. Whirlpool Galaxy, M51

**$50 Level:**
**Other Constellations:**
52. Centaurus
53. Cetus the Sea Monster 
   Adopted by Dr. David W. Hayes
54. Columba the Dove -
55. Corona the Crown
56. Corvus the Crow
57. Delphinus the Dolphin
   Adopted by Mr. and Mrs. John Harrington
58. Lepus the Hare
59. Monoceros the Unicorn
60. Sagitta the Arrow -

**Stars and Star Clusters:**
61. Albireo, a double star -
62. Beehive cluster
63. Alcor & Mizor, double stars
64. Hercules globular cluster -
65. Pleiades, the Seven Sisters
66. Polaris, the North Star -

**Brightest Stars:**
67. Aldebaran -
68. Altair
69. Antares
70. Arcturus
71. Betelgeuse 
   Adopted by Mr. Roderick C. Lee & Ms. Katherine Mason
72. Capella
73. Castor
   Adopted by Mr. Roderick C. Lee & Ms. Katherine Mason
74. Deneb
75. Fomalhaut
76. Pollux
77. Procyon
78. Regulus
   Adopted by Mr. Roderick C. Lee & Ms. Katherine Mason
79. Rigel
80. Sirius 
   Adopted by Mr. Roderick C. Lee & Ms. Katherine Mason
81. Spica
82. Vega

**$100 Level:**
**Special Constellations:**
26. Andromeda the Princess
27. Aquila the Eagle
28. Auriga the Charioteer
29. Boötes the Herdsman
30. Canis Major the Big Dog
31. Canis Minor the Little Dog
32. Cassiopeia the Queen
33. Cepheus the King
34. Crux the Southern Cross
35. Cygnus the Swan, Northern Cross
36. Draco the Dragon
37. Hercules
38. Lyra the Harp
39. Orion the Hunter
40. Pegasus the Flying Horse
41. Perseus the Hero
42. Ursa Major, Big Dipper
43. Ursa Minor, Little Dipper

Adopted by Mr. Roderick C. Lee & Ms. Katherine Mason
Leadership Changes at the RPSEC

Elizabeth “Lizzy” Green
RPSEC Student Programs Director
The Ruth Patrick Science Education Center Student Programs will now be under the leadership of its new Director, Lizzy Green.

Lizzy joined the Ruth Patrick Science Education Center in 2014 as a Student Programs Specialist. Her background includes graduating from Clemson University with a Bachelor of Arts degree in Early Childhood Education as well as being a South Carolina certified educator for ten years. Over the course of her teaching career, she has gained experience teaching grades K-5, worked to develop and edit district curriculum and earned the title of school level Teacher of the Year. Having always had a natural curiosity for all things in nature and science, she could not be more excited to continue her path as an educator by leading the Ruth Patrick Student Programs team.

You may contact Lizzy Green at 803-641-3631 or ElizabethGr@usca.edu.

Beth Eberhard
Bridgestone Environmental Education Program (BEEP) Coordinator
We are excited that Beth will be leading our Bridgestone Environmental Education Program.

Beth Eberhard joined the Ruth Patrick Science Education Center last year as a Student Programs Specialist, after having taught 25 years at Aiken Elementary. She holds an undergraduate degree in Early Childhood Education and a Master’s Degree in Elementary Education, both from USC. She is certified in both Early Childhood and Elementary Education. During her time at Aiken Elementary, she taught third, fourth, and fifth grades; the last 15 years she has specialized in teaching Science and Social Studies, integrating Language Arts and Writing into her lessons. Other duties included maintaining and coordinating the use of their Outdoor Classroom and organizing their school Science Fair. She also spent one year at Aiken Elementary as a full-time grant manager for “Project VCR” in which she produced monthly parent education videos.

You may contact Beth Eberhard at 803-641-3749 or BethE@usca.edu.

