

NCSSSMST Fall Professional Conference 2010

partnering with NAGC



57th Annual Convention
**Great Minds
Leading the Way**



November 10-14, 2010 | ATLANTA

National Consortium for Specialized
Secondary Schools of Mathematics,
Science & Technology

November 11-14, 2010 | ATLANTA

National Association for Gifted Children

Conference at a Glance

Wednesday, November 10, 2010

1:00 p.m.	Conference Check-in begins	Georgia World Congress Center, level 1
6:30-8:30 p.m.	NCSSSMST Opening Reception	Westin Hotel, The Overlook Room
8:30-11:00 p.m.	NCSSSMST Board Meeting	Westin Hotel, Vinings II

Thursday, November 11, 2010

All sessions will be at the Georgia World Congress Center, level 2

7:00-8:00 a.m.	NCSSSMST Breakfast	C202-203
	Conference Check-in	Georgia World Congress Center, level 1
8:10-9:00 a.m.	Session 1	
9:10-10:00 a.m.	Session 2	
	Break	
10:30-11:20 a.m.	Session 3	
11:30 a.m.-1:30 p.m.	Lunch, Keynote, Business Meeting	C202-204
1:40-2:30 p.m.	Session 4	
2:40-3:30 p.m.	Roundtables	
4:00 p.m.	NAGC Opening Session	GWCC level 3, Georgia Ballroom
5:30-7:30 p.m.	Affiliate Meet and Greet Reception	GWCC Exhibitor Hall

November 12-14, 2010

NCSSSMST registered participants are invited to attend the NAGC sessions.

Highlighted NCSSSMST sessions are noted in the convention guide, http://issuu.com/nagc/docs/nagcconvention_guide.

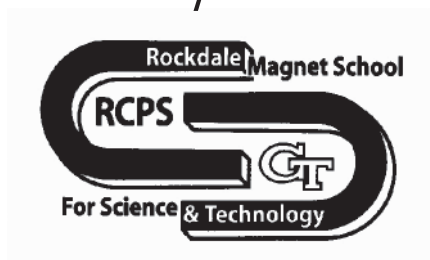
Keynote Speaker

Peggy Ozias-Akins

Dr. Peggy Ozias-Akins is a Professor in the Department of Horticulture and affiliated with the National Environmentally Sound Production Agriculture Lab (NESPAL) at the University of Georgia Tifton Campus. Areas of research for which she is internationally recognized are encompassed in the discipline of plant development and include 1) tissue culture and the production of transgenic plants for crop improvement, and 2) molecular genetics of apomixis defined as asexual reproduction through seed. Dr. Ozias-Akins has delivered over 100 invited presentations at regional, national, and international meetings. She has served on the editorial boards of four journals. She has attracted consistent funding from federal agencies including USDA-NRI/AFRI and NSF and is active in the Tifton Campus teaching program as professor, advisor, and curriculum committee member. Her outstanding contributions to the field of Agricultural Biotechnology were recently recognized with an award of Fellow of the American Association for the Advancement of Science.



Thank you



We appreciate the Rockdale Magnet School for Science and Technology serving as the local host.



We are grateful to the National Association for Gifted Children (NAGC) for allowing us to partner with them in Atlanta.

Save the Dates! *Visit www.ncsssmst.org for updates!*



NCSSSMST Austin 2011
Cultivate, Balance, Sustain through Innovation

Professional Conference

Expedition to Austin
October 26-29, 2011

Hosted by the Liberal Arts and Science Academy

NCSSSMST STEM Leaders Roundtable

April 28-29, 2011, Research Triangle Park, NC
Partnering with Sigma Xi

Student Research Conference

Hosted by The US Naval Academy
June 1-4, 2011, Annapolis, MD

Keystone Youth Policy Summit

The Keystone Center
June 2011, Keystone, CO

Summer Institute for Educators

*i²e=*invention, innovation, and entrepreneurship
Hosted by Polytechnic Institute of New York University
July 13-17, 2011, Brooklyn, NY

