

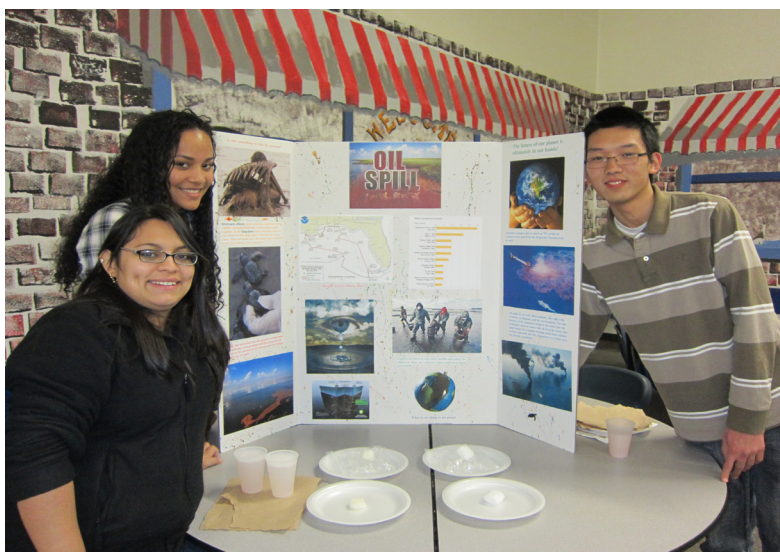
## NOAA-SMILE Professional Development for Ocean Science Educators

One Week Middle and High School Curriculum focusing on NOAA's Learning Ocean Sciences Through Ocean Exploration was developed and presented by URI SMILE Director Carol Englander and Program Coordinator Lacey Schlachter. Teachers from around the country had the opportunity to participate in this two day workshop at the University of Rhode Island. On the first day teachers discussed their backgrounds and interests, were given an overview of the workshop, divided into middle and high school groups, and worked at URI's Ballantine Hall Computer Lab using specially directed web quests to familiarize them with the NOAA exploration websites. Middle School teachers learned about specific areas of exploration investigating *Life at the Extremes* and modified the web quests to meet the reading levels  
*Continued page 4*



## SMILE Family Science Nights

Elementary, middle, and high school SMILE students shine at their district's Family Science Night as they teach their families, friends, teachers, school administrators, and community leaders about the cool and current science they have been learning in their clubs through doing hands-on, interactive activities. Each district will host a SMILE Family Science Night for an evening of science and math interactive activities and friendship. The whole family can participate, learn, and enjoy. Each evening promotes community-building as families get to greet old friends and make new ones while enjoying a wonderful ethnic potluck dinner and participating in different learning activities that all



# Family Science Nights

*From page 1*

The SMILE students engage their own and other parents and family members as learners. Groups of parents and siblings rotate through the elementary, middle, and high school stations as the SMILE students present and teach hands-on activities. For most students, this is their first experience at teaching, and by the end of the evening, after many presentations to strangers, they feel excited and much more confident. Self-esteem is soaring! Parents are also very proud of their child's accomplishments. The SMILE clubs offered their



## *Elementary SMILE Clubs*

guests a wide variety of exciting activities. Elementary students presented about the effects on wildlife, and what happens to an animal when it's soaked with oil, which they simulated with cotton balls by having four cotton balls. Two were soaked in oil and the other two in water. One of each was placed on a bag of ice. Participants could feel that the oil soaked cotton ball that was exposed to the ice was much colder than any of the others, thus making oil-soaked animals much more susceptible to hypothermia. Another elementary group had participants calculate the cost for five minutes



*As part of the Immersion Presents curriculum students studies Dolphins anatomy and behaviors*



*Family Science Night is an evening where families begin to bind into a SMILE community and students impress everyone with their enthusiasm for science and*