Susanne Kneece
Science and Technology Enrichment Program (STEP) Coordinator
The Science and Technology Enrichment Program (STEP) will take new “steps” under the leadership of its new Coordinator, Susanne Kneece.

Susanne Kneece joined the Ruth Patrick Science Education Center as a Student Program Specialist with STEP 2 years ago. This was a job that she had only dreamed about as she took Fifth and Sixth Grade students to programs at SRS, Silver Bluff Audubon Sanctuary, and the RPSEC for the last 25 years. Using her Elementary certification, she taught Fifth and Sixth Grade students at A.L. Corbett Middle School, Ridge Spring Monetta Elementary-Middle School, and Fifth Grade Math, Science, and Social Studies at Batesburg-Leesville Elementary. Susanne holds an undergraduate degree in Business Administration from Francis Marion University and a Master’s degree in Elementary Education from USC. She is National Board certified as a Middle Childhood Generalist, and is certified in South Carolina in Elementary Education with an additional endorsement in Gifted and Talented Instruction.

You may contact Susanne Kneece at 803-641-3769 or SusanneK@usca.edu.
2015 Nuclear Science Week
October 19 - 23, 2015

Nuclear Science Week is a national, broadly observed week-long celebration that focuses on all aspects of nuclear science. Events during this week will provide many learning opportunities about contributions, innovation and careers that can be found by exploring nuclear science.

EDUCATION DAY
Tuesday, October 20, 2015
Georgia Regents University (GRU) - Augusta, GA
Offering programs for high school students with focus on:
• Journey to the Center of the Atom (Featuring the Interactive Nucleus)
• Fundamentals of Nuclear Fuel
• GRU Career Panel
Registration required - For more details, contact Sharron Walls at shwalls@gru.edu

EDUCATION DAY
Friday, October 23, 2015
USC Salkehatchie Allendale
Offering programs for 8th grade students with focus on:
• Journey to the Center of the Atom
• Fundamentals of Nuclear Fuel
Registration required - For more information, contact Dawn Stuckey at dstuckey@mailbox.sc.edu

SITE VISIT DAY
Monday, October 19, 2015 & Friday, October 23, 2015
Southern Company - Plant Vogtle
Vogtle Visitor Center, 7221 River Road, Waynesboro, GA
Limited seating with registration required. For more information contact Joel Leopard at JALEOPAR@southernco.com or 706-848-3630.

SITE VISIT DAY
Tuesday, October 20, 2015 & Thursday, October 22, 2015
SCANA - VC Summer Nuclear Station
100 Bradham Blvd, Jenkinsville, SC
Hosting student & teacher tours of the AP 1000 nuclear construction site. Space is limited with registration required - For more information, contact Erica Knight at erica.knight@scana.com or 803-831-5436

STEM CAREER CONNECTIONS DAY
Thursday, October 22, 2015
Kroc Center, 1833 Broad Street, Augusta, GA
Interactive forum for regional Georgia (Columbia, Richmond) and South Carolina (Aiken, Allendale, Barnwell) high school juniors and seniors considering a career pathway that involves science, technology, engineering and math (STEM) skills.
Limited space with registration required - For more information, contact Kim Saxon at kim.saxon@srsro.org or Mindy Mets at mindy.mets@srsro.org

ANNUAL EDWARD TELLER LECTURE
Monday, October 19, 2015
USCA Convocation Center, Aiken, SC
The Citizens for Nuclear Technology Awareness (CNTA) will hold their 24th Annual Edward Teller Lecture and Banquet to coincide with Nuclear Science Week.
Guest Speaker: Admiral Cecil Haney, Commander, U.S. Strategic Command, United States Navy
For details contact CNTA at cnta@bellsouth.net or 803-649-3486

For updates on these activities and more, visit www.nwinitiative.org
2015 SUMMER PROFESSIONAL LEARNING INSTITUTES

Throughout the summer of 2015, the Ruth Patrick Science Education Center (RPSEC) staff offered numerous professional development institutes for over 870 K-12 teachers from across the CSRA. While engaged in these sessions, teachers participated in model lessons and explored best practices for effective implementation of science, technology, engineering and math (STEM). The goal was to provide teachers with the content knowledge, pedagogical skills, and resources needed to improve instruction and, in turn, increase student interest and achievement in STEM.

