NSTA 2011 Global Conversations in Science Education

Conference Agenda

Cultural Influences on Science Education
San Francisco Marriott Marquis Hotel
San Francisco, Calif.

This event is open to all registered conference attendees at no additional cost. Tickets (M-2) are required. Order tickets online or on the San Francisco Advance Registration Form.

Wed., March 9
7:00 AM–4:00 PM Science Classroom Visits in the San Francisco Area
(Ticketed Event: W-1)

6:30–7:30 PM President’s International Reception (Yerba Buena 14 and 15)
(Open to all international visitors and invited guests)

Thu., March 10
8:00–9:00 AM Welcome and Introductions (Yerba Buena 8)
Norman Lederman, Conference Chair
Alan McCormack, NSTA President 2010–2011
Richard Needham, Chair, Association for Science Education
Hans Persson, Chair, NSTA International Advisory Board 2010–2011

9:00–9:30 AM Plenary Session (Yerba Buena 8)
Keynote Speaker: Glen Aikenhead, Professor Emeritus, Aboriginal Education Research Centre, University of Saskatchewan, Canada
Building Cultural Bridges Between Scientific and Indigenous Ways of Knowing Nature

9:30–9:45 AM Break

* NSTA International Lounge
Please stop by the NSTA International Lounge in the Laurel Room at the San Francisco Marriott Marquis. The lounge may be used as a place to relax or as a meeting place while you’re here at the San Francisco conference. Hours:

Thu., March 10  9:00 AM–5:00 PM
Fri., March 11  9:00 AM–5:00 PM
Sat., March 12  9:00 AM–5:00 PM

Continued on following page.
9:45–10:45 AM  **Concurrent Sessions**

These sessions will feature papers from national and international science educators on issues relating to cultural influences on science teaching and learning spanning grades K–16.

**Concurrent Session #1 (Nob Hill A)**
Presider: Allison Antink, Illinois Institute of Technology, Chicago

*Culture of Environmental Change*, (Sus M. Hunter-Jivung, Lord Tweedsmuir High School, Surrey, B.C., Canada)

*Junior Science at Ficino School Auckland NZ* (Lesley J. Milne, Ficino School, Auckland, New Zealand)

*Astronomy & New Media: Interactive Tools for Teachers* (Ma. Antonieta Garcia Ureta, Colina El Pino, LaSerena, Chile)

**Concurrent Session #2 (Nob Hill B)**
Presider: Gary Holliday, Illinois Institute of Technology, Chicago

*Fostering Teacher Leadership via U.S.–Russia Teacher Professional Development (USRTPD): Program Experiences and Cultural Influences* (Wendy M. Frazier and Rebecca K. Fox, George Mason University, Fairfax, Va.)

*Inquiry for Citizenship—Evaluating Claims to Knowledge* (Frank W. Jenkins, University of Alberta, Edmonton, Alta., Canada)

*An Authentic Inquiry Curriculum in a High-Stakes Assessment System: A UK Perspective* (Antony Sherborne, Sheffield Hallam University, Sheffield, United Kingdom)

**Concurrent Session #3 (Nob Hill C)**
Presider: Selina Bartels, Illinois Institute of Technology, Chicago

*Science in Reggio-Emilia Inspired Preschools/Schools in Sweden* (Bodil Nilsson, University of Stockholm, Sweden)

*Culturally Responsive Science Education in Taiwan—A Study on Place-based Science Teaching for Young Children Conducted in Northern Taiwan Tayaal Tribal Village* (Shu-Chen Chien, National Taiwan Normal University, Taipei, Taiwan; Shu-feng Chen, National Taitung University, Taitung, Taiwan; Chao-Ti Hsiung, National Taipei University of Education, Taipei, Taiwan)

10:45–11:15 AM **Poster Session** (Yerba Buena 8)
Presider: Norman Lederman, Illinois Institute of Technology, Chicago

*Here’s an opportunity to have focused, unrestricted interactions with your science teaching colleagues from around the world. Posters representing all grade levels will focus on projects from various cultures and will highlight similarities and differences across cultures.*

