

# ASSOCIATION FOR SCIENCE TEACHER EDUCATION

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## President's Newsletter Message Patricia E. Simmons, ASTE President

### Constructing a National Policy Environment for Science Teacher Education

At the June 2002 ASTE Board of Directors meeting, Dr. Kathleen Brown Sullivan conducted a session on policy to inform Board members about education policy and assist with generating ideas about the role that ASTE should play in policy on science teacher education. The consensus of the Board was that a national policy conversation about science teacher education was occurring, however, much of the input and decision-making was led by members outside the science teacher education community. This session was particularly timely, since the Mathematics Education Summit (2003) and Science Summit (2004) held in Washington, DC resulted in a five-year Mathematics and Science Initiative focused on:

- a broad-based public engagement campaign emphasizing the need for mathematics and science education in schools.;
- a major recruitment, preparation, and training campaign for teachers with strong backgrounds in mathematics and science; and
- a major academic research base to improve knowledge of what improves student learning in mathematics and science in the classroom.

"... we invite all members to contribute ideas and insights in person at the Portland 2006 Board meetings, Town Hall and business meetings, and through email communications."

As we examine where we were in 2002 and where science teacher education is today, we are dealing with the same kinds of arguments about the efficacy of teacher education. A recent article published in [Education Policy Analysis Archives](#) by Darling-Hammond, Holtzman, Gatlin, and Heilig, (Oct 12, 2005) analyzes data and offers the conclusion: Uncertified and non-standard certified teachers (in most categories), when compared with standard certification teachers, demonstrated negative effects on student achievement (controlling for student characteristics, prior student achievement, teacher experience and degrees). Clearly these kinds of outcomes from extensive studies merit thorough discussions, and a similar undertaking within the science teacher education community.



(Continued from page 1)

We need to focus on more long-term issues and reform rather than short-term issues. As a professional community, we must be willing to question our own assumptions about reform. Too many times, educators revert to a "If it ain't broke, don't fix it" mindset when confronted with legislative issues. To engage in proactive decision-making, especially in the policy arena, we must first deal with basic assumptions held by our community of professionals. Among the questions we must examine are issues related to basic democratic ideas of schooling and the purposes of schooling. Critical questions we should be addressing include:

- ⇒ Who should have access to science?
- ⇒ Should science be taught at all grade levels?
- ⇒ Where should resources in science teacher preparation be placed?
- ⇒ Who should be the principal preparers of new teachers?
- ⇒ After 50 years of research and practice on science methods teaching, what can we say with great certainty that we know about effective science teacher preparation?
- ⇒ What do we do best in science teacher education that no other organization does; what are our insights and lessons learned about this complex process?
- ⇒ How do we prepare teachers of science better than any other organization?
- ⇒ How do we effectively and proactively inform others (e.g., policymakers, legislators) about our work?
- ⇒ How do we use scholarship to inform policy about science teacher education?
- ⇒ Can we be seen as a neutral broker of information?
- ⇒ How do we change our own thinking about the status quo? Where is the ASTE in all of this?
- ⇒ Where/how can or do we exert our influence within the field and outside our field?

Once we have decided to address these kinds of questions, we can engage in Action Steps:

- ◆ Identify priorities,
- ◆ Establish an agenda,
- ◆ Learn and implement effective lobbying at state and national levels, Examine who should be involved in the teacher education process (state certification, school districts, national policy), and
- ◆ Create a culture for policy study and engagement.

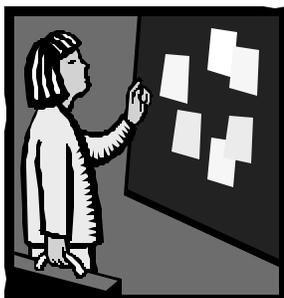
One first step in this endeavor is to marshal the institutional and human resources within the science teacher education community to set priorities and establish an agenda (such as the Research Agenda in Science Education project announced at the 2003 ASTE conference and published in the newsletter). In order to take a place at the decision table, we must be able to use findings from research studies on science teacher education to inform and elevate the discussion and policy outcomes at all levels. Having a strong and credible research base enables us to merge the research data with best practices models to provide the expertise needed at the policy table when important initiatives at the local, state, and national levels are discussed and implemented. Without a strong base in both research and practice, we are not able to effectively promote the kinds of science teacher education experiences and programs we know to be most effective. To continue the planning and conversation about these kinds of issues, I invite all of you to participate in the upcoming ASTE conference in Portland, and in particular the Town Hall meeting. At the Town Hall (refer to conference program for date and room), we will continue the discussion and action steps in delineating an agenda for science teacher education.

As a principal voice for science teacher education, the ASTE and our primary science education organizations (i.e., NSTA, NARST) can provide critical insights and advisories on current and future initiatives in science education that promote excellence in preK-graduate level science teaching,

## President's message continued

science teacher education, and public understanding of science. Advocating recommendations based upon sound research and exemplary practices enable all learners to understand and use science and develop the necessary skills to succeed in a rapidly changing scientific and technological world. The science education community (through strong collaboration among its professional organizations) has a pivotal role to play in strengthening and improving the quality of science teacher education.