SISSI
Structured Investigations Science Standards Institute

for South Carolina K-2 and 3-5 Teachers

- Investigate the new 2014 Science Standards-
- Explore the new Science & Engineering Practices-
- Apply the new Cross Cutting Concepts-

Full Day Professional Development Sessions
8:30 am – 3:30 pm
Attendance at all four sessions is recommended but not required

Registration Deadline:
One week before session

FALL SESSIONS:

SISSI 2015-2016 (Grades K-2)
September 22, 2015
October 13, 2015
November 10, 2015
December 1, 2015

SISSI 2015-2016 (Grades 3-5)
September 15, 2015
October 20, 2015
November 17, 2015
December 15, 2015

Information and Registration
http://rpsec.usca.edu/ProfessionalLearning/
or call (803) 641-3313
STEM Forward - Building High Impact Talent 2015-2016

Part I. Quarterly Sessions - Content Focus Areas

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, September 15, 2015</td>
<td>K-2</td>
<td>Number Sense, Number Sense and Base Ten</td>
</tr>
<tr>
<td>Tuesday, October 27, 2015</td>
<td>K-2</td>
<td>Algebraic Thinking and Operations</td>
</tr>
<tr>
<td>Tuesday, January 12, 2016</td>
<td>K-2</td>
<td>Measurement and Data Analysis</td>
</tr>
<tr>
<td>Tuesday, March 8, 2016</td>
<td>K-2</td>
<td>Geometry</td>
</tr>
<tr>
<td>Tuesday, September 29, 2015</td>
<td>3-5</td>
<td>Number Sense and Base Ten, Fractions</td>
</tr>
<tr>
<td>Tuesday, November 10, 2015</td>
<td>3-5</td>
<td>Algebraic Thinking and Operations</td>
</tr>
<tr>
<td>Tuesday, January 26, 2016</td>
<td>3-5</td>
<td>Measurement and Data Analysis</td>
</tr>
<tr>
<td>Tuesday, March 22, 2016</td>
<td>3-5</td>
<td>Geometry</td>
</tr>
<tr>
<td>Tuesday, October 6, 2015</td>
<td>6-8</td>
<td>Ratios and Proportional Relationships, The Number System</td>
</tr>
<tr>
<td>Tuesday, November 17, 2015</td>
<td>6-8</td>
<td>Expressions, Equations and Inequalities, Functions</td>
</tr>
<tr>
<td>Tuesday, February 9, 2016</td>
<td>6-8</td>
<td>Data Analysis, Statistics, and Probability</td>
</tr>
<tr>
<td>Tuesday, April 12, 2016</td>
<td>6-8</td>
<td>Geometry and Measurement</td>
</tr>
<tr>
<td>Tuesday, October 13, 2015</td>
<td>9-12</td>
<td>Number and Quantity, Algebra</td>
</tr>
<tr>
<td>Tuesday, December 8, 2015</td>
<td>9-12</td>
<td>Functions</td>
</tr>
<tr>
<td>Tuesday, February 23, 2016</td>
<td>9-12</td>
<td>Statistics and Probability</td>
</tr>
<tr>
<td>Tuesday, April 26, 2016</td>
<td>9-12</td>
<td>Geometry</td>
</tr>
</tbody>
</table>

STEM: Real World Applications of SC College and Career Ready Mathematics and Science Standards

Focus Areas Include: Science and Engineering Practices & The Engineering Design Process; Biomedical Engineering; Aeronautics/Aerospace Engineering – The Mathematics and Science of Flight; Satellites, GPS & Navigation; Civil Engineering - Bridges, Structures, Mathematics and Physics in Roller Coaster Design; Mechanical Engineering - Wind Turbines; Robotics Programming and Data Analysis, PLTW; Modeling & Interactive Technology Simulations and Applications, Handheld & Computer-Based Technology: TI 84 Plus, TI Nspire Graphing Calculator and iPad Applications, Geometer's Sketchpad & Geogebra

Part II. STEM Symposium* - All teachers in the grant project will participate in this session.

