Week of August 3, 2009

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NSTA Legislative Update: Race to the Top Announced

Late last month the U.S. Department of Education released a draft Request for Proposal (RFP) for the $4.3 billion Race to the Top fund. Read more about it in this issue of the NSTA Legislative Update.

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Report Paints Picture of STEM Students

In the quest to increase interest in the science, technology, engineering, and mathematics (STEM) fields, the discussion on how to accomplish that goal has reached a fevered pitch. Many experts are weighing in on what approaches can be taken to interest, support, and retain students in STEM education. A newly released Department of Education study of students who choose the STEM fields helps to paint a picture of them—why they choose these fields of study, if they remain in them, and what their educational outcomes are.

Students Who Study Science, Technology, Engineering, and Mathematics (STEM) in Postsecondary Education focuses on undergraduate students and is designed to provide a snapshot of students who pursue and complete degrees in STEM fields. The report released last week uses data from three studies completed from 1995 to 2006. One early conclusion is that students who choose STEM fields outperform their non-STEM field colleagues. To access the full report, click here

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2009 Siemens We Can Change the World Challenge Winners Go to Boston for Three-day Adventure Trip

On July 8, 2009, NSTA, Discovery Education, and the Siemens Foundation took the top two winning teams in the inaugural "Siemens We Can Change the World Challenge" on an architecture tour of Boston given by Danny Forster, host of Science Channel's BUILD IT BIGGER. The tour was part of a 3-day adventure trip awarded to grand prize winners Team Dead Weight and second place winners Team Recycle Because You Care. The national sustainability competition encourages students to be agents of change in their communities. For more information, go to wecanchange.com.

Pictured (left to right): Jeniffer Harper-Taylor, Siemens Foundation; Maggie O'Brien, Team Recycle Because You Care; Angel Lozzio, Team Recycle Because You Care; Dana Gattone, Team Recycle Because You Care; Danny Forster, host, Science Channel's BUILD IT BIGGER; Justin Roth, Team Dead Weight; Jathan Kron, Team Dead Weight; Brennan Nelson, Team Dead Weight; Lori McFarling, Discovery Education.

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From the NSTA Calendar: Knowles Science and Mathematics Teaching Fellowships

The Knowles Science Teaching Foundation (KSTF) is seeking applicants for its cohort of Teaching Fellows: individuals who have at least a bachelors degree in a physical science, biological science, engineering, or mathematics and now want to teach science or mathematics in U.S. high schools. KSTF Teaching Fellowships support individuals professionally and financially for up to five years through a teacher preparation program to eligibility for tenure. For more information, visit www.kstf.org.

This is just a sample of what you will find in the NSTA Calendar.

Need to publicize a science education opportunity? Use the submission page to send an item for inclusion in the Calendar (subject to staff review).

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Merge Science Educators' PD with Time in the Sun in Fort Lauderdale

NSTA's Area Conference on Science Education scheduled for Nov. 12–14 offers a Fort Lauderdale, Florida, beach destination that opens up thrilling science field trips to the Everglades, canoeing on the Oleta River, studying the fragile ocean ecosystem of South Florida, and a trip to Miami Seaquarium for world-class marine life entertainment.

Even more important are workshops, presentations, and more than 300 concurrent sessions planned for science educators from every grade band and discipline, preservice teachers to veterans. We invite you to take advantage of this professional development experience.

You'll meet featured presenter Julie Scardina, Animal Ambassador to SeaWorld, Busch Gardens, and Discovery Cove, who is concerned for our planet and its wildlife. Her session is titled Saving Species: Science to the Rescue.

Choose workshops that focus on student success—Inquiry for All Students, Differentiation in the Science Classroom, or Building an Integrated Curriculum Through Environmental Literacy.

Consider sessions on teaching ecosystems—Environmental Issues Taught with an Inquiry Approach, The Embattled Estuary, Citrus Waste to Ethanol, and How to Use a Three-Prong Approach to Teach Ecosystems.

Short courses are intensive and explore topics from solar energy to web-based interactive simulations. Titles like Alternative Energy, Energy from the Sun, or Messenger and Technology Integration with Classroom Instruction that Works are available for your PD requirements.

The Exhibit Hall is historically a favorite and continues to entertain and offer giveaways from top companies across the nation. Also, keep in mind for every hours of program attendance, you can earn graduate credit through Framingham State College.

And that's just the beginning. For more details, visit www.nsta.org/fortlauderdale and view our program scheduler and register to attend.

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Tips on Teaching About Scale from NSTA Press®

Middle and high school teachers will find this new title, *Extreme Science: From Nano to Galactic*, a boon to teaching biology, Earth science, chemistry, physics, and math students who need to understand scale, both large and small, and develop quantitative evaluation skills. Using "investigations" along with an emphasis on types of scale, measurement, powers of ten, estimation and models of scale, surface area to volume relationships, limits to size, and behaviors at different scales, the authors cover it all in this 345 page text.

To aid in comprehension, each investigation is designed around a modified 5E learning cycle (engage, explore, explain, extend, and evaluate). This method allows students to invent scales, develop benchmarks, estimate, and apply body rulers. Each lesson begins with background information for the teacher and lists of specific objectives and process skills. Upon completion of activities students will evaluate their understandings through a series of questions. In so doing, students will come to understand scale on an intrinsic level and come to understand that no problem is too big or too little to be scalable. Visit the NSTA Science Store to download a chapter or to buy the book.

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MSU Online Courses Cover Astronomy, Earth Science, Physics, and More

Stay abreast of the latest in science content from a top-100 research university. The National Teachers Enhancement Network's fall line-up includes graduate-level online courses in astrobiology, geography and many other sciences.

Back this year are several popular favorites: Teaching Evolution (BIOL 580); Global Warming, Climate Change and Our Environment (GEOG 580); and "The Fascinating Bug: Learning About Insects through Observation." This inquiry-based entomology course, designed for K-6 teachers, combines art with science as teachers and students learn about insects by maintaining a colony of live bugs throughout the semester. It is co-taught by a Smithsonian science consultant and an award-winning nonfiction children's book illustrator.

Most NTEN courses begin in early to mid-September. For more information about these and other current courses, go to eu.montana.edu/nten or www.scienceteacher.org. Montana State University's NTEN program has delivered online courses for science teachers since 1993. NSTA members receive a discount on many of the courses.

And Don't Forget…

Visit our member services web page to ensure that NSTA has your current contact information. And when the time comes to renew—select the "Autorenew" option!

Visit the NSTA Science Store for an outstanding array of bestselling books and teaching resources. Receive 30% off the price of the August featured book, *NSTA Ready-Reference to Safer Science*.

Professional development courses in your future?
Online options give you a world of choice.
Take a look at these groups offering courses for science educators!

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