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A Message from the President

By Brenda Wojnowski, Ph.D., NSELA President

I want to begin by thanking all of you for the opportunity to serve as your president over the coming year. I am excited, honored and humbled by the task ahead.

The next major NSELA event is our 2009 Summer Leadership Institute to be held June 28 through July 2 in Portland, Maine. The theme for the Institute is **“A Standards and Research-Based Approach to Leading Professional Learning.”** The Institute is built around *Curriculum Topic Study (CTS)*, an NSF-funded project that has developed a set of tools and a professional development study processes to help science educators examine common curricular topics. CTS is a tool that brings increased content alignment, coherency, and consistency to leaders' work. During this institute CTS leaders will engage in CTS process as they learn new ways to focus professional learning on K-12 content, standards, and research on learning.



The Institute will be led by the phenomenal science educators, *Page Keeley, Susan Mundry, Joyce Tugel and Ted Willard*. For those of you who have had the privilege of working with any one member or all of this group before, you know what a wonderful opportunity lies ahead. For those of you who will be experiencing their skilled presentation for the first time—you are in for a treat.

Page is a Senior Program Director at the Maine Mathematics and Science Alliance, the 2008-09 President of the National Science Teachers Association, and the PI and developer of the NSF-funded Curriculum Topic Study (CTS) project, which forms the basis for the Summer Institute.

Susan is the Associate Director of Science, Mathematics, and Technology programs at WestEd where she has been helping new teachers, principals, and administrators become more effective leaders in science and mathematics for over 20 years. Susan is a Co-PI on the Curriculum Topic Study (CTS) project.

Joyce is a Science Specialist at the Maine Mathematics and Science Alliance where she directs several projects in the areas of curriculum, instruction, and professional development. Joyce provides professional development support for the CTS project and works with several school districts, state departments, and MSP projects in implementing the CTS professional development approach.

Ted is a project director for AAAS Project 2061. He oversees the project's National Science Foundation-funded initiative to create tools that support the development of goals-

Calendar

June 28 -
July 2, 2009

[NSELA
Summer
Leadership
Institute,
Portland, ME](#)

March 17,
2010
[NSELA
Professional
Development
Institute,
Philadelphia](#)

March 18-
March 21,
2010,
Philadelphia
[NSTA
Convention](#)

based curriculum materials in science and mathematics.

I am personally really looking forward to the NSELA 2009 Summer Institute. I do hope that all of you will decide to break away from the heat of summer and join your fellow science leaders in beautiful **Portland, Maine**. **I would sincerely love to meet all of you there!**

Brenda Wojnowski
NSELA President, 2009-2010

NSELA Award Winners

Dr. Sandra West Receives National Award

Dr. Sandra West, Associate Professor of Biology and Science Education, Texas State University-San Marcos, Texas, is the recipient of the 2009 Outstanding Leader in Science Education Award. The Outstanding Leader in Science Education (OLISE) Award sponsored by NSELA and Pearson honors an outstanding member who leads the school, school district, region, state, or nation in science education. The award consists of a \$1,000 check and plaque from Pearson and a one-year membership in NSELA. The award was presented during the Annual National Science Teachers Association Meeting in New Orleans, LA, at a reception given in Dr. West's honor Wednesday, March 18, 2009, in Studio 1-2, Preservation Hall-New Orleans Marriott, New Orleans, Louisiana.



Dr. West has made many contributions to science education at the local, state, and national levels. She has set stellar standards for science education leadership. She is a 44-year veteran of the education profession and her service to science education has been outstanding. She is a strong supporter of inquiry-based science and science safety. Dr. West has taught science at all levels. She has been as a middle school science teacher, high school science teacher, university professor and science educator.

Dr. West has served as President of the Texas Science Teachers Association; Co-Chair, Local Arrangements, NSTA/CAST Area Conference; and Co-sponsor of Texas Science Supervisors Association Meeting, Area Conference. She has served on numerous committees: the NSTA Safety Committee; NSTA National Advisory Board for Exemplary Science Programs; NAEP Science Framework Project Panel; and Co-Chair, NSTA/NABT Biology Test Committee.

Dr. West has also made numerous presentations at local, state, national and international conferences. She has traveled internationally to present workshops and to promote safe and effective science education. She has also published extensively on science safety and standards in schools. Dr. West has contributed as a co-author on the new NSTA Guide to Planning School Science Facilities, published by NSTA Press.

She is also the recipient of several awards including the American Association for the Advancement of Science AAAS Fellow Science Education Award; Science Teachers Association of Texas Slog Cup Award; Texas Academy of Science Fellow; and the Grady Parker Award,

To quote a colleague, " Dr. West has demonstrated exceptional leadership throughout her career and has undoubtedly influenced thousands of students, teachers, administrators and other science leaders in positive ways."

Oklahoma Superintendent Wins Outstanding Administrator Support Award

Dr. Ruth Ann Carr, Superintendent of Ardmore Public Schools, Ardmore, OK, has been selected as the recipient of the 2009 Kendall Hunt/NSELA



Outstanding Administrator Support Award. She received a \$1,000 check and plaque from Kendall-Hunt Publishing Company. It also includes a one-year membership in NSELA. The award was presented during the Annual National Science Teachers Association Meeting in New Orleans, LA.