NCSSSMST Fall 2010 Professional Conference - Sessions Schedule

	Administration and Leadership	Counseling	Diversity	Engineering, Technology, CS	General Interest	Humanities and Social Sciences	Mathematics	Research Teaching and Learning	Science
Session 1 8:10-9:00	Assessing Specialized Programs Using the SSMV Model C205		Negotiating the Path - Continued I C201	Be Cool: Network, Collaborate, Innovate! C212	Using Social Media to Connect Students, Parents, and Alumni C206 Inventiveness in High School Classrooms C209 Putting the STEAM in STEM C211	Being NPR's Joe Palca C207		Guiding Student Research: A Resource for Enhancing Student Inquiry C208	Leading the Way to Exploration of the Earth C210

Session 2 9:10-10:00	Schools Like Ours: Realizing Our STEM Future C205	Pointing Students in the Right Direction: the Importance of New Student Orientation C207	Negotiating the Path - Continued II C201	The Learning Bridge for Advancing Civil Engineering C212	Summer Reading - Not Just for English Class C206 Keystone/NCSSSMST Youth Policy Summits: A Framework for Applying Public Policy Analysis C209	Heroes and History C211		Science, Research, and Technology: A Four-Year Sequence C208	Biology, Chemistry, and Physics Oh My! C210
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Session 3 10:30-11:20	STEM from 0 to 60 - Reaching the Stars C205	Beginning A Comprehensive College Planning Program C207	Negotiating the Path - Continued III C201	Girls in Computer Science: Females Only? C212	Disappearing Ink: Solving Problems Using the Humanities and Chemistry C206 Meeting the Diverse Needs of High Ability Students C209			Research and Inquiry in Astronomy and Oceanography C208	Senior Science Senario - Capstone Experience for Great Minds C210 The GLOBE Science Network C211
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11:30 a.m.-1:30 p.m. Lunch - Room C202-204, Keynote Speaker Dr. Peggy Ozias-Akins, University of Georgia, Dept. of Horticulture and NESPAL

Session 4 1:40-2:30	Maximizing Achievement Through Curriculum Integration C205		Excel: Boosting Success for Under-Served Populations C201	Teaching Engineering Courses in High School C212	Ideas for Incorporating Humanities in STEM Courses C206 CDC in the 21st Century C210	Publishing Mathematical Documents with LaTeX C207	Advance Scientific Research and Internships: Leading the Way to the Real World C208	Increasing Enrollment of Females in High School Physics Electives C211 A Model for Team-Teaching Chemistry in Summer School C209
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Roundtables 2:40-3:30	Administration and Leadership Roundtable C205	Counseling Roundtable C207		Engineering, Technology, CS Roundtable C212		Humanities and Social Sciences Roundtable C209	Mathematics Roundtable C206	Research Teaching and Learning Roundtable C208	Science Roundtable C210
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Affiliate Member meeting - 2:40-3:30 in C201

