

# **NSTA International Conference**

**“The Many Faces of Scientific Inquiry:  
A Global Perspective on Classroom  
Applications (K-16)”**

Westin Waterfront Hotel  
Boston, MA  
March 27, 2008

# WELCOME CEREMONY

8:30-9:00 AM

*Grand Ballroom B*

**7:30-8:30 AM**

Continental Breakfast

*Sponsored by the DuPont Center for Collaborative  
Research and Education*

**8:30-9:00 AM**

Welcome & Introductions:

Dr. Norman Lederman, Conference Chair

Mr. John Whitsett, NSTA President 07-08

Dr. Michael Padilla, Chair, International Advisory  
Board

Ms. Phyllis Buchanan, Manager, Office of Education  
DuPont Center for Collaborative Research and  
Education

Conference Overview:

Dr. Norman Lederman

# PLENARY SESSION

## *Grand Ballroom B*

A distinguished international scholar will discuss the problems and challenges related to science teacher recruitment, support, and retention. Dr. Justin Dillon of King's College in London will deliver the plenary talk on inquiry in the classroom. The session will provide opportunities for extensive audience interaction.

**9:00-9:05 AM**

Introduction of Speaker:  
Dr. Norman Lederman

**9:05-9:30 AM**

Dr. Justin Dillon, Senior Lecturer in Science and Environmental Education, and Head of the Science and Technology Education Group King's College London  
*"The Global Dimension of Science: What Is It and How Can It Be Taught?"*

**9:30-9:45 AM**

Break  
*Sponsored by the DuPont Center for Collaborative Research and Education*

CONCURRENT SESSION  
**ELEMENTARY LEVEL**  
*Paine Room/Lobby Level*

This concurrent session features papers from international science educators that focus on issues related to scientific inquiry and its implementation in elementary classrooms.

- 9:45-9:50 AM** Welcome & Introductions: Joseph Riley, II, Presider
- 9:50-10:20 AM** *Aboriginal Children's Conversation Between Cultural Schema and Inquiry Experience*, Shu-fang Chen, Chorng-Jee Guo, Mei-Ju Kuo, (National Taitung University, Taitung, Taiwan); Shu-Chen Chien (National Taiwan Normal University, Taipei, Taiwan)
- 10:20-10:50 AM** *Facilitating Inquiry-based Science Instruction in Early Childhood: Experiences from the American School Foundation, Mexico City*, Renee Rozen (American School Foundation, Mexico City, Mexico)
- 10:50-11:20 AM** *Collaborative Learning in Science Inquiry: Development of Science Thinking and Science Process Skills*, Winnie W.M. So (The Hong Kong Institute of Education, Tai Po, New Territories, Hong Kong)
- 11:20-11:45 AM** *Teaching Strategy in Primary*, Jan jenq Chern (Kaohsiung Municipal Tsoying Senior High School, Kaohsiung, Taiwan); Ming jun Su (Shu-Te University, Kaohsiung County, Taiwan)
- 12 Noon-1:00 PM** Poster Session/Bufferet Lunch (Grand Ballroom B)  
*Sponsored by the DuPont Center for Collaborative Research and Education*

- 1:15-1:45 PM**      *What Makes My House an Eco-House?* Linda Nicholls (University of Northampton, Northampton, England)
- 1:45-2:15 PM**      *Scientific Inquiry Assessment in Singapore*, Joseph P. Riley II (National Institute of Education, Singapore); Tan Kok Siang (Singapore National Institute of Education, Nanyang Technological University, Singapore)
- 2:15-2:45 PM**      *Fifth Grade Students' Knowledge about Scientific Inquiry and Abilities to Do Scientific Inquiry: A Comparative Study of South Korea and the United States*, Eunkyung Ko (Illinois Institute of Technology, Chicago, IL)
- 2:45-3:15 PM**      *The Implementation of Placed-based Science Curriculum for Young Children by Preschool Teachers in Northern Taiwan Atayal Indigenous Tribes*, Shu-Chen Chien (National Taiwan Normal University, Taipei, Taiwan); Shu-fang Chen, and Chorng-Jee Guo (National Taitung University, Taitung, Taiwan); Chao-Ti Hsiung (National Taipei University of Education, Taipei, Taiwan)
- 3:30-4:00 PM**      Concluding Panel Discussion (Grand Ballroom B)

# CONCURRENT SESSION

## SECONDARY LEVEL

### *Hancock Room/Lobby Level*

This concurrent session features papers from international science educators that focus on issues related to scientific inquiry and its implementation in secondary classrooms.

