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**Newsletter and Report**

volume 19 No. 3, May 2013

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## Elementary Outdoor Science Adventure

### Trailblazers



#### Future Scientists in the Making

*Encouraging the spirit of inquiry.*

*Bringing the wonder of the outdoors to young students.*

*Learning to observe and reflect on what they discover.*

*Using scientific tools.*

We were really impressed by how well the Elementary Outdoor Science Adventure (EOSA) event went this year! Students had an experience that they will always remember -- they got to be outdoors all weekend at Alton Jones, connect with the environment, handle science equipment, interact with URI college students, and build their own confidence as learners and people. Hopefully they will carry all of the environmental and character lessons that they learned with them.

This year's URI student team consisted of an incredible group of motivated leaders, all of whom are science majors. Their team mentality was a wonderful model to the SMILE students of the importance of community. The URI students worked really hard teaching hands-on environmental science and instilling the importance of lifelong learning and environmental stewardship to the young scientists. All five field studies were based on the theme of habitats and took place in different locations around the Alton Jones campus, which consists of 2,300 acres of conserved land. Students experienced the magical pine forest, lush meadow, interactive bubbling brook, pristine stream in the forest, and the unique vernal pool. They became biologists for the weekend, working together and solving problems.

One thing is for certain, everyone left the weekend feeling changed for the better. Students went back to school feeling more confident and with a better understanding of the environment and college. They also made lots of new friends with students throughout the state. They may have had a campfire song stuck in their head, but that's a good reminder of the wonderful experience that they had! We look forward to these students continuing their SMILE journey next year (whether in 5<sup>th</sup> or 6<sup>th</sup> grade).

*continued page 2*





## Elementary Outdoor Science Adventure



### Frogs, Toads, and Salamanders Oh My!

Students learned the differences and similarities between frogs, toads and salamanders, and the healthy habitat conditions to support their lives and reproduction. Students discovered the different locations preferred by frogs, toads, and salamanders to lay its eggs.



### Operation Vernal Pools

Students learned how different abiotic factors affect biotic factors in a vernal pool. A vernal pool is a habitat that dries up annually and is home to many different species. Students tested the water pH; temperature, dissolved oxygen, nitrogen and turbidity.



### The Ultimate Quest To Be The Fittest Bunny

Students were introduced to the basics of evolution, genetics, and survival of the fittest. In the meadow, students conducted a wild life survey observing animals or a sign of them and insects in a designated area. Then they analyzed how the animal adapted to its environment and what characteristics help them to survive.





# Habitats

## How Do You Age a Lorax?

In the forest the activities provided students with an understanding on why trees and other plants are an important habitat. First, using a Dichotomous Key students identified plants, they also learned about the different layers of a tree. By looking at a tree cookie and a core sample students calculated the age of the tree and the differences in ring sizes and made a relation with the possible environmental factors that causes the different ring sizes.



## Student Quotes

The best part of the EOSA was...

Testing the water habitats because it was fun to learn how to use each tool...Ronit, SK

When I got into the water and look at egg masses and other things. Jocelyn, WW

When I touched a frog for the first time ever. That was my favorite part. Diego, WW

I learned the most when I...

Did the field studies because I learned a lot more about nature. Kathleen, SK

Learned how to identify trees and how old a tree is... Asia, SK

Learned about the different kinds of trees and how to identify them. Emilia, SK

Learned that even dead leaves have a part in the ecosystem. Amira, WW



## Ecosystem and Habitats: Trees, Soil, and Water

Students investigated a forest with a stream running through it. They learned about the importance of shade, soil pH, water temperature; water dissolved oxygen, macroinvertebrates, and the many species of plant and animals living in the water, above the water, and in the surrounding areas.



## Final Project

Sunday morning the teams of students were asked to act as biologists to build an ideal home for the fictitious 2 foot long and ½ foot wide named *Salamanderus tintoverderi*. *S.* Students needed to apply all the skills and knowledge acquire during the Friday's and Saturdays' activities. First they surveyed the site, studied the canopy density, air, temperature, water quality, soil mix, pH, and moisture. They also had to determine the presence of salamander's prey/food animals. After the field studies, students gathered to analyze the data and make a presentation.



*continued page 5*



## Woonsocket Coleman Elementary School

Jennifer Paolozzi  
Anissa Hoard

### Family Science Night

This year at Family Science Night, these are some of the activities we showcased as a club.

