

## Student Science Competitions

[\(Download printer-friendly pdf version\)](#)



- [NC Science and Engineering Fair](#)
- [NC Envirothon](#)
- [NC Junior Science and Humanities Symposium](#)
- [NC International Science Challenge](#)
- [23rd Annual MSEN Day](#)
- [America's Greenest School](#)
- [Seimen's We Can Change the World Challenge](#)
- [Alliance for Science Essay Contest](#)

### North Carolina Science and Engineering Fair

This spring, across North Carolina, students in grades 3-12 have been participated in local science fairs, sharing excitement over their research and engineering projects and dreaming of being selected to continue to higher competitions. The top projects were nominated to continue on to the nine NC Regional Science and Engineering Fairs. Each Regional Fair sent projects to the state NC Science and Engineering Fair held in Raleigh at Meredith College on March 27-28, 2009.

[See a list of winners and their photos.](#)

The NC Science and Engineering Fair seeks to encourage independent scientific research and inquiry-based learning to promote higher order thinking in our students and teach them about careers in science and engineering. The research involved in a science fair project can instill an understanding and love of science and teach students to solve problems and analyze data. This experience is an excellent recruitment tool for the next generation of scientists.

*Congratulations to the NC students who competed in 2009 International Science and Engineering Fair (ISEF)!*

Nine students were selected by Fair judges to present their six projects from SSEFNC at the Intel International Science and Engineering Fair (ISEF) in Reno, NV May 10-16, 2009. More than 1,550 young scientists from 51 countries, regions and territories selected for projects demonstrating their commitment to innovation and science attended ISEF. Selected students from NCSEF included Andrew Miller of Western Alamance HS, Eileen Jang of NCSSM, Catherine McVey of Graham HS, Erik Littleton of NCSSM, Brooke Burrows, John Burrows and Matthew Travers of Brevard HS and Sajith Wickramasekara and Andrew Guo of NCSSM.

*Congratulations to the NC students who competed in the International Sustainable World Energy, Engineering, and Environmental Project Olympiad!*

Seven North Carolina students demonstrated their excellence in science, engineering, and technology during the Second Annual International Sustainable World (Energy, Engineering & Environment) Project Olympiad (I-SWEEEP 2009) in Houston, Texas. Nearly 1,200 young scientists and project supervisors from 60 different countries displayed 450 highly qualified projects at the George R. Brown Convention Center in Houston from April 15 through April 20. [Read more and see photos.](#)

Additional information for the fair can be found at our home web site at <http://www.ncsta.org/sciencefair> or by contacting Judy Day, Fair Director, at [Judy\\_Day@ncsu.edu](mailto:Judy_Day@ncsu.edu).

---

## **North Carolina Envirothon**

The 2009 State Middle School and the State High School Envirothon competitions were held on April 24-25 at Cedarock Park near Burlington, North Carolina. The weather was great for the 270 middle school students and the 250 high school students participating as they competed for the right to be the state champs.

Friday was a training day as the students visited the five resource stations of wildlife, forestry, aquatic ecology, soils and current environmental issues, where they received resource presentations and hands on activities from resource personnel from various state and federal agencies. Saturday was the big day, when all the studying was to pay off for those teams, which had been studying for months. During this testing day the students take a written test together as a team to see which team had the most environmental knowledge.



The Envirothon is sponsored by the NC Association of Soil & Water Conservation Districts (SWCD) and the Division of Soil & Water Conservation of DENR.

The winners were:

Middle School

1st Place--Nocturnal Knights--- a home study team sponsored by Moore SWCD

2nd Place--DC Enviro Mentalists—a home study team sponsored by Davidson SWCD

3rd Place—Emus---a home study team sponsored by Cumberland SWCD

4th Place—5 musketeers—a home study team sponsored by Durham SWCD

5th Place—Timber wolves—McGees Crossroads Middle School sponsored by Johnston SWCD

Middle School Community Service Learning Project winner was East Wilkes Middle School sponsored by the Wilkes SWCD.

High School

1st Place—Sequoias from West Johnston High School sponsored by Johnston SWCD with a score of 472 out of 500 possible points.

2nd Place—Swamp Stompers--Christian Home school Association of Rocky Mount sponsored by Nash SWCD with a score of 448.

3rd Place---Sub-Chronic Exposure—Enloe High School sponsored by the Wake SWCD with a score of 438.

4th Place—Boxing Turtles—a home study team sponsored by the Orange SWCD with score of 427.

5th Place—Vicious Vipers—a home study team sponsored by the Durham SWCD with a score of 426.

High School Community Service Learning Project winner was the East Wilkes High School Water Striders-- sponsored by Wilkes SWCD.

Winning the FFA team award was the Bartlett Yancey FFA team sponsored by the Caswell SWCD.