Dr. Carr has provided leadership and support for science education improvement for the Ardmore Public School District where she has been superintendent for the past five years. During her tenure as superintendent of Ardmore Public Schools, Dr. Carr has been committed to improving science education for the students in her district. She has implemented a long-range plan for improving science education in her district by making it standards-based, hands-on, and relevant to all students. Dr. Carr has shown leadership in providing state-of-the-art science classroom facilities in the district.

Dr. Carr received grant funding from the Noble Foundation to upgrade the high school science labs. She provides district funding for science materials and resources. Principals in her district are trained to become "science leaders in their buildings". Dr. Carr facilitates principals participation in the K-20 Science Center and works closely with the Oklahoma University Science Education faculty. She has implemented the rigorous Oklahoma Scholars Program in which students must complete a minimum of 4 science credits for graduation and all college prep students must complete 4 lab sciences. Dr. Carr provides outstanding support and has set high expectations for all teachers and students in the district.

Dr. Carr is actively engaged and holds office in several organizations. She is a member of the Cooperative Council of School Administrators where she serves as Public Relations Committee Chairman; American Association of School Administrators; State Superintendents Advisory Council and Oklahoma Association of School Administrators.

As stated by an elementary teacher, "Inquiry-based science has become an integral part of our elementary curriculum. Dr. Carr's support has led to the implementation of research-based teaching strategies, to increasing time devoted to science learning and to passionate student engagement."

NSTA Award Winners

NSTA Announces Recipients of the 2009 Distinguished Service to Science Education Award

The National Science Teachers Association (NSTA), the largest professional organization in the world promoting excellence and innovation in science teaching, has announced the recipients of its 2009 Teacher Awards Program, which honors K-12 teachers, professors, principals, and others for their outstanding achievement and innovative programs in science education.

This year, NSTA will present three individuals with its Distinguished Service to Science Education Award. This award recognizes NSTA members who, through active leadership and scholarly endeavor over a significant period of time, have made extraordinary contributions to the advancement of education in the sciences and science teaching.

2009 NSTA Distinguished Service to Science Education Award recipients include:

Dr. Linda Atkinson, associate director of STEM partnerships for the K20 Center at the University of Oklahoma in Norman, Okla. Atkinson has been a committed member and active contributor to the science education field for nearly four decades. In addition to having taught middle school science and high school chemistry, Atkinson has served as a district science curriculum director, site administrator, and a university instructor. She has also provided leadership at the state level on numerous committees to develop science standards and assessments and has been the co-principal investigator on several projects funded by the National Science Foundation, the U.S. Department of Education and numerous state and local agencies. Atkinson has published several chapters and articles and has presented numerous papers at a variety of research conferences. Atkinson has also been recognized with awards throughout her career, including the John W. Renner Outstanding Science Leader Award from the Oklahoma Science Teachers Association (OSTA). A dedicated NSTA member, Atkinson serves on several of the Association's committees and is currently president of the National Science Education Leadership Association (NSELA).



David Heil, president of David Heil & Associates (DHA) in Portland, Ore. Heil has a wide range of experience and leadership in science education. A longtime science educator, author and previous host of the Emmy Award-winning PBS science series, Newton's Apple, Heil has also chaired numerous NSTA conferences and task forces and served on the association's board of directors as its first division director of informal science education. Prior to establishing DHA, Heil was affiliated with the Oregon Museum of Science & Industry (OMSI) for 13 years, serving as associated director from 1988-1996. Heil has also taught science and enrichment programs in grades 7-12, conducted research in plant biochemistry and radiochemistry, and worked for five years with the U.S. Fish and Wildlife Service. He has served on the board of directors of the Biological Sciences Curriculum Study (BSCS) and the Keystone Center, is a past president of the Oregon Science Teachers Association (OSTA) and currently serves on the board of directors for the Aspen Science Center. Heil is also the recipient of several awards, including the Discovery Channel/NSTA Award for outstanding communication of science, the Oregon

Business Journal's Lighthouse Award and the Alumni Award of Excellence from Western Oregon University.

Anne Tweed, principal science consultant and director of the North Central Comprehensive Center at Mid-continent Research for Education and Learning (McREL) in Aurora, Colo. A highly active and dedicated leader in the science education community, Tweed began her professional work in a secondary science classroom in Colorado. In addition to having taught science for more than 25 years, Tweed has served as president of both NSTA and the Colorado Association of Science Teachers (CAST). She has also served on the planning committee for the 2009 NAEP Science Assessment, has written several science education articles and books, has written and received more than \$50,000 in grants for science projects and materials for student use in and out of the classroom and currently serves as an adjunct professor for the Colorado School of Mines. Tweed was also a 1997 Finalist for the state of Colorado in the prestigious Presidential Awards for Excellence in Mathematics and Science Teaching program, was named the Outstanding Biology Teacher in 1992 by the National Association of Biology Teachers (NABT) and the Distinguished High School Science Teacher for Colorado by CAST.