“Watershed Model showing the Blackstone River  
“Animal Tracks” matching game  
Posters displaying our work on  
Green line and Ground Cover Vegetation  
“What am I?” animal matching game



### Watershed Monitoring

This year, we observed and gathered data at our watershed site, the Blackstone River at Costa Park. We learned that our river is not very healthy, but many animals and insects have adapted to be able to survive in this environment.

### Why we love SMILE...

“Investigating our watershed.”-Alexis  
“Going to our site.”- Chris  
“Everything. It is really fun!”-Jasonte  
“I can’t wait to do SMILE at the middle school next year!”-Nayelis  
“Oh Deer!”-Joshua  
“Everything. I love science!”-Johandalys  
“The sleepover weekend! I can’t wait!!!!”- Austin



## Congratulations

### 2013 Amgen Award for Science Teacher Excellence (AASTE) in Rhode Island.



David Upegui, Central Falls High School SMILE teacher, was selected as one of the recipients of the 2013 Amgen Award for Science Teacher Excellence (AASTE) in Rhode Island.

We would like to congratulate David Upegui, Central Falls High School SMILE teacher, winner of the 2013 Amgen Award for Science Teacher Excellence (AASTE) in Rhode Island.

The AASTE is awarded each year to just nine teachers across the United States who have demonstrated excellence in science teaching and the ability to deepen scientific understanding in their classrooms.

## Deering Middle School

Geri Giroux  
Pamela Kershaw

The West Warwick SMILE club began their year with several long walks to the Pawtuxet Valley River. As autumn progressed we witnessed the changes in the foliage along the river bank and recorded those changes in our journals. We found that as the temperature of the water decreased, the clarity of the water increased. The oxygen levels increased also with the cooler temperatures. We enjoyed having Lacey Feeley, SMILE assistant Director, accompany us on one of these excursions. She offered her expertise to us and enhanced our learning.

With the coming of winter we began to focus on lessons leading up to our Challenge Weekend project. Most of our lessons during this period were focused on making wind turbine models. We conducted a variety of experiments to determine the best angle of the blades, the length of the blades, shape of the blade, and materials chosen in the construction model. We had several mishaps when we used the fan to test the wind speed capability of our turbines, but this added to the fun and learning. Students enjoyed the competitive nature of these activities. As the Challenge Weekend drew closer we needed to begin our

research on the Quonset Point delivery system of turbine parts for local construction. This proved to be rather challenging as most of us had never researched such in depth information. Older students offered assistance to the younger ones and we managed to get the information needed for our posters with cooperation and partnership.



**Watershed Investigations  
at the Pawtuxet River Valley**

The Challenge Weekend surpassed our expectations and we were proud to have several members of our club on the winning team. We followed up Challenge Weekend with a visit to an actual wind turbine in North Kingstown. All were impressed with the enormous size of it and the implications of such a clean source of energy for our state.

This year's theme had a great impact on student awareness of the need to find alternative energy sources. We look forward to a cleaner, healthier environment!

## EOSA 2013

*URI mentors provided a safe and fun environment for learning science and making friends*





## High School Graduates 2013



Edwin Africano  
Central Falls High School  
Massachusetts Institute of Technology  
Electrical Engineering  
*First Central Falls High School  
student to be accepted by MIT*



Lucivania Barbosa  
Central Falls High School  
University of Rhode Island  
Nursing



Venetcia Ortiz  
Central Falls High School  
Rhode Island College  
Undecided



Bryan DeLeon  
Central Falls High School  
New England Institute of Technology  
Electrical Engineering Technology



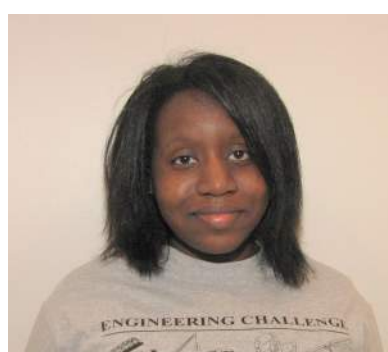
Kevin Arguetta  
Shea High School  
Brown University  
Engineering



Vivian Rodriguez  
Shea High School  
JohsonWalesUniversity  
International Business



Michael Bonilla  
Shea High School  
University of Rhode Island  
Biology



Bdiallo Sidibe  
Shea High School  
University of Rhode Island  
Biology

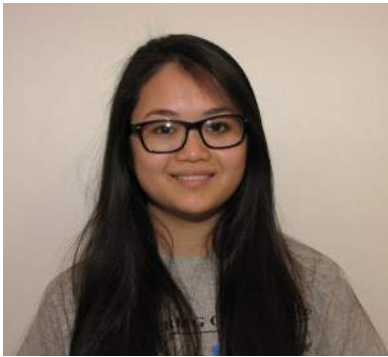


Taylah Logan  
Shea High School  
Rhode Island College  
Physical Therapy



Roniza Fortes, Central Falls High School  
Christian Bonilla, Central Falls High School  
Emille Fernando, Shea High School