The resource agencies from DENR were the Division of Water Resources, Division of Forest Resources, Division of Water Quality, Division of State Parks, Division of Soil & Water Conservation and the NC Wildlife Resources Commission. Federal agencies were the Natural Resources Conservation Service and the US Army Corps of Engineers

For more information about Envirothon, please contact Steve Bennett at ([steve.bennett@ncmail.net](mailto:steve.bennett@ncmail.net)) 919-791-4307.

---

## **NC Junior Science and Humanities Symposium**

On March 15th and 16th the North Carolina Mathematics and Science Education Network (NC-MSEN) hosted 100 highly motivated ninth through twelfth grade students for the North Carolina Junior Science & Humanities Symposium (NC JSHS) at the Friday Center in Chapel Hill, NC. This exciting annual event recognizes superior

student research in science, mathematics and engineering, and selects those local students who will represent North Carolina at the National Symposium in Colorado Springs, CO.

The student participants at this year's Symposium had submitted research papers for preliminary adjudication by a panel of PhD reviewers. From a field of 41 papers, the top ten submissions received invitations to present their research orally during Monday's sessions, after which a panel of PhD judges selected the top five students to attend the National JSHS Symposium at the end of April in Colorado Springs, CO. In addition, three cash scholarships were awarded.

Twenty eight students also were invited to present poster displays summarizing their research; 16 participated in the poster sessions. A panel of reviewers questioned the students individually about their research and findings, in order to award prizes to the top three presentations.

The students recognized for outstanding achievement in the oral presentation of research, and given expense-paid trips to represent North Carolina at the National JSHS Conference are:

First Place, \$1500 scholarship:  
Eileen Jang, North Carolina School of Science and Mathematics – "Natural Organics Control Aggregation of Mercury Sulfide Nanoparticles in Freshwater Systems"

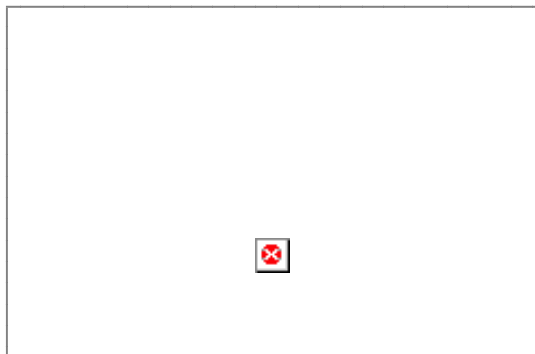
Second Place, \$1000 scholarship:  
Patrick Tenorio, North Carolina School of Science and Mathematics – "Simple Quadratic Fields"

Third Place, \$500 scholarship:  
Peter Zhu, North Carolina School of Science and Mathematics – "Rational Bioengineering of LadA Monooxygenase in Polyethylene Degradation Pathway"

Fourth Place:  
Justin Huang, North Carolina School of Science and Mathematics – "Transforming E. Coli to produce  $\beta$ -Galactosidase for Measuring the Efficiency and Yield of  $\beta$ -Galactosidase Activity"

Fifth Place:  
Sajith Wickramasekara, North Carolina School of Science and Mathematics – "A Functional Genomic Framework for Chemotherapeutic Drug Improvement and Identification"

The students recognized for outstanding achievement in poster presentation are:



First Place:  
Kevin Li, North Carolina School of Science and Mathematics – "Mechanisms of Transmembrane Protein Sorting in Lens Cell Membranes"

Second Place:  
Zaria Shields, Hillside High School – "The Synthesis of S-Dichlorovinylmercapturic Acid"

Third Place:  
Ajia Burris, UNC Charlotte Center for Mathematics, Science and

Technology Education (Harding University High School) –  
“Varying Levels of Hormone Sensitive Lipase in Cachectic Rats”

A \$500 Teacher Award was presented to Dr. Myra Halpin of the North Carolina School of Science and Mathematics, in recognition of excellence in mentoring NC JSHS participants.

JSHS was formed as a national organization in 1958, with the goal of promoting original research and experimentation in the sciences, engineering and mathematics at the high school level, and to publicly recognize students for outstanding achievement, ultimately widening the pool of trained scientific and engineering talent prepared to conduct research and development vital to our nation. This year’s Symposium comes at a time when national focus on the competitiveness of our education system is incredibly high; President Obama spoke explicitly to the cause in his Congressional Address a few short weeks ago, urging that new standards of excellence and achievement be set.