"NSTA awardees bring both passion and patience to the day-to-day teaching of science," said Page Keeley, president, NSTA. "We honor these educators for their lifelong dedication and for instilling a sense of wonder in students through imaginative and innovative science education."

Eric Walters Receives the Vernier Technology Award from the National Science Teachers Association

The National Science Teachers Association (NSTA), the largest professional organization in the world promoting excellence and innovation in science teaching, has announced the recipients of its 2009 Teacher Awards Program, which honors K-12 teachers, professors, principals, and others for their outstanding achievement and innovative programs in science education.

Eric Walters, a teacher at Marymount School of New York, in New York, NY was awarded the Vernier Technology Award. The award recognizes and rewards the innovative use of data collection technology using a computer, graphing calculator, or other handheld in the science classroom. A total of seven awards are presented: one award at the elementary level (grades K-5); two awards at the middle level (grades 6-8); three awards at the high school level (grades 9-12); and one award at the college level. Eric received his award at a special banquet and ceremony at NSTA's 57th National Conference on Science Education in New Orleans.



Walters challenges his students to explore the real world through inquiry-based data collection activities. He has integrated a wider variety of sensors in his physics curriculum and has developed new, innovative uses for probeware. To help his colleagues, he shows them how to integrate computer-based data collection into their curriculum.

"NSTA awardees represent the best and brightest in science education," said Page Keeley, president, NSTA. "We congratulate these outstanding educators and principals for their lifelong commitment to science education and for their innovative and creative approach to

teaching our students science."

NSTA encourages science educators to apply for its 2010 Teacher Awards. Applications and information can be found online at www.nsta.org/about/awards.aspx.

2009 NSELA Summer Leadership Institute

Science Curriculum Topic Study: A Standards and Research-Based Approach to Leading Professional Learning
June 28 – July 2, 2009
Portland, Maine
Presenters: Page Keeley, Susan Mundry, Joyce Tugel, and Ted Willard

Curriculum Topic Study (CTS) is an NSF-funded project that has developed a set of tools and a professional development study process to help science educators deeply examine common curricular topics. During this institute CTS leaders will engage in the methodical CTS process to learn new ways to focus professional learning on the K-12 content, standards, and research on learning. Whether leaders are involved at the school, district, or state level; working in a university; leading staff development; facilitating science curriculum or assessment committees; or engaged in other types of science improvement efforts that require knowledgeable and skilled leadership, CTS is a tool that brings increased content alignment, coherency, and consistency to leaders' work.

All participants will receive a copy of Science Curriculum Topic Study- Bridging the Gap Between Standards and Practice and the new facilitator's guide, A Leader's Guide to Science Curriculum Topic Study- Designs, Tools, and Resources for Professional Learning.

[Learn more and register online.](#)

SAFE SCIENCE: BE PROTECTED Global Harmonization: A Critical Role For Science Teachers!

By Dr. Ken Roy

[\(See the rest of the Safe Science Series\)](#)

I. What Is The Globally Harmonized System Or GHS?

GHS is an international system of chemical classification and labeling. GHS stands for the "Globally Harmonized System of Classification and Labeling of Chemicals. It is designed to communicate health and safety information on labels. This information is also available on Safety Data Sheets (SDS), similar to currently existing Material Safety Data Sheets (MSDS) in the USA. The purpose and hope of this system is global harmonization or everyone adopting and using it around the world. Everyone would be playing by the same set of rules for chemical classification and labeling.

II. Why Is There A Need For GHS?

According to the UNECE or United Nations Economic Commission for Europe report on GHS (2007 second edition – Globally Harmonized System of Classification and Labeling of Chemicals or GHS - Section 1.1.1.1) “The use of chemical products to enhance and

improve life is a widespread practice worldwide. But alongside the benefits of these products, there is also the potential for adverse effects to people or the environment.” In Section 1.1.1.2, the report goes on to say, “While these existing laws or regulations are similar in many respects, their differences are significant enough to result in different labels or SDS for the same product in different countries. Through variations in definitions of hazards, a chemical may be considered flammable in one country, but not another.” This is the very heart of the issue – lack of consistency when it comes to dealing with hazardous chemicals. In some countries, there are no existing regulations applied to the handling or use of hazardous chemicals!

Section 1.1.1.4 lists the reasons for setting the objective of harmonization. It is hoped that implementation of the GHS will:

- a. enhance the protection of human health and the environment by providing an internationally comprehensible system for hazard communication;
- b. provide a recognized framework for those countries without an existing system;
- c. reduce the need for testing and evaluation of chemicals; and
- d. facilitate international trade in chemicals whose hazards have been properly assessed and identified on an international basis.”

III. What Are The Major Components In GHS?

The two major components of the GHS are classification and communication of information about hazardous chemicals. The system establishes criteria to better classify pure chemicals and mixtures.

