

# Science Fest 2012

by Peter Sheldon, SPS Chapter Advisor  
and the Randolph College SPS Chapter

Randolph College is a small liberal arts college in Lynchburg, Virginia. For eight years, its chapter of the Society of Physics Students has been putting on an annual science festival. The Randolph College Science Festival is now the largest outreach and student volunteer event at the college. This event has indeed grown beyond our wildest dreams and is something that takes all year to plan and many people to put on. It started in 2005 as an afternoon hands-on science event for kids, with 42 attending. That was the idea of then SPS President Kacey Meaker (now doing her PhD in physics at Berkeley). In 2009, with popularity growing, we made it into a full weekend science festival for all ages. Dr. Peter Sheldon, the SPS advisor, was inspired to do so by talks from Neil deGrasse Tyson and Lawrence Krauss at an American Physical Society meeting.

All festival events are free and open to the public. While Science Fest is much of Dr. Sheldon's focus year round, SPS members are still the main players in carrying plans through. SPS takes on all the leadership roles and has collectively put in hundreds of hours. This year we had 104 student volunteers help out (we have a total population of 630 students), all organized by SPS. Our collective attendance was nearly 1500, with an additional 750 K-12 students entering our science poetry contest. Our event is modeled after the World and USA Science Festivals, and our dream for further expansion is to secure a high-profile keynote speaker.

2012 was actually the first year we had something of

a budget. We raised nearly \$20,000 in sponsorships and private donations (but were still short of what we needed). We started from no budget and a few SPS volunteers. In an earlier year, we had a \$300 Marsh White Award from SPS to help fund the event. The event naturally grew on its own, spurred on by the interest and enthusiasm of the Randolph chapter of the Society of Physics Students and interest from the community at large. We are very proud of what we have accomplished.

One of our most popular activities is the non-Newtonian fluid pool: we fill a pool with 700 pounds of cornstarch and water and let people run across the surface. New this year was an art contest where children were invited to draw items from our biology department's bird and mammal collection. We also hosted a science poetry contest, "A Scientist Goes to the Movies" activity, a "Women in Science" panel, a regional Cub Scout Pinewood Derby competition, and a Star Party at our observatory. Finally, one afternoon was slated for local science-based companies and organizations to come in and present displays and engage attendees in hands-on activities.

Thawda Aung, a physics major in the class of 2013, was the festival chair for 2012. He says:

"I have been involved in the Science Festival and SPS for three years. I fell in love with the Science Festival when I first volunteered during my freshman year. As three years passed, I became more involved and now hold the position of president of the program. Volunteering in the



Top: Some of the Randolph Science Festival student volunteers gather after the Science Day hands-on activities for children.

Bottom: A student participates in a Science Fest art contest, drawing a specimen from the biology department's bird and mammal collection.  
Photos courtesy of Randolph College SPS chapter

Science Festival makes me a part of the community. With how much I have learned from Randolph College and my amazing professors, it makes me feel happy that by being a part of the Science Festival, I am somehow giving back to the college and my professors, as well as helping children fall in love with science activities like I did. I will always remember spending countless hours in Dr. Sheldon's office designing new activities, getting more students involved, and working hard, but having so much fun during the three days of the festival. Everybody works so hard for the festival, but our exhaustion goes away after we see happy children leaving the college and telling

their parents how great their day has been." More information about the festival can be found at our website ([www.randolphscience.org](http://www.randolphscience.org)) or on Facebook (search Facebook for "Randolph College Science Festival" and please "like" the page!). We are proud of the poetry book, *Why Does Matter Matter?*, which we created from the entries of the finalists in our K-12 science poetry competition. There is a print edition of the book and an electronic version online at [http://web.randolphcollege.edu/multimedia/emags/science\\_poetry/](http://web.randolphcollege.edu/multimedia/emags/science_poetry/). Please contact SPS advisor Peter Sheldon at [psheldon@randolphcollege.edu](mailto:psheldon@randolphcollege.edu) for more information. ●

## Excerpts from *Why Does Matter Matter?*

### Why Does Matter Matter?

Why does matter matter?  
Because it makes up everything  
From a tiny blade of grass,  
To the diamond in your ring.

Why does matter matter?  
Because it makes us who we are.  
From a tiny speck of dust,  
To the most magnificent star.

Clearly matter matters.  
It's as simple as can be.  
It's the basis of the universe.  
Matter is the key!

*First Place Elementary School  
Name: Ian Strong (Grade 5)  
School: Tye River Elementary School  
Teacher: Lisa Schoener*



### Science Rocks

Science in 2nd grade is so much fun,  
My love of science has only begun.

Magnets are fun—they attract and repel.  
North and south poles stick—let's all yell!

ROYGBIV is such a sight  
Rainbows happen with just the right angle of light

A drop of food coloring in a bowl of milk.  
Add dish soap and it looks like tie-dye silk.

Matter is solids, liquids and gases too.  
Changes with evaporation or condensation to name a few!

Boil sugar and water, dump in a jar with a stick.  
Rock candy—awesome! I want a lick.

Maybe someday a scientist I will be  
But, for now, hey there, look, a poet is me!

*Second Place Elementary School  
Name: Jack Wimmer (Grade 2)  
School: Thomas Jefferson Elementary School*

### Volcanoes

Volcano erupting.  
Brown overflowing with reddish orange lava.  
Heavy booming,  
Shaking,  
Ground cracking.  
Hot.  
Charcoal.  
Burning trees are falling.  
Animals are dying, running.  
Lava—smooth syrup, but flaming.



*Third Place Elementary School  
Name: Hunter Smith (Grade 5)  
School: Goodview Elementary School  
Teacher: Carrie Peary*

## Making a Splash with Middle School Students

by Katie Neal

Wake Forest University Office of Communications and External Relations



Left: Wake Forest student Jenna Barnes (purple shirt) and her team from Hanes Magnet School with their Remotely Operated Vehicle (ROV) just before they put it to the test. Right: The ROV at the bottom of the pool. Photos courtesy of Wake Forest University

On most Saturday mornings, the pool in Reynolds Gymnasium is filled with just a few people quietly swimming laps. But on April 28, it was filled with underwater robots built by students at Hanes Magnet School in Winston-Salem, thanks to a partnership with Wake Forest's Society of Physics Students.

For the past three months, physics students and faculty have visited Hanes weekly to teach sixth through eighth grade students about robotics, science, technology, engineering and mathematics (STEM). Through SeaPerch, a national program sponsored by the U.S. Office of Naval Research, together the students designed and constructed underwater Remotely Operated Vehicles (ROVs).

"Seeing the students' enthusiasm experimenting with the robots is wonderful. They're excited about science and technology," said Rowland Carlson ('15), a first-year student from Upper Sandusky, Ohio. "I never got the chance to do this as a kid, but they're getting the chance and they're taking advantage of it to the fullest extent."

Four teams tested their ROVs

as part of the SeaPerch Challenge. To the casual observer, it looked like they were collecting as many pool rings as possible to accumulate points. In reality, students put their robots through a series of challenges to demonstrate learned physical concepts, problem solving, teamwork, and technical applications.

The SeaPerch collaboration between Wake Forest and the Winston-Salem/Forsyth County Schools exposes STEM careers and courses of study to students at a young age.

For Jenna Barnes, a sixth grader who is considering a career that combines sports and engineering, the mentorship of Wake Forest students was a highlight of the program.

"We had a problem with our circuit board and Rowland suggested we try something different," said Barnes. "It was really helpful and fun because he gave my team really good advice we might not have thought of." ●

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