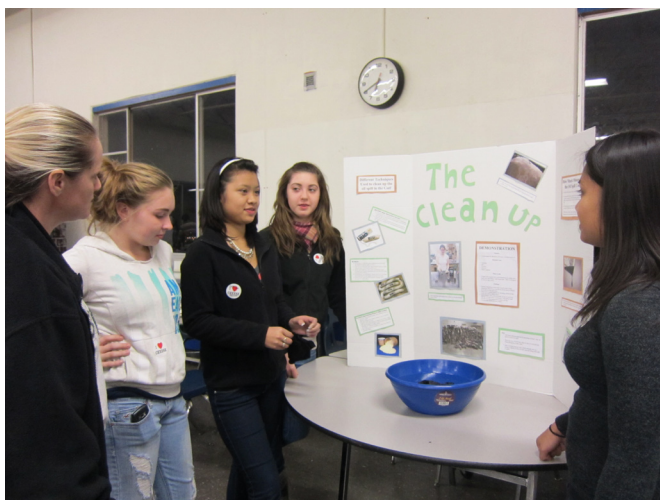
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### *Middle School SMILE Clubs*

Middle school students concentrated mostly on teaching about the Titanic. Participants built boats out of aluminum foil to see how many pennies it could hold. This activity showed how boat design affects buoyancy. Another really cool middle school experiment showed how rusticles form. Rusticles are a formation of rust that look like an icicle. Students had three samples that they prepared ahead of time that included how air, water, and salt water changed steel wool pads over time. It was clear that the salt water created the most rust! If you ever look at photographs of the Titanic on the bottom of the ocean floor, you can see these neat formations.



### *High School SMILE Clubs*



*West Warwick High School SMILE Seniors*

High School students concentrated on the oil spill, and they were very knowledgeable! One interactive survey had participants determine if they are “An Energy Hog or Hoarder.” In another, participants had to guess whether or not familiar items had petroleum in them – the results would surprise you! Other groups presented on the causes of the Gulf of Mexico Oil Spill, which they determined to be a combination of operational, mechanical, political, and disciplinary problems, while others researched and experimented the different ways the oil is cleaned up. They showed a small “hair boom” that they made to show how efficient hair is at cleaning up oil.

In each school district SMILE staff presented College Awareness and Planning, including requirements and financial aid, in both English and Spanish. SMILE senior students were recognized. And then, the moment waited for all, a free raffle! Family Science Night in each community is characterized by warm hospitality, a renewed sense of community, and a common purpose: to promote these children to continue to do well in school, stay in SMILE, and graduate from high school well prepared to enter college to pursue the career of their choice.

# NOAA -SMILE Ocean Science Professional Development

from page1

<http://www.bio.psu.edu/hotvents> and took a virtual tour of hydrothermal vent communities, recording the different life forms found there at the different levels. They also found the differences between black smoker hydrothermal vents and Lost City (2005) vents.

Afterwards, teachers were engaged in hands on activities that were part of each curriculum. By doing the activities, the teachers became familiar with the materials and the ocean science concepts being discussed. For the middle school curriculum, the theme is *Life at the Extremes*, which included activities such as making calcite towers model with foam paper and a chemical simulation with  $\text{CaCl}_2$  and  $\text{NaHCO}_3$ , producing and measuring heat produced in exothermic reactions using Plaster of Paris, and fine steel wool with vinegar to simulate the process of heat production during serpentinization. For the high school curriculum, the theme is *Hydrothermal Vents*, which included many hands-on activities. One activity included creating models of a hydrothermal vent by lowering a small jar filled with hot colored water into a larger jar filled with cold water and seeing the “hydrothermal fluids” rise to the surface due to a difference in density. Another activity included simulating the formation of hydrothermal vents and new ocean floor by melting paraffin wax (“magma” from the mantle) and pouring it into ice cold water (“deep sea ocean”). This meeting of magma and cold ocean creates new ocean floor, as the magma hardens. Also, the superheated water rises and has dissolved minerals. Once these dissolved minerals come into contact with the colder water above, the minerals precipitate and fall back down. The settling of these hardened minerals forms structures that resemble chimneys with the hydrothermal vent geyser in the middle. There were many activities presented to educate and excite middle and high school students about ocean exploration.

