NYC Partnerships in Science, Engineering and Math Education

The WORLD is our SCIENCE CLASSROOM!

A Professional Development Symposium for NYC Middle and High School Science and Math Teachers

Havemeyer Hall, Columbia University
Friday, December 16, 2005

PROGRAM

11:30 AM – 12:15 PM: Registration
Havemeyer Foyer

Noon – 1:00 PM: Lunch and Publisher Presentation (Glencoe McGraw-Hill)
Havemeyer 328/309

1:00 – 1:50 PM: “Have You Ever Wondered About …? Teaching the Wonders of Science and Math.” Dr. Joe Schwarcz
Havemeyer 309

“Dr. Joe” is a professor of chemistry at McGill University (Montreal, Canada) and an international award-winning educator, television persona, radio host and author of several popular science books. In this seminar he will inform and entertain as he speaks on demystifying science for students, using questions ranging from the esoteric (what is Beethoven’s connection to plumbing?) to the common (how do fish become contaminated with mercury?) to reinforce the scientific process and the pleasure of discovery.

2:00 – 4:00 PM: Teacher Workshops (4 concurrent Sessions)
Havemeyer Laboratories

• Bringing Science to Life in Middle-School Classrooms
• Probing the Physical and Biological Sciences: A Middle School Teacher Workshop
• Lighting the Way to Better Teaching and Learning with Light Bulbs and LEDs: A High School Teacher Workshop
• Mathematical Muses and Merriment: A Middle School Teacher Workshop

Register on-line for this event:
http://elements.columbia.edu (follow the link!)

Questions? Please contact:
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WORKSHOP DESCRIPTIONS

Bringing Science to Life in Middle-School Classrooms
"Easy-to-conduct" investigative activities in genetics, conservation, and the environmental sciences will be introduced. From DNA extraction to lung capacity, these successful experiments can be linked easily to learning standards and curriculum.

Probing the Physical and Biological Sciences: A Middle School Teacher Workshop
Probes and sensors interfaced with computers are invaluable tools for engaging students in their lessons and familiarizing them with scientific experimentation, especially the collection and interpretation of numerical and graphical data. This workshop will provide an introduction to two such tools - the Vernier electrocardiography (EKG) sensor and the Vernier motion detector. Workshop participants will have the opportunity to use the sensors first-hand in order to become familiar and comfortable with the technology, and also to begin developing ideas about how the sensors can help reinforce concepts or introduce topics for classroom discussion.

Lighting the Way to Better Teaching and Learning with Light Bulbs and LEDs: A High School Teacher Workshop
The incredible story of light forms the premise of this inquiry-based workshop for high school chemistry and physics teachers. In combining computer-based instruction (LENS) and a hands/minds-on exercise with light-emitting diodes (LEDs), participants will be guided in the design of lessons and laboratories that incorporate readily available and low cost tools and materials. Fiat lux!

Mathematical Muses and Merriment: A Middle School Teacher Workshop
This workshop will provide engaging ideas and teaching tools for presenting and reinforcing curriculum concepts in grades 6 to 8 math classes. Part 1 will focus on hands-on lessons related to graphing, linear equations, prime numbers and symmetry. Part 2 will provide an introduction to the use of applets, a simple computer program that incorporates visual representations and interactive games that model global warming, population growth, orbital speeds, the cost of smoking, projectile motion and more.