The GHS plan communicates hazards and precautionary information with the use of prescribed labels and Safety Data Sheets (SDS). Labels must have specific information using the chemical’s identity, hazard statements and signal words/symbols. Pictograms or GHS symbols are used on labels and SDS. Precautionary statements are also required. Signal words used in GHS include “Danger” and “Warning.” This tells the user the level of the hazard on labels and SDS. The more serious or Category 1 is “Danger,” with Category 2 being “Warning.” Standardized “Hazard Statements” are used to describe each category of hazard. “Class” is a term used to characterize different hazards such as “Gases under Pressure.” “Categories” are sub-sections of classes.

The Safety Data Sheets provided specific hazard information so individuals will know how to deal with hazardous chemicals. The GHS defines 16 standardized sections and a prescribed order.

IV. What Is The GHS Framework Concept?

The GHS has a hazard groupings and building block framework. There are three major hazard groups including: Environmental hazards, health hazards and physical hazards. Within each hazard group are classes and categories. These make up the “building blocks.”

Countries have the option of determining which building blocks they will use in their sectors such as the workplace, consumer realm, etc. Having the building blocks in place, the appropriate GHS rules are applied for classification and labels.

As one example, the Health Hazard grouping criteria are addressed for the following health hazard classes:

- acute toxicity
- skin irritation/corrosion
- serious eye damage/eye irritation
- respiratory or skin sensitization
- mutations in germ cells
- cancer
- reproductive toxicity
- target organ systemic toxicity - single exposure
- target organ systemic toxicity - repeated exposure
- aspiration hazard and
- chemical mixtures

V. SDS – What Can We Expect?

The SDS content according to Section 1.5.3.3.1 should provide a clear description of the data used to identify the hazards. The information in the SDS according to Section 1.5.3.2.1 should be presented using the following 16 headings in the prescribed order given below:

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information.

This represents a defined and orderly content compared to existing MSDS and other chemical information listing formats.

VI. Happening of Harmonization!

The United Nations accepted an international mandate to develop the Globally Harmonized System or GHS for hazard classification and labeling. This was adopted at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, also known as the Earth Summit. GHS has been developed with the help of participants from various governments such as Australia, Canada, China, Japan, UK, and USA. Also, international organizations such as the International Labor Organization and others are on board in the development of GHS.

The United Nations Economic Commission for Europe or the UNECE estimates that there are close to 100 countries working toward implementation, each in various stages of examining and planning implementation of the GHS. The GHS is voluntary! Some countries and agencies are more than likely to maintain their own regulations and adopt

parts of the GHS to help enhance their systems/regulations. Although the original target date for implementation of GHS was by the year 2000, several refinements and issues have moved it to 2008 with specific countries choosing their own timelines.

VII. Science Educators Training the Future!

Section 1.4.9 focuses on training required for successful use of the GHS. “Key target audiences for training include workers, emergency responders, and those involved in the preparation of labels, SDS and hazard communication strategies as part of risk management systems. Others involved in the transport and supply of hazardous chemicals also require training to varying degrees. In addition, systems should consider strategies required for educating consumers in interpreting label information on products that they use.”

Science teachers will have a key role in helping future citizenry learn, understand and apply the GHS system as employees, consumers and transporters in dealing with hazardous chemicals. Classroom and laboratory work, as well as science textbooks, will help foster the GHS to help students be safer in their world. If this safety initiative is to succeed, the success will in part, depend of science teachers working with the “future” inside their laboratories and classrooms. Learn more about the GHS for you and the future you touch by referring to the resources listed below.

Resources:

GHS Criteria for different hazard classes: http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html

Health Canada: <http://www.hc-sc.gc.ca/ahc-asc/intactiv/ghs-sgh/index-eng.php>

International Labor Organization (GHS Draft): <http://www.ilo.org/public/english/protection/safework/ghs/ghsfinal/index.htm>

Occupation Safety & Health Administration: <http://www.osha.gov/dsg/hazcom/ghs.html>

United Nations Economic Commission for Europe (UNECE): http://www.unece.org/trans/danger/publi/ghs/ghs_rev02/02files_e.html

Dr. Ken Roy is the Director of Environmental Health & Safety for Glastonbury Public Schools, Glastonbury, CT. He serves as the Safety Compliance Officer for the International Council of Association for Science Education (ICASE) and the National Science Education Leadership Association (NSELA). He can be reached by fax at 860-652-7275 or email:Royk@glastonburyus.org

TECH SUPPORT

Online Personal Learning Networks

In the days before the Internet and Web 2.0, a personal learning network (PLN) consisted of teachers in your school or district that you could call for help, your college professors,

journals (such as [The Science Educator](#)), and local conferences and organizations that offered professional development. As communication and the sharing of information became quicker and easier, networks grew to include anyone you had an email address for as well as web sites you check for lesson ideas and the latest research. In short, a PLN is a group of people and resource who “can guide your learning, point you to learning opportunities, answer your questions, and give you the benefit of their own knowledge and experience... to provide us not only with pointers to sources of information, but to answer questions, to coach us, to reinforce our learning when we try to apply it to our work (Harrod & Hopkins, 2009).