Concurrent Sessions

- S1** **Using Social Media to Connect Students, Parents, and Alumni** C206
Corey Alderdice, The Gatton Academy of Mathematics and Science in Kentucky
Session 1 Social media like Facebook and Twitter are extraordinary resources for connecting with program stakeholders. However, these
8:10 - 9:00 a.m. applications can raise concerns as well. We'll suggest practices for developing social media policy and utilization in admissions, student life, alumni development, and marketing.
- Being NPR's Joe Palca** C207
Cathy Colglazier and Kelly Ingle, Thomas Jefferson High School for Science and Technology
Joe Palca, the lead science writer for National Public Radio, presents clear, entertaining instructional pieces on science and technology. By studying his essays, students learn about understanding and communicating complex science to the public and become better writers.
- Assessing Specialized Programs Using the SSMV Model** C205
Jonathan Creamer, School for Science and Math at Vanderbilt
Assessing specialized secondary school programs can be challenging, particularly in the developmental stages. Using the School for Science and Math at Vanderbilt as a model, we will present the pros and cons of our methods and lead a general discussion.
- Leading the Way to Exploration of the Earth** C210
Mimi Dyer, Kennesaw Mountain High School
Honors Earth Systems is our capstone science that applies physics, chemistry, and biology to investigation of Earth's geosphere, hydrosphere, atmosphere, and biosphere through problem-based learning (PBL).
- Be Cool: Network, Collaborate, Innovate!** C212
James Gerry and Carl Heine, Illinois Mathematics and Science Academy
Project developers present CoolHub, an exciting combination of physical and virtual spaces that accelerates STEM transformation through collaborative innovation networks and Web-based tools including videoconferencing.
- Inventiveness in High School Classrooms** C209
Erich Kunhardt, Polytechnic Institute of New York University
Inventiveness drives the quest to solve world problems and improve the human condition. But inventiveness requires a basic understanding of math and science. De-mystify math and science and bring inventiveness into the classroom.
- Putting the STEAM in STEM** C211
Deborah Lesko, Anne Arundel County Public Schools - South River High School
How does Art earn its place in a STEM program? We will explore the relationship between the Arts, Math, and Engineering and look at projects implemented with 9th grade students. We'll also detail the infusion of Art into Science, English, and Social Studies.
- Guiding Student Research: A Resource for Enhancing Student Inquiry** C208
Martin Shapiro, NCSSSMST; Jay Thomas, Aurora University; Cheryl Lindeman, NCSSSMST
Want to enhance your student research program? Students need to ask good questions, have the tools to answer their questions, and then communicate what they've found.
- W1** **Negotiating the Path - Continued** C201
Charles Alex Alvarez, Rockdale Magnet School for Science and Technology; Bonnie Harris, Georgia Institute of Technology; Felicia Benton-Johnson, Georgia Institute of Technology; Doug Edwards, Fulton County Schools; Retina Burton, Spelman College
Workshop There is one concept that is often left out of the discussion on diversity: majority privilege. Join us in this 3-hour workshop as we
8:10 - 11:20 a.m. examine the conceptual framework of the privileged majority and how it impacts diversity, equity, and inclusion. Gain a better understanding of how to approach diversity issues. Explore the economic impact the American economy has suffered because of our failure to cultivate the academic success of under-represented populations in STEM fields. Find out why it is important to examine and inform students and their families of opportunities that have a proven track record of engaging and motivating underrepresented populations in STEM education.

S2

Session 2

9:10 - 10:00 a.m.

Summer Reading - Not Just for English Class

Todd Crane, Bergen County Academies

I have assigned summer-reading assignments based on a variety of popular science resources for the last ten years. Learn about the pros and cons of the source materials and about methods of assessment.

C206

Keystone/NCSSSMST Youth Policy Summits: A Framework for Applying Public Policy Analysis

Annemarie Fussell and Elizabeth Roush, The Keystone Center-Keystone Science School

Find out how to get involved in our 2011 programs! Students learn to unpack complex societal issues as well as mediation and negotiation skills. Educators learn to transfer this method of policy analysis to the classroom.

C209

Heroes and History

Diane Gerard, Alabama School of Math and Science

Our new Heroes and History class uses comic books as primary sources to learn how the comic book industry in America from its beginnings in the 1930s, and in every decade thereafter, reflects the nation's political climate as well as the prevailing social issues of the day.

C211

Schools Like Ours: Realizing Our STEM Future

Dennis Lundgren, Cheryl Lindeman, Marty Shapiro, Jay Thomas, and Ron Laugen, NCSSSMST

NCSSSMST past presidents will share the latest draft of *Schools Like Ours: Realizing Our STEM Future*, which provides a road map for creating specialized schools to prepare STEM leaders. We will focus on sustainability and will provide resources that can be applied to your school.

