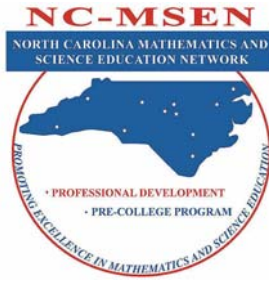


North Carolina Mathematics and Science Education Network



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U.S. Military Supports Innovative High School Research with Scholarships

The 2007 North Carolina Junior Science and Humanities Symposium (JSHS) was held March 11th and 12th at The UNC Center for School Leadership Development (CSLD) in Chapel Hill, with Rita L. Fuller as NC JSHS Regional Director. The JSHS is sponsored jointly by the research offices of the U.S. Army, Navy, and Air Force, and gives high school science and humanities students and teachers the chance to be involved in a forum honoring exceptional work.

The Academy of Applied Science administers the National JSHS Program in cooperation with universities and other educational institutions. This year's competition was hosted by the North Carolina Mathematics and Science Education Network (NC-MSEN) who received a \$20,000 grant to promote this wonderful opportunity for students.

Interesting facts about JSHS include: 48 university-held regional symposia reach over 8,000 science-oriented high school students. Top five finalists are awarded trips to the National JSHS, which brings together 240 student delegates from across the country who advanced in the research paper competition. Six delegates are awarded trips to the London International Youth Science Forum, including 400 participants from 60 nations. Undergraduate tuition-based scholarships are awarded to regional and national student finalists to recognize research excellence in various scientific categories.

The 2-day program kicked off with Sunday afternoon registration and authentic Carolina barbeque. Guest speakers that evening included *Ms. Sue Klapper*, Senior Assistant Director of UNC Chapel Hill Undergraduate Admissions; *Dr. Bradford L. Sneed*, Associate Vice-President for Leadership Development and Director of the Principals' Executive Program at the CSLD; and *Dr. Russ Lea*, Vice President for Research and Sponsored Programs for UNC General Administration.

Monday's events began with remarks by *Mrs. Rita L. Fuller* from NC-MSEN; greetings from *Dr. Chris Arney*, Brigadier General and Mathematics Division Chief with the U.S. Army Research Office, and the introduction of Judges and Oral Presenters by *Ms. Dianne Affleck*, NC-MSEN Pre-College Program Coordinator at UNC Chapel Hill.

Oral Presentations and Poster Judging took place all morning. A total of 26 research papers were submitted by NC high school students. The top ten papers were chosen for a 12 minute oral presentation. There were over 25 UNC System science, technology, engineering, and mathematics (STEM) faculty who spent numerous hours as volunteers on the project. Their time was spent reading the research papers, judging project posters, and rating oral presentations for awards.

The afternoon was spent touring the Morehead Planetarium and Science Center. An Awards Ceremony and Dinner began at 5:30 p.m. The guest speaker was *Dr. Harold L. Martin, Sr.*, Senior Vice President for Academic Affairs at UNC-General Administration who praised the students and teachers alike for their continued efforts in heralding the sciences into the future. A special announcement was made by *Dr. Fran Nolan*, Executive Director of the NC Grassroots Science Museum Collaborative in Raleigh.

All students received certificates for participating in JSHS. The 1st, 2nd, and 3rd Place winners received scholarships in the amount of \$1500, \$1000, and \$500 respectively. The following NC junior and senior high school students will be sent to Huntsville, Alabama to compete in JSHS Nationals:

5th Place to Laura Lee from the NC-MSEN Pre-College Program at Mirkwood High School for "A Comparison of Freshwater Fishes in Different Physiographic Provinces and Drainages of NC, VA, and WV"

4th Place to Nirav Lakhani from the NC School for Science and Mathematics for "Engineering Synthetic Tumor Targeting Genetic Circuits"

3rd Place to Steve Ko from the NC School for Science and Mathematics for "Synthesis and Characterization of Functionalized Aliphatic Polyesters Using Condensation Polymerization"

2nd Place to Nicholas Tang from the NC School for Science and Mathematics for "Engineering Synthetic Oscillatory Gene Networks at the Population Levels"

1st Place to Anna Parker from John T. Hoggard High School for "The Electrocatalysis of DNA-Wrapped Carbon Nanotubes"

The Poster Presentation winners are as follows:

3rd Place to Ray Wang from the NC School of Science and Mathematics for “Toxicity of Fruit and Leaf Extracts of Hedera Helix on Daphna Magna”

2nd Place to Lisa Zhang, Eric Li, and Amy Kim from the NC School of Science and Mathematics for “The Synthesis, Observation, and Application of Various Triboluminescent Compounds”

1st Place to Zachary Hackney from the NC School of Science and Mathematics for “Inverse Effects on Growth and Development Rates by Means of Endocrine Disruptors in African Clawed Frog Tadpoles”

The NC JSHS Teacher Award went to Mrs. Lawson Greenwood from John T. Hoggard High School in Wilmington, NC.

The North Carolina Mathematics and Science Education Network is a constituent program in the UNC Center for School Leadership Development. It has two primary components: teacher professional development and a pre-college program. The purpose of the Pre-College Program is to broaden the pool of high school graduates who are prepared to pursue college / university majors that lead to careers in mathematics, science, technology, engineering, and teaching.