*From the Swedish School Goals for Students Knowledge: Two Different Planning Models* (Anna C.L. Lindblom and Elisabeth Hagman, Sweden)

*Application of Assumption Reversal in Science Education* (Ji Young Park, Korea National University of Education, South Korea)

*Teachers Teaching other Teachers to Improve Science Education in Mexican Secondary Schools* (Carlos M. Castro-Acuna and Ramiro E. Dominguez-Danache, School of Chemistry, Facultad De Quimica, Mexico City, Mexico)

*Incorporating Online Writing into General Physics Experiment Course* (Hao-Chang Lo, National Taichung University of Education, TaiChung, Taiwan)

*Teaching Science Creatively* (Wendy Patricia Liddell and Rebekah Banks, Singapore American School, Singapore)

*The Strategy of Cognitive Conflict in the Learning Cycle Approach: Design and Practice of Learning Activities on the Conception of Shadow Formation* (Yun-Ju Chiu, Chang Gung University, Taoyuan, Taiwan)

*The “Holy Sun” in the “Holy Land”* (Taha Massalha, The Academic Arab College of Education in Israel, Haifa; Rachel Abadi, Levinsky College of Education & Kibbutzim College, Tel-Aviv, Israel)

*Interactive Teaching Methods in High School Physics* (Renata Holubova, Palacky University, Olomouc, Czech Republic)

*New Pedagogical Experiment in Korea: Science Core High School* (Heekyong Kim, Kangwon National University, South Korea; Bongwoo Lee, Dankook University, South Korea; Jeongwoo Son, Gyongsang National University, South Korea; and Youngjoon Shin, Gyeongin National University of Education, South Korea)

*Science Teachers Community in Korea: Teachers for Exciting Science* (Jeongwoo Son, Gyeongsang National University, South Korea; Bongwoo Lee, Dankook University, South Korea; Hwa Young Jyun, Chungdam High School, Seoul, South Korea; Je Jeong Ryu, Korea National University of Education, South Korea; and Seyeon Lee, Myungduk High School Naebalsan-dong, Seoul, South Korea)

*Making Various Fountains by Using Creative Thinking Tools* (Hyeyeon Han, Korea National University of Education, South Korea)

*Using Pictorial Reading Representations to Analyze Students’ Problem-solving Strategy in Senior High Physics* (Ming-Jun Su, Shu-Te University, Kaohsiung County, Taiwan; Jang Jenq Chen, Kaohsiung Municipal Tso-Ying Senior High School, Kaohsiung, Taiwan; and Sung Tao Lee, Naval Academy No. 669, Zuoying District, Kaohsiung, Taiwan)
Cultural Influences on Science Education: The Dilemma of Nigerian, Society (Ngozi P. Okafor, Federal College of Education-Technical, Akoka, Yaba, Lagos, Nigeria)

Developing a Green Building Literacy Curriculum (Ko-Yu Siao, Ching Yun University, Taoyuan, Taiwan, Zhongli City, Taoyuan County, Taiwan; Ming-Liang Lin, National Kaohsiung Normal University, Yanchao Township, Kaohsiung County, Taiwan; Li-Ting Huang, Chia-Chen Wei, Yi-Lin Jan and Quo-Cheng Sung, Ching Yun University, Zhongli City, Taoyuan County, Taiwan)

Conducting an Astronomy Camp Program to Improve Girls Science Self-efficacy (Ming-Jun Su, Shu-Te University, Kaohsiung County, Taiwan; Jeng-Fung Hung and Ming-Liang Lin, National Kaohsiung Normal University 62, Yanchao Township, Kaohsiung County, Taiwan)

Probing Aboriginal Students’ Concepts of Satellite (Ming-Jun Su, Shu-Te University, Kaohsiung County, Taiwan; and Ming-Liang Lin, National Kaohsiung Normal University 62, Yanchao Township, Kaohsiung County, Taiwan)