Teachers took part in a tour of the Inner Space Center at URI's Graduate School of Oceanography led by NOAA Education Specialist Catalina Martinez. She had the participants communicating live with a NOAA expedition in the Aegean Sea, with visual contact of the crew.



*Teachers were engaged in hands on activities and they became familiar with the materials and the ocean science concepts being discussed*



The two day workshop concluded with a verbal and written evaluation of the workshop. The teachers were overwhelmingly positive about using the materials in their classes, and appreciated the opportunities they were given to preview and discuss the curriculum with other teaching professionals.

## Central Falls Elementary School Club

Sheryl Wilson  
Alyssa Silva

**Hi SMILE kids!** So far in SMILE we have been learning all about dolphins. We have been doing a lot of experiments that we have never done before in our lives! We've done lung capacity, blubber, drawing parts of a dolphin and so many more that you will want to do them at home. We also learned about oil spills which are very dangerous! Read on to find out more!



### Why we love SMILE...

...it improves my learning of math and science. Another reason I love SMILE is the exciting experiments. We have fun and learn at the same time!

...I get to meet new people and make new friends and get to do my favorite subject in the world, Math! Also the best duo of teachers, Ms. Wilson and Ms. Silva.

### Why Ella Risk Elementary Students Joined SMILE...

...when I got the paper it caught my attention because I read it and saw that we were going on a field trip at a campsite!

...when I heard the name of the program, I thought I should join because I thought it would make me smile. It sounded very fun and exciting.

...I knew that it would help me get to college and I would learn more about Science. I was very excited when I heard that we will be going on field trips because most of the programs I've been in I've never went on field trips.

### My Favorite Experiment Was...

...when we did echolocation, because it was so fun when a person got blind-folded and the other people had to make sounds or clap. We learned how dolphins communicate with each other and how they catch their prey in the water.

...when I worked with a group of girls and we drew dolphins and the parts of a dolphin. We learned where and how to draw pectoral fins, rostrum, blow hole, and all the other parts and how the dolphins use these parts.

...when we did the silent communication and acted like dolphins. I liked it because I could pretend to be a dolphin and really see how a dolphin lives and communicates.

...when me and my club put on gloves and put our hands in the water. One hand had blubber, well actually Crisco, on the glove and the other hand didn't. We put them in freezing water! We timed how long we could keep them in.

...when we did the balloon experiment. We did the experiment because it was a challenge between dolphin lung capacity and human lung capacity. Did you know that dolphins can put more oxygen in their lungs than humans can? ...when we went to the computers and we learned facts about dolphins that I never knew before and this is my favorite experiment.

### What we are most looking forward to...

...going on the camping trip and discovering about nature and doing exciting experiments. I wonder what I will see in the camp. I wonder if it will look like my cousin told me.

...doing more experiments because I want to learn all the facts I can about dolphins. Like how it is living under water or how fast they can swim.

*Students gave silent clues to imitate how dolphins communicate.*



*Students test their own vital capacity, expiration reserve and tidal volumen*



# Club Spotlight

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## Woonsocket Elementary School Club

Heather Neil  
Stephanie Roberts



### “Our Favorite Experiences”

“Our favorite SMILE experience this year was when we went to Mystic Aquarium. We loved the Sea Lion show. We were really surprised when they opened the gate and the biggest Sea Lion came out of the water & sat a couple of feet away from us. It was shocking when it waved it’s fin. We had a great day on that field trip & we will never forget it!”