With the ever-growing tools of Web 2.0 a carefully developed PLN can become a wider, richer, more diverse means of increasing your professional knowledge, accessing targeted, just-in-time solutions to classroom problems, and of course sharing your own challenges and successes. Instead of just a telephone or email, we can now use Twitter, RSS readers, blogs, wikis and social bookmarks to keep in touch with our PLN. This article will outline the benefits of a PLN and tips for getting started. Look for future articles to dig deeper into PLN tools such as microblogging, social bookmarking and more.

Benefits of a PLN

Online PLNs provide collaborative, on the job learning. Much like Professional Learning Communities (PLC), PLNs feed the movement away from teacher “training” to more self-directed teacher learning. Through a PLN you are able to seek out your own teachers on topics that you are passionate about and find resources that can most benefit your own growth and the students in your classroom.

Connectivism is the learning theory that supports PLNs as a valid means of teacher professional development. The premise is that most knowledge resides outside the learner and the connections to that knowledge and the capacity to learn are more important than the learner’s current state of knowing. It is more important that we know how and where to find knowledge when we need it rather than building a base of knowledge that we may never use. This is particularly important in a quickly changing world where it is difficult to anticipate what we will need to be successful teachers. Learn more about connectivism at www.elearnspac.org/Articles/connectivism.htm (Siemens, 2004).

Getting Started

Developing a PLN is not about the tools; it’s how you use them. According to David Warlick there are three types of PLNs:

- *Personally maintained synchronous connections*
This is the traditional network that includes the people and places you consult to answer questions, solve problems, and accomplish goals. However, you can enhance this PLN with new tools such as chat, instant and text messaging, teleconferencing, Twitter, and virtual worlds such as Second Life. It’s like attending a meeting at work, only better, because the traditional barriers of geography, background, language, and culture become transparent.
- *Personally and socially maintained semisynchronous connections*
The Internet has given rise to a new time reference – “nearly now”. For networked learners, these are conversations that are not exactly conversations. They may be questions directed toward a single friend or associate, but more likely they are sent

out to a community of people who, because of their interests, expertise, or perspectives, are in a position to help.

Semisynchronous refers to the idea that collaboration doesn't have to happen in real time. Not only can the collaborators be geographically distant, but they can also participate in a discussion when it works best for their schedules, regardless of time zones or office hours. The tools you can use to build and grow this type of network include mailing lists, wikis, Google Docs, Twitter, group discussion boards, comment walls in Facebook, and commenting on blogs, among others.

- *Dynamically maintained asynchronous connections*
The first two types of PLN connect us with each other, but this type more often connects us with content sources that we have identified as valuable. The central tool for dynamically maintained asynchronous connections is the RSS aggregator (link to RSS article). Aggregators are now at the core of many educators' PLNs because they bring us information that helps us do our jobs. When you subscribe to tagged Flickr photos, new videos from YouTube or TeacherTube, Google News searches, or podcasts, you are enabling all this information to organize and deliver itself to you. For example, after finding an education blog, you can subscribe to its RSS feed with your aggregator. Then you can sit back and wait for the software to periodically check for new posts, retrieve them as they appear, and make them available for reading at your leisure. You can also subscribe to ongoing blog searches that will scan the entire blogosphere and automatically send to you new posts on your chosen topic (Warlick, 2009).

Most online PLNs contain some combination of these three types. It is important that you build your own classroom to connect around ideas you are passionate about and really want to learn about. Everyone's network will look and connect differently (Richardson, 2007).

The real challenge is finding resources and establishing networks. PLNs are created by individual learners; specific to the learner's needs extending relevant learning connections to like-interested people around the globe. PLNs provide individuals with learning and access to leaders and experts around the world bringing together communities, resources and information impossible to access solely from within school walls (Nielsen, 2008).

So how do you get started?

1. Join a professional social network such as Classroom 2.0 (<http://classroom20.com>) or search for a network Ning (<http://ning.com>).
2. Pick five blogs and start reading them. Use an RSS aggregator or reader such as Google Reader (<http://google.reader.com>) to help. Limit the number to five to start since keeping up with more blogs can be difficult.
3. Become part of the conversation and comment on the blogs you are reading. A network is not one-sided; you are bound to become part of someone else's network as well.
4. Join a microblogging site such as Twitter (<http://www.twitter.com>) and start reading Tweets. Start with five bloggers (the search function makes finding relevant bloggers easy) and see what they have to say. You will learn a lot in just 140 characters (Nielsen, 2008).

Most importantly remember that you need to take the first steps to engage in the conversations and find the people producing content so that you can integrate them into your network (Richardson, 2007).

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Session Proposals Are Requested for the NSELA 2010 PDI

The National Science Education Leadership Association (NSELA) will present a Professional Development Institute (PDI) in 2010 focused on the best practices in professional development for science education reform. The 2010 PDI will be held on Wednesday, March 17, 2010 in Philadelphia, Pennsylvania.

You are invited to submit a proposal to present a three-hour or six-hour session at the 2010 PDI. Proposal guidelines are described in the Request for Proposals (RFP), which is [available at our online](#). **The deadline for proposal submission is June 10, 2009.** To submit, send a completed proposal by e-mail as an attachment in word format to susansprague@yahoo.com Please list “NSELA PDI-RFP and your organization” as the subject of the e-mail.