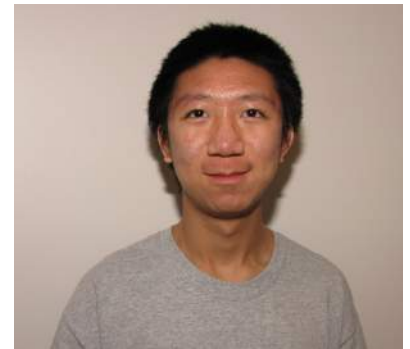
## High School Graduates 2013



Anh Nguyen  
Tolman High School  
University of Rhode Island  
Electrical Engineering



Tayla White  
South Kingstown High School  
University of Rhode Island  
Italian Education



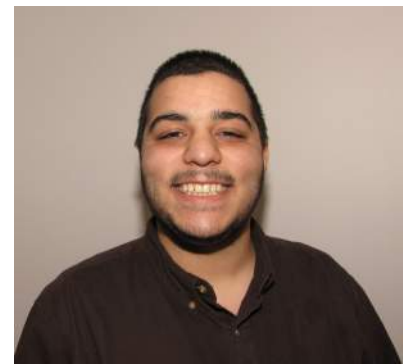
Tim Lee  
South Kingstown High School  
University of Rhode Island  
Pharmacy



Victoria Cooper  
Woonsocket High School  
Brigham and Young University  
Biology



Bryan Olivier  
Woonsocket High School  
Forensic Science, CCRI



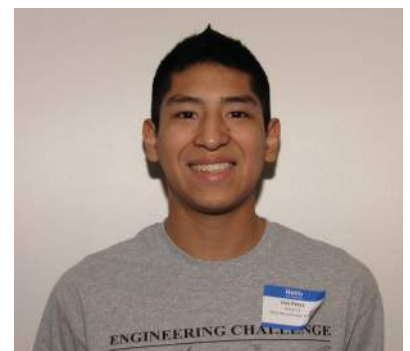
Mustafa Shaker  
Woonsocket High School  
Rhode Island College  
Undecided



Brandon Castaldi  
West Warwick High School  
Marine Corps  
Computer Networks



Ryan Pailthorpe  
West Warwick High School  
Lincoln Technical Institute  
Computer Networks



Luis Perez  
West Warwick High School  
University of Rhode Island  
Pharmacy



Regina Hieap, West Warwick High School  
University of Rhode Island

## CLUBS

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### Tolman High School

Oluwaseun Anderson

Paula Wildenhain

The SMILE club at Tolman High School just completed its first year. We had a small group of dedicated students, but are looking to increase those numbers next year. Since two of our student are graduating, we want to focus on incoming freshmen and sophomores as a recruitment pool. Those dedicated students really enjoyed the year's curriculum and the great trips and activities they took part in.

The first day of the watershed curriculum was one of the most exciting for students and teachers. While collecting data about health of the watershed students caught and released some aquatic life. We found that the best activities were the ones that allowed us to enjoy being outside together. We enjoyed each other and enjoyed the beauty and peace that comes from nature.

This inspired us to plant an ornamental garden around our school sign making it more attractive. In the planning phase, they measured the area around the school sign and developed a plan to scale. They researched plants that were both heat tolerant and low maintenance. We went and selected the plants from a local home improvement store and enjoyed preparing the ground and placing our plants.



The Amgen trip to West Greenwich was really inspirational to our students that are interested in studying biology and engineering. The High School Engineering Challenge at URI was an awesome opportunity for student from all clubs to enjoy each other. Our students loved working collaboratively on the

solar vehicles. However, the best field trip by far was our kayaking trip with Shea High School. This was the first kayaking experience for most of our students and they gained confidence quickly in their ability to maneuver their way around each other and down the Wood River. We saw a mated pair of goldfinches, a family of Canada geese, orioles, red winged black birds, a great blue heron flying overhead, and numerous swallows sweeping after insects. We believe students gained an ap-

preciation and more respect for the natural environment as well as a desire to seek out more opportunities to spend time enjoying nature.

