

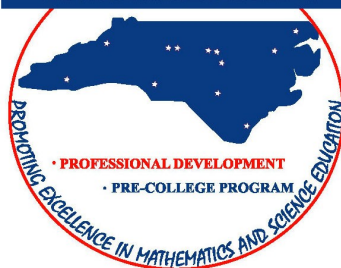
College of

Education

NC STATE UNIVERSITY

NC-MSEN

NORTH CAROLINA MATHEMATICS AND SCIENCE EDUCATION NETWORK



NC-MSEN PRE-COLLEGE PROGRAM

FYI (For Your Information)

# NC State Works to Increase Interest in STEM Careers For Minority, Rural Students

Students who grow up in small, rural towns do not have the same exposure to high-tech jobs as their “big city” counterparts and may not be aware of what it takes to be a rocket scientist or video-game programmer. With an increasing need for workers to fill science, technology, engineering and mathematics (STEM) careers in the United States, educational researchers at North Carolina State University are finding ways to reach students at a time in their lives when research has shown they are most likely to consider careers in STEM fields.

“Those of us who live in larger cities take for granted the exposure we have to high-tech jobs. We have neighbors and friends who work in various STEM fields. But children who live in rural towns do not have that same exposure,” says Dr. Margaret Blanchard, assistant professor of science education. “We hope by increasing students’ awareness of STEM careers, along with giving them ‘role models’ of people within that field, we’ll have a higher likelihood these students will pursue STEM careers.”

Blanchard is teaming with other NC State faculty to work strategically with lead-

ers, teachers and students in rural North Carolina. These “STEM Teams” will build a virtual bridge from isolated middle schools in northeast North Carolina to high-tech university resources. They will provide professional development to enhance STEM content knowledge and skills, and promote student interest in STEM careers. Fueled by a nearly \$1.2 million grant from the National Science Foundation (NSF), the researchers will track 60 sixth-grade students for three years – throughout their middle school careers – as well as all the STEM teachers and leaders in four rural North Carolina districts – Bertie, Northampton, Warren and Weldon. The hope is to garner additional funding to follow the same cohort of students as they enter high school, college, and into their chosen profession.

Students will participate in long-term extracurricular STEM-related activities that encourage college attendance and STEM career paths. Teachers will be supported by an administrative team that will develop a district plan to support and empower teachers to best use instructional technologies to benefit students.

“The North Carolina Mathe-

tics and Science Education Network Pre-College Program (NC-MSEN PCP) at NC State has had wonderful success in encouraging minority student participants to go to college and enroll in STEM majors. We want to get students thinking about careers as a way to help motivate them to succeed in their math, science and technology classes,” Blanchard says. “Currently, 80 percent of students in these rural middle schools are African-American. We want to show the students video clips of African-American, Latino, and female STEM professionals talking about the work they do so that students might better identify themselves in similar roles. Ultimately, we are hoping we can tap into these students’ potential and encourage them to become part of the next generation of STEM professionals.”

Co-principal investigators include Braska Williams, coordinator of NC-MSEN Pre-College Program, and Dr. Tom Alsbury, associate professor of educational leadership.

Excerpts of this story were copied from NCSU News Services and was written by Caroline Barnhill, Communication Specialist, NCSU.

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FYI (FOR YOUR INFORMATION) IS A QUARTERLY PUBLICATION THAT PROVIDES INFORMATION ON THE NC-MSEN PRE-COLLEGE PROGRAM AT NC STATE UNIVERSITY. THIS PUBLICATION IS FOR PARENTS AND SUPPORTERS OF THE NC-MSEN PRE-COLLEGE PROGRAM.

## NC-MSEN Pre-College Program Graduates 42 Seniors

For the 2009-10 school year, 42 seniors graduated from high school in the NC-MSEN Pre-College Program. All of the seniors were accepted into a 4-year college/university.

Here is a list of our students and their college of attendance.