C205

The Learning Bridge for Advancing Civil Engineering

Mathew Mandery, Brooklyn Tech Alumni Foundation/ Brooklyn Technical High School; Franklin Moon, Drexel University

The Learning Bridge is a collaborative research project involving colleges, industry and high schools that is transforming a bridge in the Philadelphia area into a living laboratory. Find out how the Learning Bridge project can revolutionize how your students learn about bridges and civil engineering as well.

C212

Science, Research, and Technology: A Four-Year Sequence

Linda McDonough and Yvonne Gabriel, Science and Mathematics Academy at Aberdeen High School

Find out how our Science, Research, and Technology sequence (SRT I-IV) helps students integrate our STEM curriculum via regular contact with practicing scientists, engineers, and mathematicians and with relevant, authentic research.

C208

Biology, Chemistry, and Physics Oh My!

John Morris, Debbie Lesko and Fran Magiera, Anne Arundel County Public Schools - South River High School

Learn more about teaching science as a system: integrating Biology, Chemistry, and Physics using the Problem/Project Based Learning model.

C210

Pointing Students in the Right Direction: the Importance of New Student Orientation

Bradley Starbuck, Missouri University of Science and Technology

Students entering a residential high school or university that has a STEM focus can pose unique retention challenges. I will share our practices to maximize their retention.

C207

S3

Session 3

10:30 - 11:20 a.m.

Girls in Computer Science: Females Only?

Ann Drobnis, Thomas Jefferson High School for Science and Technology

Enrollment in computer science is declining, especially among women and minorities. We will discuss one way of attempting to attract and keep women in the field – having a single sex class.

C212

Disappearing Ink: Solving Problems Using the Humanities and Chemistry

Robin Taylor and Milde Waterfall, Thomas Jefferson High School for Science and Technology; Holly Herro, National Institutes of Health

The TJ Chemistry & Humanities Team and the NIH Archivist will discuss how our program has evolved and how NIH extends and enhances student understanding of critical thinking and problem solving.

C206

Meeting the Diverse Needs of High Ability Students C209

Tim Gott, The Gatton Academy of Mathematics and Science in Kentucky

How do specialized STEM secondary schools meet the mental, physical, emotional, spiritual, and relational needs of high ability students? Acceleration, research opportunities, internships, competitions, and intentional life skill and counseling sessions will be discussed.

Research and Inquiry in Astronomy and Oceanography C208

Lee Ann Hennig and Lisa Wu, Thomas Jefferson High School for Science and Technology

TJHSST students are able to design and conduct engineering or experimental research during their senior year. Two areas are Astronomy/Astrophysics and Oceanography/Geophysical Systems. Find out more about techniques for developing student investigations and for pursuing research goals.

Senior Science Scenario – Capstone Experience for Great Minds C210

Cheryl Lindeman, Central Virginia Governor's School for Science and Technology

Want to engage graduating seniors during their last month of high school? Our Senior Science Scenario module is a four-week interdisciplinary, team building, enrichment activity designed to keep great minds active!

STEM from 0 to 60 - Reaching the Stars C205

Fran Magiera, Anne Arundel County Public Schools - South River High School

Get practical suggestions for developing a new STEM program in year one and offering post-AP courses in year two. Staffing, resources, curriculum writing, and scheduling concerns will be addressed. Job shadowing and problem based learning will also be discussed.

The GLOBE Science Network C211

Michael Odell, The University of Texas at Tyler

The Global Learning and Observations to Benefit the Environment (GLOBE) program is a worldwide hands-on, primary and secondary school-based science and education program. Find out more about getting involved.

Beginning A Comprehensive College Planning Program C207

Vikki Wismer, The Governor's School for Science and Technology; Ellen Fithian, Hampton Roads Educational Consulting

Dramatic changes in competitive college admissions have left many parents and students bewildered about how top colleges evaluate applicants and award financial aid. Find out about our comprehensive college-planning program involving all stakeholders.