So, we have two SMILE members graduating, but the remaining students are looking forward to the new learning experiences and activities that next year's club will bring. We are hoping for an increase in club membership among incoming freshmen and current students.

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### South Kingstown Family Science Night March 28, 2013

#### *Students Shared Learning Experiences With The Community*

There were a variety of stations highlighting different activities throughout the year including: 1. Which blades work best on a wind turbine. 2. Poster on wind energy with questions and candy. 3. How a generator works using a hand cranked flashlight. 4. Making a wind anemometer. 5. Watershed field studies. 6. How to test water quality



### May Teachers Workshop

#### The Science of Energy

The SMILE Spring 2013 Teachers Professional Development Workshop was held at URI. The first part involved recognition of the many accomplishments of SMILE clubs, teachers, and students. Teachers evaluated their club and made suggestions for next year.

The second part of the workshop was The Science of Energy. This was presented by Shannon Donovan, Scituate High School teacher, through the State of Rhode island Office of Energy Resources and the NEED (National Energy Education Development) Project.

Using hands-on activities, teachers explored the sources of energy, what they are, where they come from, and how they use each of the 10 energy sources. At the conclusion of the workshop, teachers completed order forms for Kits to use in their club. It was a very enlightening workshop and even though the end of the school year approaches, teachers were excited about using new activities in their classes!



Presented by Shannon Donovan, Scituate High School teacher, through the State of Rhode island Office of Energy Resources and the NEED (National Energy Education Development) Project.



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### Congratulations

#### The Ninth Annual Transportation Excellence Award for the Educator of the Year



Carol Englander, SMILE Director , received this prestigious award from the Department of Transportation.

On May 15, 2013 Carol Englander, SMILE Director, received this prestigious award from the Department of Transportation. The award is given to people that have made significant contributions and have impacted the lives of the citizens of Rhode Island.

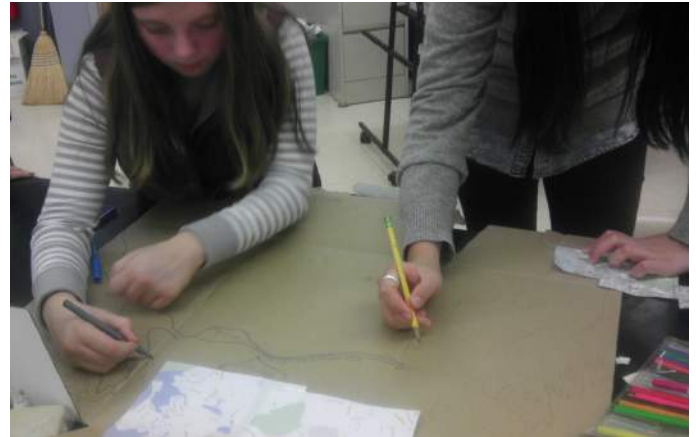
The URI Transportation Center is one of the major sponsors of the SMILE Middle School Engineering Challenge Weekend.

## CLUBS

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### North Kingstown High School

Karen Finland



We've having a very busy and fun time here at Noth Kingstown High School SMILE Club. To kick off the start of the new school year we hiked the woods near our school, taking pictures of the different types of trees, doing water tests from the nearby stream, and having lots of laughs. We've been working on a 3D topographic model of our watershed to see how the land around us affects the health of Narragansett Bay, a task that involves getting down and dirty with the clay. Here at NK we work mostly with the environment, but we mix in some engineering in there, too. We've gone on two field trips, one to a nature preserve and the other to Jamestown, to find out more about the native life in RI. We also went on a field trip to Amgen. We worked on our solar powered cars in preparation for the Challenge Weekend. That's just some of the things we've been keeping busy with here at North Kingstown High School. You guys are AWESOME and I can't wait to see you all soon!

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### Wind Turbine Field Trip

On April 24<sup>th</sup>, 2014 100 SMILE middle school students and teachers from 5 clubs converged on the Wind Turbine in North Kingstown, at the home of developer Mark DePasquale, CEO of Wind Energy Development, LLC. Standing up close to a 1.5 megawatt turbine was awesome. Mr. DePasquale helped students understand and appreciate how the turbine changed wind energy into electricity, the dimensions of the turbine and tower, the computer controls that regulate direction and angle of the rotors and safety precautions in high wind situations. It was a windy day, the revolutions per minute of the rotor were impressive, and through the discussion of wind turbines, students were made aware of the many careers associated with wind energy development. The field trip concluded with ice cream bars, and enthusiastic students and adults took home large pinwheels as a memento from Mr. DePasquale.