Bernard Allen, III - Elizabeth City State University

Jasmine Bullock - NC Central University)

Spencer Carr—NC State University

Mys'Mali Clemmons—UNC-Charlotte

Kamari Dickens-NC A&T State University

Alvi Diggs—NC State University

Tyrell Elliott—NC A&T State University

Jordan Farrell—East Carolina University

Jasmin-Akia Fritz—East Carolina University

Kerrell Gomes—Virginia Tech

Robert Green—UNC-Greensboro

Fatima Guerrab—ECPI

Donielle Huggins—UNC-Charlotte

Victoria Jones—NC Central University

Sa'Metria Jones—UNC-Charlotte

Phillip Jordan—Averett University

Ceewin Louder—UNC-Chapel Hill

Taurean Lynch—Campbell University

Shamane McAdams—UNC-Charlotte

Jazalyn McNeil—NC State University

Kelsey Merritt—NC A&T State University

Sterling Minor—NC A&T State University

Deja Mitchell—  
Winston-Salem State  
University

Jasmine Molin—  
Spellman College

Brandi Moore—  
Elizabeth City State  
University

Brianna Nichols—NC  
Central University

Kingsley Nlewedim—  
UNC-Greensboro

Anthony Ogunaloh—Florida A&M University

Ernest Paul—NC A&T State University

Roland Pruitt—Hampton University

Amit Raval—UNC-Charlotte

Ceira Rhame—NC A&T State University

Ashlyn Sanders—UNC-Chapel Hill

Robyn Sanders—NC State University

Myah Smith—UNC-Chapel Hill

Tiffany Somerville—NC A&T State University

Gregory Terrell—NC State University

Melanie Thompson—NC A&T State University

Janae Tucker—UNC-Pembroke

Vanita Watford—Meredith College

Kiara Webb—Hampton University

Michelle Whitaker—NC A&T State University



Bernard Allen, III, MSEN senior, shares his college plans with audience at the annual Awards Ceremony.

## PERSIST Conference Presents Opportunity for MSEN Seniors In Math and Science Education

October 11, 2010-- Pre-College Experiences to Recruit Students Into Science Teaching (PERSIST) is a science and mathematics teacher recruitment program for high school students with high potential, but who may not have been encouraged to pursue mathematics or science teaching as a career.

The NC MSEN PERSIST

Scholars Fall Leadership Conference, Pathways to Teaching, hosted 55 high school seniors from across the state on October 2. Dr. Rita Fuller, NC MSEN Director; Mr. Braska Williams, NC State University NC-MSEN Pre-College Program Coordinator; and Danny Bland, Director of the NC Teaching Fellows Program. It was held at the Friday Institute for Educational Innovation on NC State University's Centennial Campus.

Sponsored by a Burroughs Wellcome Fund grant to the North Carolina Mathematics and Science Education Network (NC MSEN) Pre-College Program, five UNC campus sites (Elizabeth City State University, Fayetteville State University,



2010-11 NC Teacher of the Year, Ms. Jennifer Facciolini, speaks to the students

## Summer Scholars 2010: Robotics and FUTURE Cities

The NCSU Summer Scholars Program was held from June 28—July 2 and July 12-16, 2010 from 8am – 5pm daily. The objective of the program was to prepare students for their first quarter math class in the fall semester. One hundred twenty middle and high school students participated in the program which was comprised of sixty (75) high school students and forty-five (45) middle school students. Students attended classes from 8am-12 noon daily. After lunch, students attended scheduled events such as guest speakers, campus tours, and field trips.

Middle school students rotated through four classes in Math, Science, Communications, and FUTURE Cities while the



MSEN Students listen to a ECU researcher who explains how a robot is utilized for open heart surgery at ECU Heart Institute.

high school students attended classes in math, physics, com-

munications, and career awareness.

The FUTURE Cities class was a class that prepared the students and teachers for a national competition where student teams design a city of the future using the Sim City software. In addition, the students will create a model city using the

computer developed city. Two NCSU civil engineering faculty members came to the program and spoke to the students about suggestions.