S4

Session 4

1:40 - 2:30 p.m.

Excel: Boosting Success for Under-Served Populations C201

Paula Altekruze, Barbara Miller and Christopher Kolar, Illinois Mathematics and Science Academy

Excel is a pre-enrollment summer program designed to prepare under-resourced rural and urban area students to be successful at IMSA. We'll discuss our students, curricular goals, and retention rates.

Advanced Scientific Research and Internships: Leading the Way to the Real World C208

Mimi Dyer, Kennesaw Mountain High School

We have developed two post-AP courses to propel students into the real scientific world that conclude with a juried presentation of their research. We will describe the steps for successful completion of these courses and the ramifications for students.

Publishing Mathematical Documents with LaTeX C207

Chuck Garner, Rockdale Magnet School for Science and Technology

Documents with lots of mathematical or scientific information can be produced with professional-quality results with the LaTeX typesetting program. Find out more!

Increasing Enrollment of Females in High School Physics Electives C211

Diane Hinterlong and Branson Lawrence, Illinois Mathematics and Science Academy

Despite equal numbers of female and male students entering IMSA every year, significantly fewer females than males enroll in our physics electives. We'll share action steps, ask for ideas, and discuss how we can combat this national trend together.

A Model for Team-Teaching Chemistry in Summer School C209

Hadan Kauffman, Thomas Jefferson High School for Science and Technology

We have developed a program that successfully incorporates non-TJHSST teachers, retains students, utilizes student assistants, distributes instructional responsibilities, and manages a successful lab experience.

CDC in the 21st Century C210

Denise Koo, Centers for Disease Control and Prevention

Learn about the public health professionals who monitor the health of communities, identify causes of outbreaks, present critical information to policymakers, and implement interventions that prevent health problems.

Maximizing Achievement Through Curriculum Integration C205

Jeff Mathews, John Willis and Barbara Steele, Gwinnett School of Mathematics, Science, and Technology

GSMST approaches curriculum integration vertically and horizontally. A common language regarding integration allows teachers and students to view curriculum through a different lens, maximizing collaboration and innovation.

Ideas for Incorporating Humanities in STEM Courses C206

Kate Mewborne, Regina Dilley and Melinda Lee, Dutch Fork High School STEM Program

Get lesson plan ideas for incorporating English and Global Studies into Biology, Physical Science, and Algebra II. We will give a brief overview of our program, tips for building a team, scheduling suggestions, and goals.

Teaching Engineering Courses in High School C212

Linda Patterson and Jack Reece, The Center for Advanced Studies at Wheeler High School

Want to integrate engineering into your curriculum? We provide courses in chemical, material, civil, aeronautical, and biomedical engineering. Learn about our challenges and what works. We'll provide a blueprint for starting something similar.

R5

Roundtables

2:40 - 3:30 p.m.

Administrator/Leadership Roundtable C205

Come share challenges, successes, issues, and current trends in administration and leadership in member and developing schools.

Affiliate Member Meeting C201

This is a meeting for representatives from NCSSSMST Affiliates. All reps attending the conference are urged to attend. NCSSSMST Board members will join you.

Engineering/Technology/Robotics/Computer Science Roundtable C212

Come share challenges, successes, issues, and current trends in engineering, robotics, computer science, and technology at member schools.

Mathematics Roundtable C206

Come share challenges, successes, issues, and current trends in mathematics education in specialized schools.

Science Roundtable C210

Come share challenges, successes, issues, and current trends in science teaching and learning.

Humanities/Social Sciences Roundtable C209

Come share challenges, successes, issues, and current trends in teaching humanities and social science courses in specialized schools.

Research and Internship Roundtable C208

Come share challenges, successes, issues, and current trends in internships and teaching the research process.

Guidance and Admission Roundtable C207

Come share challenges, successes, issues, and current trends in counseling and admitting students from NCSSSMST schools.