NC-MSEN is an enthusiastic partner to JSHS, hosting this symposium for the eleventh year. Celebrating its 25th anniversary this year, NC-MSEN provides statewide leadership for the improvement of mathematics and science teaching and learning, with two goals: strengthening the quality and increasing the size of the teaching base in science and mathematics education; and increasing the pool of students who graduate from North Carolina’s high schools prepared to pursue careers that require math and science. Housed in the UNC Center for School Leadership Development (CSLD), a division of UNC General Administration, NC-MSEN oversees pre-college and professional development programs at a dozen sites across the State.

For more information about the Junior Science and Humanities Symposium, visit [www.jshs.org](http://www.jshs.org). For more information about NC-MSEN, visit [www.unc.edu/depts/msen](http://www.unc.edu/depts/msen).

---

## North Carolina International Science Challenge

The North Carolina International Science Challenge (NCISC) is a yearly, North Carolina science competition, offered to high school students, by the North Carolina Science, Mathematics and Technology Center (SMT) and the Grassroots Science Museums Collaborative. Several excellent inquiry-based science projects are chosen and their student creators display those projects at the Beijing Youth Science Creation Competition (BYSCC), held during the third week of March 2008 in Beijing, China.

The students chosen through the NCISC process are the sole representatives of the United States of America. The BYSCC features students from many countries: therefore, it is an unparalleled opportunity for students to interact with future scientists from around the globe. The BYSCC is an exiting experience along with the breathtaking cultural events such as visiting the Great Wall of China. The Beijing Association of Science and Technology (BAST) is host to the delegation that consists of students and NC science leaders. BAST generously funds many of the expenses. More information and application forms may be found at <http://www.grassroots-science.org>.

---

## 23rd Annual MSEN Day

This past Saturday April 4th, Winston-Salem State University hosted over 800 talented middle school and high school students in an exciting array of competitions to celebrate NC-MSEN’s 23rd annual MSEN Day. This event is a highlight in the NC-MSEN Pre-College Program calendar, which seeks to broaden the pool of students pursuing mathematics and science-based majors and careers.

NC-MSEN oversees Pre-College Program sites at East Carolina University, Elizabeth City State University, Fayetteville State University, NC Agricultural & Technical State University, North Carolina State University, University of North Carolina at Chapel Hill,



University of North Carolina at Charlotte, Western Carolina University, and well as Winston-Salem State University. Middle school and high school students participate in year-round programs at these sites, and students from all these locations participated in MSEN Day.



Following the opening ceremony, the students broke out into specialized teams to compete for honors in the challenges including math, science, bottle rockets, engineering & design, mystery architecture, oratory, egg drop and more.



After lunch, Dr. Juliette Bell, Professor of Chemistry at Fayetteville State University gave an inspiring keynote address. The awards ceremony concluded the day. Jaelyn Harvey and Deja Williams, the winners in the Oratorical Competition, delivered their remarkable winning speeches to the full assembly. Based on a weighted ranking of their placement in all the competitions, the Pre-College Programs awarded trophies for all-around excellence were:

First Place: UNC Charlotte  
Second Place: NC State University  
Third Place: Elizabeth City State University

Celebrating its 25th anniversary this year, NC-MSEN is a constituent program in the UNC Center for School

Leadership Development, UNC-General Administration. NC-MSEN has two primary components: teacher professional development and a Pre-College Program. It provides statewide leadership for the improvement of mathematics and science teaching and learning in order to: 1) strengthen the quality and increase the size of the teaching base in science and mathematics education and 2) increase the pool of students who graduate from North Carolina's high schools prepared to pursue majors that lead to careers in mathematics, science, technology, engineering and teaching.

For more information about NC-MSEN, visit [www.unc.edu/depts/msen](http://www.unc.edu/depts/msen).

---

## Zoo School Student is a Finalist in America's Greenest School

Kara Dough of Asheboro High School's Zoo School was selected as a finalist out of 2000 entries, and the only one to represent North Carolina. Her essay, about our school's green practices and our emphasis on changing behavior to reduce our impact on the environment, highlights only some of the activities and practices at the AHS Zoo School. The grand prize is a hybrid bus for the school. To vote for Kara's essay and help her win the competition, visit [www.americasgreenestschool.com](http://www.americasgreenestschool.com)

---

## Buxton Middle School Students Win 3rd Place in National Green Community-Based Competition

Students Evan Haas, Ashley Hodges and Kailee Pieno along with their teacher, Tracy Shisler, of Cape Hatteras Secondary School of Coastal Studies in Buxton, N.C. have been named the third-place winners in the Siemens We Can Change the World Challenge. The national competition encouraged middle school students across the United States to team up and "go green" by creating and implementing environmental change in their local communities. Stewards of the Pamlico Sound is one of 22 state finalist teams, from which two national winning

teams and one grand prize-winning team were chosen and announced on May 18, 2009 at [www.wecanchange.com](http://www.wecanchange.com), where a complete list of the state finalists can also be found.