Some of the field trips included a trip to East Carolina University where students toured the Heart Institute and learned how robotics are used to perform better open heart surgery. Also, the middle school students toured Cisco, and the high school students visited UNC-Chapel Hill to tour the medical school and the School of Public Health. In addition, the high school students toured Duke's Engineering School. On each campus tour, students ate lunch on campus so that students experienced college life.

## NASA and PERSIST programs Provide Opportunities For Ninth Graders

The NC-MSEN Pre-College Program has won two grants over the past three years that has greatly benefited its students. NASA and Burroughs Wellcome have both provide substantial awards that have provided outstanding opportunities to ninth grade NC-MSEN Pre-College Program (NC-MSEN PCP) students. The PERSIST program will provide support for students for three years while the

NASA program will provide support for students for two full years including the summer. Both programs have their own curriculum and provide supplies to teachers. These programs are assisting students with their transition from middle to high school.

The NASA program provides content in physics, engineering, and robotics to students. In addition, students were able to

attend the Summer Scholars program for free while the PERSIST program provides exposure to math and science teaching as a career option. It includes a variety of college trips to various in-state colleges and universities with a focus on education. The NASA program provides a trip and tour of a NASA site each year that students participate in the program.

## PERSIST Conference Presents Opportunity for MSEN Seniors In Math and Science Education (Continued)

UNC-Chapel Hill, UNC-Charlotte, and Winston-Salem State University) are involved. North Carolina State and North Carolina A&T State universities have identified high school freshmen to begin later this month.

The leadership conference was created to prepare the PERSIST seniors to apply for available teaching scholarships this fall. Pathways to Teaching gave the students

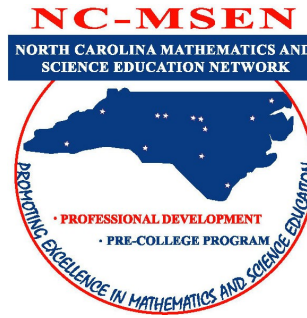
all of the necessary information to make the transition from high school student to college student, and then to teacher preparation program participant. Special guests included: Dean Jayne Fleener, NC State University's College of Education; 2010-11 NC Teacher of the Year, Ms. Jennifer Facciolini, a 1998 Meredith College Teaching Fellows graduate; Ms. Tamica Stubbs, a recent Burroughs Wellcome Fund Science Teacher Award win-

ner; Dr. Vincent Snipes, Winston-Salem State University; Dr. Elaine Franklin, Western Carolina University; Mrs. Sarita Broadway, College Foundation of North Carolina (CFNC); and a panel of freshmen through senior Teaching Fellows from NC State and North Carolina Central universities.

**NC-MSEN PRE-COLLEGE PROGRAM  
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## NC-MSEN Pre-College Program Calendar of Events

### *Saturday Academy, Fall Session*

October 16 and 30, 2010

November 20, 2010

December 4 and 11, 2010

### *Saturday Academy, Winter Session*

February 26, 2011

March 5 and 12, 2011

April 2 and 9, 2011

### *Parent Workshops: Navigating Through the School System: Taking the Right Courses*

November 20, 2010—9 a.m.—Saturday Academy—Friday Institute—Claude Lee, Guidance Counselor, SE Raleigh High School

### *College Financial Aid: Scholarships, Grants, and Loans*

November 20, 2010—Saturday Academy

10 a.m. Session—9th—11th Grade Parents

11 a.m. Session—12th grade Parents

Friday Institute

Presenter: Dr. Gerri Williams, Associate Director, Pack Promise Program, Scholarships and Financial Aid

### *College Tours: Northern College Tour*

Wednesday—Friday, November 3—5, 2010

### *Mini-Runoff*

Saturday, March 12, 2011

9—12:30 pm

### *MSEN DAY 2010*

Fayetteville State University

April 30, 2011

### *MSEN 25th Annual Awards Ceremony*

Tuesday, May 19, 2011

6:30 p.m.—Witherspoon Student Center—NCSU Campus

### *EnvironMentors Symposium*

TBA

### *Summer Scholars Program*

June 20—July 1, 2011

NCSU Main Campus