Linguistic Analysis on Japanese Elementary Science Textbooks (Manabu Sumida, Ehime University, Matsuyama, Japan; Hayashi Nakayama, Miyazaki University, Japan; Yuji Saruta, National Institute for Educational Policy Research, Chiyodaku, Tokyo, Japan)

Programs of Tutoring and Student Support in the Chemistry School at the National Autonomous University of Mexico (Ramiro E. Dominguez-Danache and Carlos M. Castro-Acuna, Chemistry School/UNAM, Coyoacan, Mexico)

How to Determine the Speed of Sound (Ingrid Ann-Kristin Jacobsson and Per Kristian Beckman, National Centre for Education in Physics, Sweden)

Astronomy for All! A Reality or a Dream in Schools (Grace Djan, STERS, Potchefstroom, North West, South Africa)

Use of Crayfish in Elementary and Secondary Classes in Japan with Special Reference to Breeding and Environment (Taichiro Goto, Mie University, Tsu, Mie, Japan, and Tadashi Kawai, Wakkanai Fisheries Research Institute, Wakkanai, Hokkaido, Japan)

Science Across the Americas (John Penick, Sangari Global Education, Miami, Fla.)

Primary Science Quality Mark (Annette Smith, Association for Science Education, Hatfield, United Kingdom)

Smarter Science in Canada (Michael J. Newnham, Youth Science Canada, Toronto, Canada)

The use of Worldwide Recyclables to Construct Gadgets used to Teach Science Concepts and also Promote Creativity by having the Students Create Permutations of the Gadgets as a way of Assessing Outcomes and Understanding of the Concepts (Joseph Laszlo, University of Hawaii, College of Education, Honolulu, Hawaii; and Eduardo D.C. Valadares, Federal University of Minas Gerias Belo Horizonte, Brazil)
These sessions will feature papers from national and international science educators on issues relating to cultural influences on science teaching and learning spanning grades K–16.

**Concurrent Session #1 (Nob Hill A)**

Presider: Allison Antink, Illinois Institute of Technology, Chicago

*Multicultural E-Learning Science Courses* (Rachel Abadi, Levinsky College of Education & Kibbutzim College, Tel-Aviv, Israel; Taha Massalha, The Academic Arab College of Education, Haifa, Israel)

*Tom Tit’s Experiment—The Swedish Pioneer Science Centre located in a Multicultural City* (Katarina Deneberg, Eva Blomqvist, Marie P.C. Wallum, and Sofia Holm, Tom Tit’s Experiment, Sodertalje, Sweden)

*Back to the Land—Ninth-Grade Native Students Learn Science Through Camping Near Hudson Bay* (Eli K. Pivnick, Keewaytinook Internet High School, Ont., Canada; and Anthony W. Bartley, Lakehead University, Ont., Canada)

**Concurrent Session #2 (Nob Hill B)**

Presider: Gary Holliday, Illinois Institute of Technology, Chicago

*Creating Meaningful Science Education Programs for Indigenous Students—“Waving Hands and Dyeing in Indigenous Culture”* (Su-fang Chen, National Taitung University, Taitung, Taiwan; Guo C-J Guo, National Changhua University No. 1, Changhu, Taiwan; Lin-Yi Syu and Tung-Hsing Hsiung, National Taitung University, Taitung, Taiwan)

*Western Science/Indigenous Knowledge; Bridging Cultural Worldviews* (Frank B. Elliott, University of Alberta, Canada)

*Using Cultural Influence to Inculcate Scientific Value on the Students* (Prince J. O. Okorie, Ministry of Education, Umuahia, Nigeria)

**Concurrent Session #3 (Nob Hill C)**

Presider: Selina Bartels, Illinois Institute of Technology, Chicago

*An Investigation of Environmental Education Knowledge for Sustainable Development in High School Sectors* (Mayowa A. Abolaji, University of Ibadan, Nigeria; Adekunle O. Oke, Osun-State College of Education, Ilesa, Nigeria; and Adekunle Adebajo, Ogun-State University, Ago-Iwoye, Nigeria)