“One of our favorite things so far this year, was touching a baby shark at Mystic Aquarium. It was slimy, smooth & scaly. It was the best trip ever! Touching the sting rays was awesome too”

“My favorite SMILE experience this year was when we had buckets of water with blue dye & oil. We had to try to pick up as much oil as possible using eye droppers & cotton balls. We then had to determine how much it cost us to clean up this oil spill. There were prices assigned to all the items we used, as well as the time we spent working and there were costs to get rid of the trash too. I liked doing this because it was a good way of showing how money is spent on cleaning the oil spill.”

“We liked the experiment we conducted in the YMCA pool.

We poured ping pong balls into the pool & pretended they were oil. First we tried to pick them up in calm water. After that we made the water really wavy with splashing and flippers. It took us much longer to pick up the oil in the stormy water.”

“Our favorite SMILE experience last year, was the weekend. We learned lots of different things at the field studies while getting plenty of exercise. We know it will be our favorite part of this year too because it was a blast! We are hoping to finally find the infamous Wonder Bug @ Alton Jones this year!

“I loved when we got to see the baby beluga whale at Mystic Aquarium”

“Before going to the YMCA to conduct an experiment in the pool, we did a similar experiment with a little pool at school. I loved using the different tools to try to pick out the oil (ping pong balls) especially the giant q-tips! It was amazing to compare the difference in clean up times when we moved from the small pool to the large pool!”

“I love SMILE & can’t wait to see what other fun stuff we do this year!”

## Woonsocket High School Club

Claire Laquerre  
Laura Woods

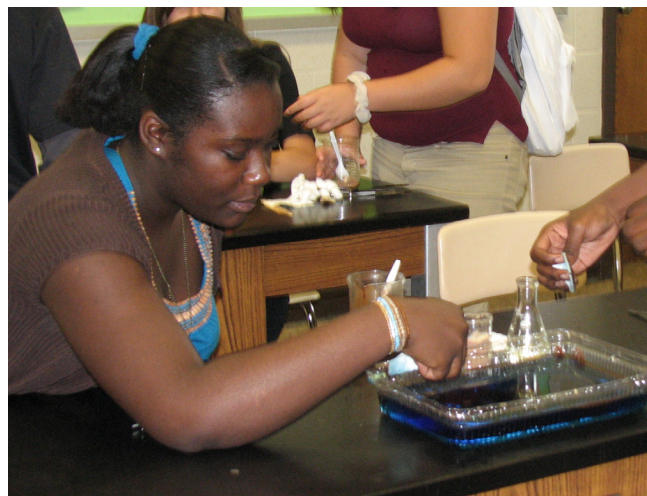
### What we have been up to...

How do you study an oil spill? You create one! To do this, SMILE members filled containers with water that was dyed blue to represent the ocean. Then, coca and cooking oil were mixed to create crude oil which was dumped into the simulated ocean basin. Figuring out the best method of clean up was a lot of fun however, it gave SMILE members some insight on how hard it is to clean up an actual oil spill and some complications that may arise while trying to return the ocean to its previous state. "I think that after we did this experiment we had a greater level of understanding for the Coast Guard and the specialists who had to clean up the BP oil spill."

One of the other activities that we did in S.M.I.L.E. was an activity that showed the effects of oil on a particular environment. We took a beaker and filled 2ml of it with a mixture of sand and oil. The next level was a mixture of soil and water. Then on top of that we put a flattened layer of clay and then filled the rest of the beaker with water. After that was finished, we sat and waited to see how long the oil from the first layer took to reach the water from the top layer. This project helped to show us how natural oil can rise to our oceans. I thought that the assignment was very fun and gave a good visual, even if not everyone's worked out right.

In the experiment "Trick or Treat??" we compared different candies' calories and weight. Out of all the candies we used it turned out Snickers had the most calories with 80 calories per serving and the most weight with 17 grams. We were shocked at the results of the other candies as well. Also we looked at the ingredients and found out that some of the candies were made out of petroleum. Overall we learned to watch what we eat because we may not know what could be in it. But I'm pretty sure that everyone still enjoyed Halloween this year.