- 9:45-9:50 AM** Welcome & Introductions: Teresa Kennedy, Presider
- 9:50-10:20 AM** *Science-Technology-Environment-Society (STES) Literacy for Sustainability: What Should it Take?* Uri Zoller (University of Haifa – Oranim, Kiryat Tivon, Israel)
- 10:20-10:50 AM** *A Science Teaching Model for Field-based Inquiry*, Ming jun Su (Shu-Te University, Kaohsiung County, Taiwan)
- 10:50-11:20 AM** *Using Science Kits as a Distance Learning Lab that Connects School and Home in Scientific Investigation Mediated with Technology at a Brazilian Middle School and High School*, Jose Ricardo L. Almeida, Cristiana M. Assumpcao, and Sergio A. Boggio (Colegio Banderiantes, Sao Paulo, Brazil)
- 11:20-11:45 AM** *The GLOBE Program and Inquiry Applications Around the World*, Teresa Kennedy (The GLOBE Program, Boulder, CO); Bill Batycky (GLOBE Canada, Calgary, Alberta); Emmett Wright (The Globe Program, UCAR Office of Programs, Boulder, CO); Michael Odell (University of Texas at Tyler, Texas); Birgit Rademacher (Institut fuer die Paedagogik der Naturwissenschaften (IPN), The Leibniz Institute for Science Education, The University of Kiel, Germany); Margaret Besong (GLOBE Cameroon)

- 12 Noon-1:00 PM** Poster Session/Buffer Lunch (Grand Ballroom B)  
*Sponsored by the DuPont Center for Collaborative Research and Education*
- 1:15-1:45 PM** *Developing Culturally Appropriate Inquiry Skills in Internet-based High School in Northern Canada*, Tony W. Bartley, and John Friesen (Lakehead University, Thunder Bay, Canada)
- 1:45-2:15 PM** *High School Students' Theory-Choice in Outdoor Inquiry: Debate on the Origin of Mud Volcano Water*, Ming-Liang Lin (Tsoying Senior High School, Kaohsiung, Taiwan); Shing-Ho Chiang (National Kaohsiung Normal University, Kaohsiung County, Taiwan); Quo-Chen Sung (Ching Yun University, Jungli, Taiwan)
- 2:15-2:45 PM** *Inquiry-Oriented and Field-Based Teaching at the Secondary School in Japan and Teacher Training*, Masakazu Goto (National Institute for Educational Policy Research, Tokyo, Japan)
- 2:45-3:15 PM** *Teaching Electricity by Microcomputer Based Laboratory*, In-Young Cho (Michigan State University, East Lansing, MI); Hyunsoo Kim (Seoul National University, Seoul, Korea)
- 3:30-4:00 PM** Concluding Panel Discussion  
(Grand Ballroom B)

# CONCURRENT SESSION

## COLLEGE LEVEL

### *Quincy Room/Lobby Level*

This concurrent session features papers from international science educators that focus on issues related to scientific inquiry and its implementation in college courses.

- 9:45-9:50 AM** Welcome & Introductions: Michael Svec, President
- 9:50-10:20 AM** *With the Help of Science We Can Improve: An Ongoing Professional Development Project for Science Teachers in Post-War Sierra Leone*, Richard A. Frazier (University of Central Missouri, Warrensburg, MO); Daniel Kamanda (CITA International, Inc., Golden, CO)
- 10:20-10:50 AM** *Trends in Science Teacher Training: Experiences in the Czech Republic and the United States*, Michael Svec (Furman University, Greenville, SC); Danuse Nezvalova (Palacky University, Olomouc, Czech Republic)
- 10:50-11:20 AM** *The Importance of International Collaboration in Chemical Education via the ICUC*, Paul Kelter (Northern Illinois University, DeKalb, IL); Jose Miguel Abraham (Universidad Nacional de San Luis, San Luis, Argentina); Carlos Castro-Acuna (UNAM Laboratorio, Coyoacan, Mexico)
- 11:20-11:45 AM** *Purposely Teaching for the Promotion of Higher-Order Thinking Skills: A Case of Critical Thinking*, David Ben-Chaim, and Uri Zoller (Faculty of Science and Science Education, University of Haifa-Oranim, Oranim School of Education, Kiryat Tivon, Israel)

- 12 Noon-1:00 PM** Poster Session/Buffer Lunch (Grand Ballroom B)  
*Sponsored by the DuPont Center for Collaborative Research and Education*
- 1:15-1:45 PM** *Development of Experimental Design and Research Based Inquiry Skills of Prospective Physics Teachers*, Mehmet A. Corlu, and Kemal Kaymak (Marmara University, Istanbul, Turkey); Ramazan Nigdelioglu (Gebze Institute of Technology, Medford, MA)
- 1:45-2:15 PM** *Reviewing Strategies to Teach Scientific Enquiry with An Anglo-American Lens*, Deb J. McGregor (University of Wolverhampton, School of Education, Walsall, England); Linda Froschauer (Weston Middle School, Weston, CT)
- 2:15-2:45 PM** *Building Inquiry Partnerships in Astronomy Education: A Canadian Experience*, Wayne S. Melville and Anthony Bartley (Lakehead University, Thunder Bay, Canada); Doug Jones (Sir Winston Churchill High School, Thunder Bay, Canada); Randy McAllister (Thunder Bay Observatory, Thunder Bay, Canada)
- 2:45-3:15 PM** *Open Inquiry Has Structure*, Doug A. Jones (Sir Winston Churchill CVI, Thunder Bay, Canada)
- 3:30-4:00 PM** Concluding Panel Discussion  
(Grand Ballroom B)

# POSTER SESSION/BUFFET LUNCH

12:00-1:00 PM

*Grand Ballroom B*

**Opening of Poster Session: Dr. Norman Lederman, Presiding**

**Buffet Lunch sponsored by the DuPont Center for Collaborative Research and Education**

An opportunity to have focused, unrestricted interactions with your science teaching colleagues from around the world. Posters representing all grade levels will focus on perceptions of scientific inquiry and its implementation in the classroom.