*Development of Science and Mathematics Teacher Network Model in Thailand* (Pramuan Siripunkaew, Waraporn Thirasiri, and Wanna Thammapalert, The Institute for the Promotion of Teaching Science and Technology (IPST), Bangkok, Thailand)

*Reasons Behind Girls Outstanding Boys in Science in Oman* (Fatema Hamdan Amer Al-Hajri, Salma Eid Al Saifi, and Ebtsam Abdullah Al Hajri, Ministry of Education, Oman-Bidiyah, Oman)
12:15–1:15 PM  Luncheon Plenary Session *(Yerba Buena 8)*
Keynote Speaker: Ian Milne, Senior Lecturer Primary Science (retired), University of Auckland, New Zealand
*Exploring and Explaining Experiences: The Place of Doing Science in a Cultural Diverse Classroom*

1:15–1:35 PM  Panel Discussion *(Yerba Buena 8)*
This concluding session will engage the plenary speakers and other scholars regarding common issues that cut across cultures and various grade levels. Both benefits and obstacles will surely be addressed. This discussion will provide maximum interaction between the panel and audience.

Norman Lederman, Illinois Institute of Technology, Chicago, Illinois (Presiding)
Glen Aikenhead, Professor Emeritus, Aboriginal Education Research Centre, University of Saskatchewan, Canada
Ian Milne, Senior Lecturer Primary Science (retired), University of Auckland, New Zealand

1:35–1:55 PM  Updates from Around the World *(Yerba Buena 8)*
During this session, participants will be given the opportunity to briefly share (approximately 5 minutes) current events, concerns, etc., related to the teaching and learning of science in their home countries. This is an excellent opportunity to quickly find out what your colleagues have been doing and experiencing throughout the global science education community.

1:55-2:00 PM  Closing Remarks *(Yerba Buena 8)*

**Fri., March 11**

9:00-11:00 AM  International Curriculum Showcase *(Sierra B, C & E)*
This session will include presentations of exemplary science curriculum from around the world. Participants will be provided with an insider's view of classroom instruction in different countries and cultures.

9:00-10:00 AM  *(Sierra B)*
The use of Worldwide Recyclables to Construct Gadgets used to Teach Science Concepts and also Promote Creativity by having the Students Create Permutations of the Gadgets as a way of Assessing Outcomes and Understanding of the Concepts (Joseph Laszlo, University of Hawaii, Honolulu; Eduardo D.C. Valadares, Federal University of Minas Gerias Celo Horizonte, Brazil)

Shrinking science budgets dictate the use of recyclables to teach concepts. The creation of similar gadgets by students is a way to evaluate the learning.

*(Sierra C)*

**Smarter Science in Canada** (Michael J. Newnham, Youth Science Canada, Toronto, Canada)

The Smarter Science framework is teaching educators how to embed inquiry-based project science into their curriculum from grades 1 to 12.
(Sierra E)
*Wikid: A Story-based Middle School Inquiry Curriculum from the UK*
(Antony Sherborne, Sheffield Hallam University, Sheffield, UK)

Wikid has become the most popular curriculum by focusing on student motivation, big ideas and the demands of a high stakes assessment system.

10:00-11:00 AM
(Sierra B)
*Science Across the Americas* (John Penick, Sangari Global Education, Miami, Fla.)

Come see how innovative and effective curriculum strategies are being promoted by Sangari Active Science with 600,000 elementary students in three countries: Brazil, Argentina, and the U.S.

(Sierra C)
*The Effect of a National Curriculum on the Development of Primary Science Education in the UK* (Annette Smith, Association for Science Education, Hatfield, UK)

I will look at the effect of the statutory national curriculum in the UK on the teaching of science in primary schools, and how the proposed changes of the past two years have had further effects.

(Sierra E)
*Swedish Approach to Creativity in Teaching* (Hans Persson, University of Stockholm, Sweden)

Concrete examples from all over Sweden. How creativity can be a powerful force in science teaching. Handouts provided.