“Congratulations to all of the state finalist teams. It’s truly inspiring to see students all over the country taking such an active role in promoting sustainability, starting right at home,” said James Whaley, President, Siemens Foundation. “We are tremendously proud of all the teams who participated. Their innovative ideas and projects bring new awareness and ways for us all to be more eco-friendly in our daily lives.”

Each member of team Stewards of the Pamlico Sound will receive a comprehensive prize package that includes a \$5,000 U.S. Savings Bond; a flip camera; and a Siemens We Can Change the World Challenge eco-friendly prize pack of school supplies. In addition, the team’s advisor will receive free registration to an upcoming NSTA national or area conference, a one-year membership to NSTA and a 12-month subscription to Discovery Education Science, the digital content library designed to engage today’s technology-savvy students with science.

Stewards of the Pamlico Sound’s winning project focused on creating an artificial oyster reef to help restore the oyster population. Over 2,000 students participated in the inaugural year of the Siemens We Can Change the World Challenge. Other state finalist projects covered topics such as e-waste recycling, ecosystem restoration and water conservation.

To enter the Siemens We Can Change the World Challenge, teams of two to three students in sixth through eighth grade, under the mentorship of a teacher or adult supervisor, were asked to identify an environmental issue in their community, research the issue using scientific investigation, and create a replicable green solution using web-based curriculum tools powered by Discovery Education. A panel of environmental experts and science educators then reviewed and selected the top projects.

The two national winning teams will earn savings bonds, teacher education resources and unique “Discovery Experience” trips. The grand prize-winning team will receive a comprehensive prize package, which includes an appearance on Planet Green, Discovery’s 24-hour eco-lifestyle network and a once-in-a-lifetime Discovery Adventure Trip, accompanied by a Discovery TV personality.

The Siemens Foundation, Discovery Education and NSTA have partnered on the Siemens We Can Change the World Challenge to educate, empower and engage students, teachers and communities to become “Agents of Change” in improving their communities nationwide. The initiative expands to elementary schools in 2009 and to high schools in 2010. For more information on the Siemens We Can Change the World Challenge, go to [www.wecanchange.com](http://www.wecanchange.com).

---

## **East Chapel Hill High School Student Wins Evolution Essay Contest**

The non-profit Alliance for Science announced the results this week of its third annual National High School Essay Contest. As part of the year-long celebration of the 200th birthday anniversary of Charles Darwin and the 150th anniversary of the publication of Darwin’s Origin of Species, students were asked to write a 1,000-word essay on the theme of “In Darwin’s Footsteps,” in which they compare the achievements and dedication of a modern- era scientist with those of Charles Darwin. Regina Parker, a ninth-grader from East Chapel Hill High School in Chapel Hill, North Carolina, won the top prize.

Ms. Parker, in a meticulously researched essay, wrote about Walter J. Gehring, an embryologist who discovered the homeodomain—a critical component of DNA that regulates gene expression. Ms. Parker noted that “By discovering the homeodomain Dr. Gehring revolutionized embryology, incorporated it into the field of molecular biology, provided fuel for the explosion of evolutionary and developmental (evo-devo) biology, and gave a surprising new direction to stem cell research.” Her essay illustrated how Gehring’s decades of careful laboratory work, keen powers of observation, and willingness to step outside the usual boundaries of his academic discipline echoed Darwin’s dedication and originality.

Regina Parker won \$300 for her first-place finish. Each of the winning students will also receive a copy of The

Devil in Dover: An Insider's Story of Dogma vs. Darwin in Small Town America, by Laurie Lebo, and Microcosm: E-Coli and the New Science of Life, by Carl Zimmer. Additional prizes were awarded to the teachers of the winning students in recognition of their dedication and hard work throughout the year. The teacher incentives include copies of two books by Brown University Kenneth R. Miller: Finding Darwin's God, and Only A Theory: Evolution and the Battle for America's Soul.

The Alliance's Contest Director Dick Lessard said, "Our winners this year really showed how well they grasped the theme of the contest. We hope that all of the students who entered the contest learned to look at Darwin's work and career in a new light, while also developing an appreciation for the challenges and excitement of science today."

The full text of all of the winning essays can be found at the Alliance's website, <http://www.allianceforscience.org/essay>. This is the third year of the Alliance's essay contest. The Alliance for Science is a 501c(3) registered non-profit grassroots organization whose mission of the Alliance for Science is to heighten public understanding and support for science and to preserve the distinctions between science and religion in the public sphere.

[Current Issue](#) | [Archives](#) | [NCSTA](#)

---

**The Science Reflector**

Newsletter of the North Carolina Science Teachers Association

P.O. Box 33478, Raleigh, NC 27636

[Elizabeth Snoke Harris](#), Editor