Possible areas of focus for the 2010 PDI sessions include the following:

- **Developing Leadership in Science Education**
- **Current Research on Teaching and Learning in Science**

- **Using Data as Professional Development**
- **Content-Focused Professional Development**
- **Designing and Evaluating Professional Development Programs**
- **Assessment and Professional Development**
- **Professional Development for Technology-Enriched Learning**
- **Partnerships that Support Professional Development**

If you have questions about the areas of focus or the RFP, please contact Susan Sprague, NSELA Executive Director at (928) 771-1030 or susansprague@yahoo.com.

Regional News

News from Region A

Greetings, NSELA Region A members!

There's lots of great activity taking place in Region A! If you have upcoming events you would like to share with NSELA colleagues, I encourage you to go to the Regions link on the NSELA website and post the event [on the Region A web page](#). A few highlights:

Save the date! A reminder that the NSELA Summer Leadership Institute will be held in our "backyard": Science Curriculum Topic Study - A Standards and Research-Based Approach to Leading Professional Learning June 28 to July 2, 2009, Portland ME. For more information or to register, visit <http://www.nsela.org/calendar/calendar.html> Why not carpool and bring a colleague?

The Massachusetts Association of Biology Teachers recently held their annual conference, celebrating Darwin's 200th birthday and the 150th anniversary of the publication of his The Origin of Species. Evolutionary development, also known as "Evo-Devo," a relatively new science that investigates the molecular basis of development as a way of understanding how body forms change over time, was a featured topic. For more information about the MABT, contact Brian Dempsey: bdempsey@mail.ab.mec.edu

The North Shore Science Supervisors Association (NSSA) currently has over 40 members who meet on a monthly basis to develop and support science education leadership. NSSA is an affiliate of the Massachusetts Science Education Leadership Association (MSEL). For more information about the NSSA, contact Dave Lyons: DLyons@revere.mec.edu For MSEL Affiliate education leadership opportunities, visit <http://msla.org/>

The "Urban Science Liaison Network" is a monthly meeting of the MA Department of Education, science curriculum coordinators and/or department heads from the state's urban districts. The point of the meeting is to work collaboratively to address common needs associated with science learning and programs in those districts. For more information, contact Jake Foster: jfoster@doe.mass.edu

Joni Cooke, an elementary science teacher in Leeds, Maine is one of 40 teachers nationwide accepted into the first cohort group of the NASA Endeavor Science Teaching Certificate Project. The goal of the project is to ensure that teachers across the country can use the discoveries that NASA makes on a daily basis to inspire the next generation of explorers, scientists, engineers, and astronauts. The program will provide workshops, online and on-site graduate courses and NASA content and materials to teachers and students in K-12 classrooms. Ms. Cooke is also a recipient of the Presidential Award for

Excellence in Mathematics and Science Teaching and the Milken Educator Award.

The Maine Environmental Education Association and the Maine Department of Education have entered into collaboration to develop environmental literacy benchmarks linked to the state standards, the Maine Learning Results: Parameters for Essential Instruction.

The ME Department of Education hosted its third day-long Ready, Set, Science! Workshop. Through this effort, the state hopes to make the research and recommendations of this National Academy of Science available to science leaders throughout Maine. A fourth workshop is scheduled for April 3, 2009. For more information contact Anita Bernhardt: Anita.bernhardt@maine.gov

New Hampshire Dept. of Education and the NH Children in Nature Coalition are sponsoring “May We Do Science” or “May is Outdoor Science Learning Month.” Teachers, informal science educators and parent volunteers are encouraged to help with the effort to get every child outside doing real science in May. The Department of Education has been conducting sessions on “Ready, Set, Science” for teachers and administrators in the state, and notes that best way to prepare for our NECAP Science Assessments is to get kids thinking like scientists and collecting and analyzing data. For more information, contact Jan McLaughlin: JMcLaughlin@ed.state.nh.us

The NH Dept. of Education has been conducting workshops on Formative Assessment, using NSELA member and NSTA President Page Keeley’s formative assessment publications and information from the Exploratorium’s Institute for Inquiry – Formative Assessment Workshop I. For more information about Keeley et.al.’s publications, visit

NSTA Press at <http://www.nsta.org/> For information about the Exploratorium’s professional development materials, visit <http://www.exploratorium.edu/IFI/workshops/>

Joyce Tugel, Region A Director

News from Region B

The NSTA National Conference on Science Education brought science teachers and science education leaders together in New Orleans. It was my pleasure to meet many of the Region B members at the various receptions, NSELA’s Professional Development Institute (PDI) and the annual NSELA Breakfast on Thursday morning. At NSTA, keynote speaker

Arne Duncan, Secretary of Education, challenged science educators to “move the curriculum beyond dinosaurs and volcanoes” and make inquiry-based science relevant to kids. Secretary Duncan also discussed the impact of the stimulus bill on science education as a mechanism to transform public education in America. Moreover, there were several fantastic workshops at NSTA. For example, one presenter described innovative ways to use Google Earth in the classroom. Imagine having your students use Google Earth to land a plane on an actual airport runway or fly across the landscape of Mars!