There are many things that people can do to conserve energy. Whether you take an extra five minutes off your shower time, or reduce the water pressure while we shower, many things can be done and changed in our lives to help conserve the environment and keep it healthy. These little small changes we can make in our lives can have a huge impact on the environment. We should all make and keep goals in our lives that can help benefit the earth. If we don't start making conscious decisions to reduce our environmental impact then in another twenty years the world as we know it could be completely different, and not in a good way.



*We created an oil spil to figure out the best methos of clean up.*

*"I think that after we did this experiment we had a greater level of understanding for the Coast Guard and the specialists who had to clean up the BP oil spill."*



# Club Spotlight

## West Warwick Middle School Club

Alicia Manganelli  
Buddy Comet

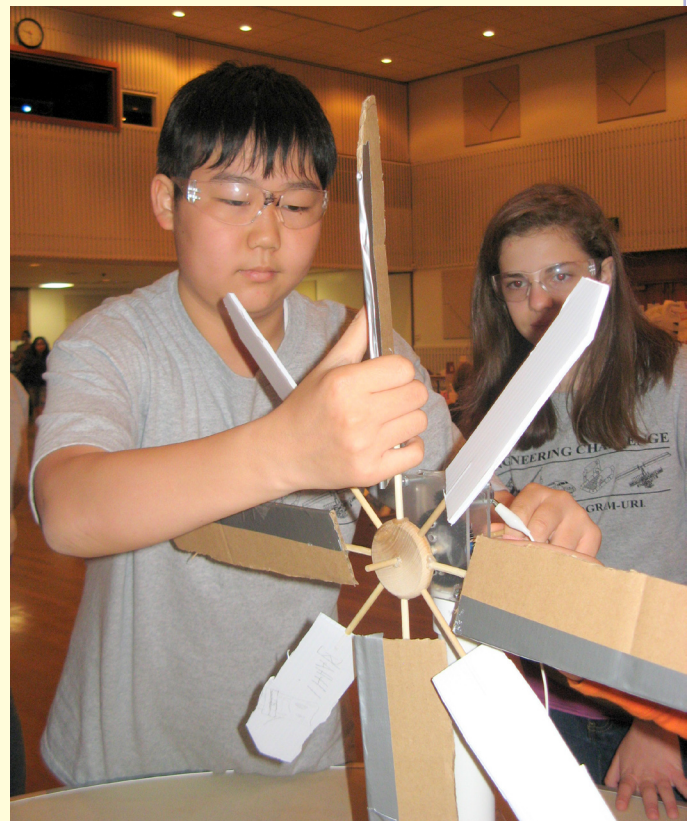
Members of the Deering Middle School SMILE club have had a very busy first quarter! After welcoming new members to our constantly growing club, we got right to work investigating the Titanic. First, we created scale drawings of the Titanic that measured thirty square feet in size. To complete this task, we worked in teams of three and four and created giant grids on ten-foot by three-foot paper. Group members were able to work on different parts of the drawing at the same time. Several of these drawings will be on display at Family SMILE Night. Next, our club worked in Titanic Centers. When we work in centers, everyone is participating in an investigation around a common theme or topic, but we are not all doing the same

work at the same time. Some club members used pennies and aluminum foil in a tub of water to experiment with sinking and floating. Another group investigated how air, water and saltwater impact steel wool. When we work in centers, we have a variety of learning experiences and then share our learning with each other. We share what worked, what did not work, what surprised us and how we handled any problems along the way. Lots of investigations have bumps along the way; we have learned persistence is an important characteristic of good scientists!