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, January 15, 2016</td>
<td>K-12</td>
<td>STEM Symposium</td>
</tr>
</tbody>
</table>

Part III. CNTA (Citizens for Nuclear Technology Awareness) Workshops - Teachers should choose from one of the following dates. There are a limited number of slots for each workshop, so teachers should designate their first and second choices.

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, October 16, 2015</td>
<td>K-2 and 3-5</td>
<td>CNTA Workshop</td>
</tr>
<tr>
<td>Friday, March 4, 2016</td>
<td>6-8 and 9-12</td>
<td>CNTA Workshop</td>
</tr>
</tbody>
</table>

Part IV. STEM Industry Visits - Teachers should choose from one of the following dates.

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, June 10, 2016</td>
<td>K-12</td>
<td>STEM Industry Visit</td>
</tr>
<tr>
<td>Friday, July 22 2016</td>
<td>K-12</td>
<td>STEM Industry Visit</td>
</tr>
</tbody>
</table>

Part V. Summer Institutes - Teachers will attend their respective grade-level summer institute.

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 13-16, 2016</td>
<td>9-12</td>
<td>Monday - Thursday sessions will be held at USC Aiken.</td>
</tr>
<tr>
<td>June 20 - 23, 2016</td>
<td>K-2</td>
<td></td>
</tr>
<tr>
<td>July 11 - 14, 2016</td>
<td>3-5</td>
<td></td>
</tr>
<tr>
<td>July 25-28, 2016</td>
<td>6-8</td>
<td></td>
</tr>
</tbody>
</table>

Part VI. Friday STEM Education Day at ATC

<table>
<thead>
<tr>
<th>Date</th>
<th>Grade Band</th>
<th>Standards Area of Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-Jun 16</td>
<td>9-12</td>
<td>Grade-level STEM Education Day will be held at Aiken Technical College (ATC).</td>
</tr>
<tr>
<td>24-Jun-16</td>
<td>K-2</td>
<td></td>
</tr>
<tr>
<td>15-Jul-16</td>
<td>3-5</td>
<td></td>
</tr>
<tr>
<td>29-Jul-16</td>
<td>6-8</td>
<td></td>
</tr>
</tbody>
</table>

* ACPS Teacher Workday

Information and Registration Available Online at:
http://rpsec.usca.edu/ProfessionalLearning/
The Ruth Patrick Science Education Center presents

S.E.E.D.

SCIENCE EDUCATION ENRICHMENT DAY

on the USC Aiken Campus!

Saturday, October 10
10am-3pm

EXPLORE.
DISCOVER.
IMAGINE.

rpsec.usca.edu/SEED

Follow Us!  

FREE!

Thank you, sponsors!

Aiken Standard
WBBQ
SRP

30th Annual

The Ruth Patrick Science Education Center Newsletter is a publication of the RPSEC for our patrons. The RPSEC, housed at the University of South Carolina Aiken, encompasses the Center of Excellence in Educational Technology (CEET), DuPont Planetarium, RPSEC Student Programs, RPSEC Professional Learning, Traveling Science and Mathematics Demonstrations Program (TSMDP), the Science and Technology Enrichment Program (STEP), and Center of Excellence in Middle-level Interdisciplinary Strategies for Teaching (CE- MIST). If you have any information that would be beneficial to the audience of this newsletter, or if you would like to be added to the mailing list, please contact John Hutchens, Editor, at 803-641-3474 or via email to johnh@usca.edu. Deadline for submission in the next newsletter is October 1, 2015.