The President’s Banquet on Saturday evening featured keynote speaker Philippe Cousteau, who addressed the guests about the importance of ocean study as a key component of science education. Moreover, I was the recipient of the 2009 Vernier Technology Award for my “innovative ideas for the use of data-collection technology.” At Marymount, in their unit on sound, my students determine if the ear buds provided with their MP3 players are safe and meet industry specifications for sound-level intensity. The primary goal of the program is to introduce students to different data-collection and analysis techniques so they

can better understand the world around them.

In other Region B news, the Long Island Science Education Leadership Association (LISELA) held their Spring Conference at Molloy College in Farmingdale. The conference featured some very engaging workshops, ranging from district eco-friendly recycling to multidisciplinary efforts to bring science and engineering to the classroom. The keynote speaker, Dr. William Metz, spoke on the topic of *Critical Response Strategies: A Blueprint for Cultivating Inquiry*, reflecting on the notion that inquiry skills in science are very similar to inquiry skills in other disciplines. What impressed me was the number of pre-service science teachers in attendance. The passion and enthusiasm for science education demonstrated by the pre-service teachers was shared by the veteran teachers in attendance as well.

I was continually impressed with the teachers I met at all of these events; it reinforced my belief that there are great science teachers doing great things in the classroom!

Eric Walters, Region B Director

News from Region E

Congratulations Helen!

Helen Kloepper, a Region E NSELA member was recently named Elementary Teacher of the Year for the Spring Hill School District in Spring Hill, Kansas. Helen serves as an Instructional Coach at Spring Hill Intermediate School. Congratulations, Helen, from your Region E colleagues and from the broader NSELA membership.

The following article was submitted by Kim Wise, Science Consultant, Loess Hills AEA 13 in western Iowa. She has worked with Dr. Brian Hand at the University of Iowa and implemented the Science Writing Heuristic in her area. This article briefly outlines the program's success and provides a link to the website that includes much more information. Kim also worked with Dr. Hand as one of the authors of Questions, Claims, and Evidence: The Important Place of Argument in Children's Science Writing, available through NSTA Press.

Science Writing Heuristic

A teacher from the project said, "This unit has been the most energizing and amazing experience for me as a teacher. I just get emotional each night when I go home and think about the thinking, talking and learning that took place in the minds of 6 and 7 year olds!"

When a teacher uses the Science Writing Heuristic (SWH) approach, students are challenged to think and write critically about their understanding and developing knowledge in science. Using a notebook instead of traditional lab reports, students expand what they have learned during scientific experiments by asking beginning questions, learning how to make claims, providing supporting evidence, presenting and arguing the meaning of the findings, and reflecting on how their thinking has changed. The SWH approach builds upon what we know about literacy and helps students communicate what they know in a variety of ways.

The SWH is a research study that was originally designed to measure the growth of middle school and secondary students. In 2004, it grew to include elementary students. Dr. Brian Hand, University of Iowa, and Dr. Lori Norton-Meier, Iowa State University, have seen

year-by-year jumps in science test scores when students learn science through this approach. Although all students in high-implementation classrooms showed gains in science and language, research also shows that children receiving special education assistance and those living at the poverty level demonstrate the most significant gains.

Loess Hills AEA 13 has partnered with the two universities and several local districts in Southwest Iowa. The teachers and students in these districts approach science in an entirely new manner, using writing, speaking, and thinking to expand student knowledge and comprehension of science. For more information please visit www.ci.hs.iastate.edu/scilit.

NSELA Professional Development Institute in New Orleans

On March 18, 2009, over 130 NSELA members gathered for the 2009 Professional Development Institute in New Orleans. The day started with breakfast, which highlighted professional support options from NASA, and included free NASA educational materials for those who attended. An update of current issues related to science education was then presented by NSTA Executive Director Francis Eberle.

After breakfast the morning sessions were held. At lunch, the participants enjoyed *Bridging the Gap Between Learning Goals, Research on Learning, and Classroom Practice- Leadership for Transformative Professional Development*, presented by Page Keeley.

Page introduced participants to the new NSTA initiative, **Science Anchors**. This project builds on existing national science education standards documents, and organizes science content areas around “big ideas.” For more information about the Science Anchors project, please visit the web site, <http://scienceanchors.nsta.org/>.



After lunch the sessions below continued:

- Title: Developing Leadership Capacity and STEM Knowledge through Science Communities of Practice Presenter: LINDA ATKINSON, JEAN CATE, and K20 Center Science Specialists (University of Oklahoma)
- Title: Building Systems for Quality Teaching and Learning: A Simulation on Designing and Providing Professional Development Programs in Science Presenter: SUSAN MUNDRY and ELIZA SPANG
- Title: A Developmental Approach to Extended Guided Inquiry Presenter: BERNARD ZUBROWSKI
- Title: (Trans)formative Assessment for Leaders Presenter: JOYCE B. TUGEL
- Title: Understanding Science: Exploring the role of talk in deepening teacher content and pedagogical content knowledge Presenter: MAYUMI SHINOHARA and KIRSTEN R. DAEHLER



Meet Your New Board Members

Janey Kaufmann, President Elect

NSELAs new President-Elect, Janey Kaufmann, comes to this position after serving on the Board for three years as Region F Director. Janey lives in Scottsdale, Arizona, and is currently the PreK-12 Science Academic Coach for the Scottsdale Unified School District in Scottsdale, AZ. She has been a leader in science education for many years and is excited about the opportunity to serve in this esteemed position, President-Elect, for NSELAs.