## SMILE Student Returns to Korea

Dear Mrs. Englander,

Hi, this is Sam. How are you? I really miss everyone in there and I want to join SMILE again. Thank you for recommending URI [Transportation Summer] Program for me. It was great. I had great time in there. Lots of things are happened here. I had midterm exam on last month. We took test about Earth Science which I learned from you. So, I got 97 from total 100. I think I couldn't get that score without your help. Thank you. And I should prepare for final exam on end of November. Oh, and I know that you moved to the director. How are you doing with it? After exams we will take winter vacation for month on end of December. And I'll start 9<sup>th</sup> grade (middle school in Korea) after winter break. I feel little nervous about it. I really want to go back to America some time. Maybe I'll on future. And I'll keep send you some emails. So. Goodbye. See you on someday. 11/10/2010





## Summer Teachers Workshop July 20-21, 2010

The SMILE's Professional Development Summer Workshop took place at the University of Rhode Island. The theme for the workshop, **Learning Ocean Science through Ocean Exploration**, has curricula strands that focus on science as active inquiry. It incorporates behavioral sciences, earth science, environmental science; physics; systems; and patterns. Our curriculum comes from National Oceanic and Atmospheric Agency and Dr. Robert Ballard's Immersion Presents. On Tuesday the workshop began with a welcome by URI Vice President for Student Affairs, DR. Tom Dougan. We introduced all returning teachers and teachers from the AMGEN biotech grant 2009. Afterwards, at Ballantine Hall computer center, teachers navigated through the Learning Ocean Sciences through Ocean Exploration NOAA websites with Augusto Gomes, elementary leader, Carol Englander, middle school leader, and Lacey Schlachter, high school leader. They used expedition flow charts created by SMILE to help their students focus on exploration technology, new geological and biological discoveries, and careers involved in ocean exploration.

After lunch, the 3 levels of SMILE teachers began the activities related to their curriculum themes. **Elementary** – Immersion Presents: Dolphin activities led by Augusto Gomes; **Middle School** –NOAA and Immersion Presents: Titanic activities led by Carol Englander; and **High School** – NOAA Activities: Ocean and Climate led by Lacey Schlachter.



All three levels incorporated Oil Spill Activities in response to the Gulf Oil Spill.

On Thursday, Director Carol Englander spoke on the "State of SMILE" including teacher and club accomplishments and our recently graduated high school seniors who are now headed for college. Carol and Lacey presented the "Nuts and Bolts" of SMILE. They also introduced the Family Science and Math Night activities, EOSA theme: Habitats, MSCW theme: Bridge Building, HSCW theme: Biotechnology, and the SMILE Program graduate course for 3 credits.

Elementary, Middle and High School SMILE teachers had club, level, and district meetings in which they shared ideas, developed strategies for the start of their clubs, planned activities and field trips, and discussed Family Science Night arrangements. All levels of SMILE will continue healthy snacks in their clubs.

Cathy Valentino generated plenty of teacher enthusiasm through her presentation on activities that encourage scientific inquiry. A special talk was given by a hair stylist about the collection of human hair and its use in oil skimming in the Gulf. Teachers worked with and were given materials to bring back to their clubs that were challenging, thought provoking, and fun.

The 17<sup>th</sup> year of SMILE in Rhode Island has gotten off to another great start with enthusiastic teachers, new materials, ideas and activities.

## SMILE STAFF

Carol Englander  
Director

Augusto Gomes  
Assistant Director  
EOSA Coordinator

Maria-Gabriela Lizano  
Development and  
Publications  
Coordinator

Lacey Schlachter  
Program & Evaluations  
Coordinator

Catherine Valentino  
Curriculum Advisor

Phouthone Malayphone  
Database

## URI RESOURCE FACULTY

John McCray, Jr.  
Vice Provost for Urban Affairs

Thomas Dougan,  
Vice President for Student Affairs

## ENGINEERING

Faye Boudreaux-Bartels

Christopher Hunter

Mercedes  
Rivero-Hudec

Manbir Sodhi

Malcom Spaulding

## COLLEGE OF THE ENVIRONMENT & LIFE SCIENCES

Jose Amador  
CELS-NRS

Larry Englander  
CELS-Plant Sciences.