Wind Turbine in North Kingstown, at the home of developer Mark DePasquale, CEO of Wind Energy Development, LLC.



**CENTRAL FALLS**

Ella Risk Elementary School  
Sheryl Wilson  
Teri Glynn

Calcutt Middle School  
Margarita Cruz  
Sarah Peixoto

Central Falls High School  
David Upegui  
Laura Stanish

**NORTH KINGSTOWN**

N. Kingstown High School  
Karen Finlan

**PAWTUCKET**

Shea High School  
Ann Marie LaRoche

Tolman High School  
Oluwaseun Anderson  
Paula Wilenhain

Slater Junior High School  
Michael Gavin  
John Martinelli

**SOUTH KINGSTOWN**

West Kingston Elementary  
Debi Vannoy  
Cynthia MacNeil

Curtis Corner Middle School  
Gina Haberlin  
Jo Ann Basel

S.Kingstown High School  
Brenda Dillmann  
JoAnn Basel

**WEST WARWICK**

Horgan Elementary School  
Maria DePalma  
Amy Horne

Deering Middle School  
Pam Kershaw  
Geri Giroux

West Warwick High School  
Eugene Gallo  
Nelson DaSilva

**WOONSOCKET**

Harris Elementary School  
Heather Neil  
Stephanie Roberts

Coleman Elementary School  
Jennifer Paolozzi  
Anissa Hoard

Citizens Elementary School  
Melissa Moniz  
Jodi Cifelli

Woonsocket Middle School  
Paulette Metivier  
Denise Fontaine

Woonsocket High School  
Julia Grassini  
Ethel Locke

**AMICA**

Amgen Foundation

Amgen International Network

Bruce Wallace Amgen

Connecting For  
Children and Families

Constellation

Eaton Aerospace Foundation

Graphic Expressions

Holiday Inn South Kingstown

Lloyd G. Balfour Foundation, Bank  
of America, N.A Trustee

Nordson

North Kingstown  
21st Century  
Community Learning Center

Pawtucket COZ-21<sup>st</sup> Century

Ramsey McCluskey Foundation

Schneider Electric

Toray Plastics, America, Inc

University of Rhode Island

URI Transportation Center

YMCA of Greater  
Providence

Central Falls School Department

North Kingstown School  
Department

South Kingstown School  
Department

Pawtucket School  
Department

West Warwick School  
Department

Woonsocket School  
Department

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Coordinator

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Curriculum Specialist

María-Gabriela Lizano  
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Publications  
Coordinator

Catherine Valentino

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FACULTY**

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Affairs

Thomas Dougan,  
Vice President for Student  
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Mercedes  
Rivero-Hudec  
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NRS

Larry Englander  
CELS  
Plant Sciences.

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Orlando Merino

**PHARMACY**

Clinton Chichester

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Fred Frostic, USAF, retired  
Domenic Valentino, URI Psychology Professor, retired  
Malcolm Spaulding, URI Ocean Engineering Professor & ASA Inc. CEO  
John Peterson, URI web design and marketing  
Glenda Kirby, Home Fabrics, Inc NC and RI, retired

*SMILE Newsletter***Volume 19 No.3, May 2013**

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María-Gabriela Lizano, Publications Coordinator  
Brian MacMurray, Printing Schneider Electric

*SMILE (Science and Math Investigative Learning Experiences) is an enrichment program for educationally disadvantaged students in grades 4-12 in four Rhode Island communities. SMILE's goal is to provide group activities for these students in math, science and computers. Generous gifts by participating donors make this program possible. The SMILE newsletter is published four times a year. We encourage your comments and ideas. Please share this newsletter with others who might be interested in SMILE.*

## ONLINE



[www.uri.edu/smile](http://www.uri.edu/smile)

**19<sup>th</sup>** Year of service

## Calendar

Weekly SMILE Clubs Meetings  
Scientific and Career Exploration Field trips

Family Science Nights  
November-December 2012

## Special Annual Events

High School  
Challenge Weekend  
March 22-23, 2013  
URI Kingston Campus

Middle School  
Engineering Challenge Weekend  
March 1-2, 2013  
URI Kingston Campus

Elementary School  
Outdoor Science Adventure  
April 26-28, 2013  
URI Alton Jones Campus

July 16-17-18, 2013	December 6, 2013	May, 2014
University of Rhode Island	University of Rhode Island	University of Rhode Island
Math and science Curriculum	Math and science Curriculum	Math and science Curriculum
Planning for the year	Special Events Planning	End of the Year Evaluation

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