Outside the professional day, Janey is married to a school superintendent. They have many more things in common than education. They both love to read, play golf, travel and spend time at their cabin near

Flagstaff, Arizona. They also love sports and have season tickets for ASU (Arizona State) Football and the Arizona Diamondbacks professional baseball games. Together they have three children and three granddaughters.

Jeffrey Patterson, Region D Director

Region D Director: Jeffrey Patterson is currently employed as the science curriculum coordinator for Norman Public Schools. He taught Physical Science, Biology, Chemistry, and Astronomy at the high school level for twelve years before moving to his current position. Jeffrey has received the Sigma Xi Award of Recognition for his dedication to science teaching. He has been awarded over \$975,000 in grant monies and has several publications. Jeffrey is an adjunct instructor for the University of Oklahoma's Science Education Center where he works with pre-service elementary education students. He is active in the Oklahoma Science Teachers Association, serving as the current president. He has served on the NSTA Toyota Tapestry Grant committee. Jeffrey received his B.S. in science education from Oklahoma State University and a master's degree in Instructional Leadership and Curriculum from the University of Oklahoma. He has been happily married to wife, Ann, for 29 years. He is the father of six



children: Candice, 27; Megan, 25; Shelley, 23; Tana, 20; Kailee, 16; and Ryder, 13. His hobbies include fishing, camping, and reading.

Xan Simonson, Region F Director

Xan Simonson currently serves as the Biotechnology Career and Technical Education Specialist for Mesa Public Schools overseeing the high school Biotech programs and as the Coordinator for the Mesa Biotechnology Academy. Under her direction, in August 2005, Mesa High School opened its doors to Arizona's first Biotechnology Academy. In 2007, the program was honored as the Best Pathways to Postsecondary Education Program awarded by the AZ Commission for Post Secondary Education. Xan has a Bachelor's degree in Biology with a minor in Chemistry from McMurry University, Abilene, Texas, a Master's degree in Curriculum and Instruction from New Mexico State University, Las Cruces, NM and an Administration Certificate for Principal from Northern Arizona University, Flagstaff, AZ. Xan is a science adjunct faculty member for Mesa Community College and South Mountain Community College and serves as a teacher consultant for several biological companies that are working to better science education. Xan has received several awards during her tenure in education and most recently was named one of Arizona's Top 20 women who will shape Arizona by 2020. She is a member of the Bioscience Education Steering Committee, the Governor's P-20 Council for Education Committee as the K-12 Teacher representative, the National Governor's Association CTE Policy Advisory Committee, the Arizona Science Teacher's Association, and serves as Arizona's NABT Outstanding Biology Teacher of the Year Director. She was recently elected as Region F Director for National Science Education Leaders Association and currently is serving as the 2009 National Science Teacher's Association Phoenix Conference Local Arrangement Chair. Her educational philosophy is that all students can learn and do so best with the three R's: Rigor, Relevance, and Relationships.



Become More Active In NSEL A: Run for an NSEL A Position

You are encouraged to consider nominating someone or yourself for an open position with NSEL A. Nominations this year are being sought for the following positions:

President Elect

Regional Director A (ME,NH, VT, MA, RI, CT, NJ, NY, PA)
Regional Director C (TN, NC, SC, AL, GA, FL, AR, MS, LA and Caribbean)

To be considered by the Nominations Committee, nominees must strictly abide by the instructions for completing the nomination packet. Information can be located on the NSEL A website - <http://www.nsela.org/membersonly/nominate.html>. All materials, including Nominee's Packet and Letters of Endorsement, must be received no later than midnight (EST) December 11, 2009.

ICASE News

The International Council of Associations for Science Education (ICASE) is the Non-Governmental Organisation, set up by its members [National STAs. Science societies, Science centres, etc] forming an international communication network. The ICASE role is to:

1. extend and enhance the quality of formal and non-formal science and technology education for all, with particular reference to the children and youth of the world.
2. provide and support activities and opportunities that will enhance formal and non-formal science and technology education throughout the world.
3. assist and support all members and other organisations throughout the world which are involved in formal and non-formal science and technology education.
4. establish and maintain an international communication network for member organisations and their members involved in formal and non-formal science and technology education.
5. encourage and support the establishment and development of professional science and technology organisations, especially teacher organisations in all countries.

Check out this excerpt (in pdf format) from the latest issue of the ICASE Newsletter

- [An Introduction to Ideas for greater Relevance of Science Teaching for the Enhancement of Scientific Literacy by Jack Holbrook, ICASE President](#)
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