## MATHEMATICS

Orlando Merino

PHARMACY  
Clinton Chichester

EDUCATION  
Betty Young

# College Corner

## SMILE High School Seniors!!

**Keep your grades up  
Take SAT Exam  
Start Applying to colleges.**

Remember it is always good to consider two “safety schools”, two “good matches”, and at least one “reach” college.

As soon as possible start working on your college applications, check the deadlines.

As you work on your application essays, have your parents, teachers, or counselors review them.

Teachers’ recommendation letters must be requested at least one month before the dead line.

During Challenge Weekend you will have the opportunity to talk to SMILE graduates about college experience.

**URI Talent Development** deadline for applications is Oct 1 to Feb 1, 2011 Applications should be sent to URI Admissions Office

Use Application form with Talent Development printed in red

Send Official High School transcripts.

Send two letters of recommendation

FAFSA must be sent soon after Jan1 and before February 15

More information: [www.uri.edu/talent\\_development.htm](http://www.uri.edu/talent_development.htm)

Phone: 874-2901

## Look for Scholarships

Check your guidance counselor office for outside and local scholarships.

Check out the following web sites [www.RIScholarships.com](http://www.RIScholarships.com); [www.collegeboard.com](http://www.collegeboard.com)

## Financial Aid

Students and families should file the FAFSA soon after January 1, 2011 and Feb 15, 2011 to ensure it is received before the college deadlines.

Need help with your college application?

1. [www.ed.gov/prog\\_info/SFA/FAFSA](http://www.ed.gov/prog_info/SFA/FAFSA)

2. Call the SMILE office 874-2036 or send us an

e-mail [smile@etal.uri.edu](mailto:smile@etal.uri.edu)

Visit College Planning Center of Rhode Island. Located in the Warwick Mall. Monday to Saturdays

Noon to 7:00 PM and Sundays Noon to 3:00 PM Phone (401) 736-1182/ 736-118e-mail: [ddeblois@](mailto:ddeblois@colleplanningcenter.org)

[colleplanningcenter.org](http://colleplanningcenter.org) Web: [www.collegeplanningcenter.org](http://www.collegeplanningcenter.org)

They offer help on college admission process, how to apply for financial aid, free scholarship search, assistance in completing admissions and financial aid applications, and more.

## SMILE Newsletter

University of Rhode Island  
305 Memorial Union  
Kingston, RI 02881

### Volume 16, No.1, January 2010

Carol Englander, Editor  
Maria-Gabriela Lizano, Publications Coordinator  
Nick Blacklock, Printing APC

*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 University of Rhode Island SMILE Update is published four times a year. We encourage your comments and ideas. Please share this newsletter with others who might be interested in SMILE.*

*Do not miss us*  
**ONLINE**  
*uri.edu/smile*

*Stay Con-  
 Curriculum  
 Check SMILE cal-  
 Mentoring Informa-*



## Calendar

Weekly SMILE Clubs Meetings

Scientific and Career Exploration Field trips

## Special Annual Events

High School  
 Challenge Weekend  
 April 1-2, 2011  
 URI Kingston Campus

Middle School  
 Engineering Challenge Weekend  
 March 11-12, 2011  
 URI Kingston Campus  
 Elementary School  
 Outdoor Science Adventure  
 April 29-30 - May 1, 2011  
 URI Alton Jones Campus

## Teachers' Professional Development Workshops

January 28, 2011	May 13, 2011	July 19-21, 2011
University of Rhode Island	University of Rhode Island	University of Rhode Island
Math and Science Curriculum.	Math and Science Curriculum.	Math and science Curriculum
Special events planning	End of year evaluation	Planning for the year

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

**THE  
 UNIVERSITY  
 OF RHODE ISLAND**

The SMILE Program  
 305 Memorial Union  
 Kingston, RI 02881-0800

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