*It's A Gas, Gas, Gas!* Joan C Grimm (Oregon Episcopal School, Portland, OR)

*Mapping of Scientific Inquiry Skills for Grades 6-12*, Mary Tsotsis (American Community Schools of Athens, Halandri, Greece)

*What Can College Students Learn from Inclined Plane Experiments: A Perspective into the Inquiry-Based Learning*, Yun-Ju Chiu (Chang Gung University, Taoyuan, Taiwan)

*The Mystery of the Failed Onion Crop*, Nikos Tasopoulos, Anastasios Anestis, and Ilias Liakatas (Geitonas School, Athens, Greece)

*Japanese Lesson Without Time for Scientific Inquiry*, Yasushi Ogura (National Institute for Educational Policy Research, Tokyo, Japan)

*The Globe Program*, Teresa Kennedy (The GLOBE Program, Boulder, CO)

*Teaching Inquiry with Interdisciplinary Projects in Quebec*, Martin Periard (University of Montreal, Montreal, Canada)

*Educational and Outreach Programs at an International Organization*, Ma. Antonieta Garcia U., (Gemini Observatory – Chile, La Serena, Chile)

*Bath Quakes: A Science and Technology Problem for Significant Learning*, Johanne Patry and Annie Desilets (Marguerite-Bourgeoys School Board, Lasalle, QB, Quebec, Canada)

*The Micronesian Challenge: Place Based and Culturally Responsive Science in the Pacific*, Bree J. Reynolds (Hopwood Junior High School, CNMI Public School System, Saipan, Commonwealth of the Northern Mariana Islands); Kimberly Vallaincourt (Tinian High School PMB, Saipan); Angelo Villagomez (Marianas Islands Nature Alliance PMB, Saipan)

*Integrated Experiential Learning Curriculum in China*, Danhui Zhang (Utah State University, Logan, UT)

*Investigating with Sugar Crisp*, Vincent Durocher (St. Thomas High, Pointe Claire, QB, Canada)

*Magnets Still Point North: Lessons Learned from Teaching Science to Children and Teachers in Several Countries*, Pamela Randles (Academy for Educational Development, Doha, Qatar)

*Family AWS Activities in the Holy Land*, Taha Massalha (The Academic Arab College for Education in Israel, Haifa, Israel); Rachel Abadi (Levinsky College of Education & Kibbutzim College Tel-Aviv Educational Campus, Tel-Aviv)

*A Science Educator's Report on Science Education in Thailand*, James Louvier (Assumption University of Thailand, Bangkok, Thailand)

*Different Approaches to Incorporating Art into Science Class*, Rachel Abadi (Levinsky College of Education & Kibbutzim College, Tel-Aviv Educational Campus, Tel-Aviv, Israel); Taha Massalha (The Academic Arab College for Education in Israel, Haifa, Israel)

*Building Partnerships Between School and University through a Science Fair Project in a Brazilian High School*, Cristiana M. Assumpcao, Jose Ricardo L. Almeida, and Marly M. Campos (Colegio Banderiantes, Sao Paulo, Brazil)

# CONCLUDING PANEL DISCUSSION

## *Grand Ballroom B*

This concluding session will engage scholars from each of the educational levels regarding common issues that cut across grade levels. In addition, differences in the use of scientific inquiry in classrooms that are level dependent will be discussed. The intended result will be suggestions for solutions to identified problems. This discussion will provide maximum interaction between the panel and audience.

### **3:30-4:00 PM**

Introduction of Panel:

Norman Lederman, Illinois Institute of Technology,  
Chicago, IL (*Presiding*)

Teresa Kennedy, University Corporation for  
Atmospheric Research, The GLOBE Program,  
Boulder, CO

Joseph Riley, II, National Institute of Education,  
Singapore

Michael Svec, Furman University, Greenville, SC

Please stop by the NSTA International Lounge in the Boston Convention & Exhibition Center, Room 202. The lounge may be used as a place to relax, or as a meeting place while you're here at the NSTA National Conference on Science Education. (*Sponsored by the DuPont Center for Collaborative Research and Education*)

### **Hours:**

Thursday, March 27 (10:00 AM – 6:00 PM)

Friday, March 28 (9:00 AM – 5:00 PM)

Saturday, March 29 (9:00 AM – 5:00 PM)