I look forward to seeing and talking with you in Portland!



## Announcements

Walter Smith & Caryl Kelley Smith are the Executive Secretaries of ASTE. He may be contacted at:

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## Call for NSTA/NCATE Reviewers

The National Science Teachers Association is soliciting experienced science teacher educators to serve as NSTA-appointed reviewers for work with the National Council for the Accreditation of Teacher Education (NCATE). Reviews are conducted by teams of three reviewers, twice a year. Responsibility is to electronically review college and university science teacher preparation programs using NSTA standards and to make recommendations for national recognition to NCATE. The term of service is for three years, renewable based on performance and need. This is an excellent opportunity to engage in voluntary national service for the science teacher education community. Time commitments average one day twice a year. Reviewers should have at least two years of experience in pre-service science teacher preparation, and a working knowledge of teacher preparation and performance assessment at the college or university level.

A day-long Reviewer Training Workshop, beginning at 8 a.m., is planned for Wednesday, January 11, at the 2006 Association for Science Teacher Education convention in Portland. Your application is welcome. Please send a brief e-mail indicating your current position and interest in reviewing to Steven Gilbert, NSTA/NCATE Program Review Coordinator, at [swgilbert@vt.edu](mailto:swgilbert@vt.edu). Attach a short vita or resume outlining your experience in the pre-service preparation of science teachers. Questions should be directed to the same address.

## Convention information

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**Make your plans to join us at the  
ASTE 2006 International Conference  
Portland, Oregon January 12-14, 2006  
Conference Particulars:**

The Conference has been designed around ten threads; namely, College & University Science Education; Curriculum & Assessment; Equity & Diversity Issues; Innovations in Science Teacher Education; Policy & Reform; Student Learning; Inservice Teacher Education; Preservice Teacher Education; Teachers' Action Research; Technology. There are over 325 presentations to choose from and 17 professional development workshops, so there's plenty for everyone!! Up to the minute information can be found at [http://  
aste.chem.pitt.edu/](http://aste.chem.pitt.edu/)

The ASTE Board Meeting will be held on Wednesday, January 11, starting at 5 PM.  
A pre-conference 3 mile fun run and 2 mile walk along the waterfront will begin at 7 AM on Thursday, January 12.

Continental Breakfast starts at 8 AM on Thursday and the first presentations of the conference begin at 9 AM on Thursday!

**All professional development workshops are embedded throughout the conference this year. There are NO pre or post conference workshops! A list of workshops is at the end! You must preregister for these workshops with your conference registration materials.**  
The WISE Social will be held on Friday evening, January 13.

The Conference will conclude Saturday evening, January 14, with our new tradition, the Book Discussion Groups, scheduled for after dinner on Saturday.

### **Hotel Information**

The conference hotel is the Portland Marriott Downtown. This hotel is located on the waterfront with spectacular views (weather permitting!) of Mt. Hood! The conference rate is only \$99 for a single or a double. You can reserve your rooms on line: [http://marriott.com/property/propertypage.mi?  
marshaCode=PDXOR](http://marriott.com/property/propertypage.mi?marshaCode=PDXOR)

The promotional Group code for this room rate is **ETSETSA**

### **Air Transportation:**

**Portland International Airport information can be found at [http://www.flypdx.com/  
PDX\\_home.aspx](http://www.flypdx.com/PDX_home.aspx)**

### **Book Discussions:**

The books that will be discussed this year are: The Eternal Frontier by Tim Flannery, A Natural History of the Senses by Diane Ackerman, and T-Rex and the Crater of Doom by Walter Alvarez. Information about the discussion groups and each of the books can be found on the web site [theaste.org](http://theaste.org)

### **Post Conference Tours:**

We will be offering three post-conference tours on Sunday, January 15. You must preregister for these when you register for the conference.

### **Tour 1—Enology of the Willamette Valley**

Vineyards in the Willamette Valley are producing wines that rival those of France. Learn about the richness and secrets of the soil that have made Oregon wines a desired commodity worldwide. Tour the Willamette Valley area, explore the vineyards of Anne Amie and visit three wineries: Anne Amie (Carlton), Duck Pond Vineyards (Dundee), and Rex Hill Vineyards (Newberg). Leave the hotel at 9 and return by 1 PM. (Cost \$25)

### **Tour 2—Time Travel: Fort Vancouver**

Step back in time as you visit Fort Vancouver National Historic Site. Tour the reconstruction of the Hudson Bay Company's Vancouver, Washington site. Attend living history demonstrations in the Kitchen, Blacksmith Shop, Carpenter Shop, Bakehouse and Period Garden. Experience what life was like during the time of the fur traders. Leave the hotel at 9 and return by noon. (Cost \$15)

### **Tour 3—Geology of the Columbia River Gorge: Observations on Lewis and Clark's Observations**

We will travel into the Columbia River Gorge to examine: (1) 16 million year old lava flows that originated in eastern Oregon; (2) geologic layers that underlie the present Cascade Range volcanoes; (3) evidence of eruptions at Mt Hood just 10 years prior to the Lewis and Clark Corps of Discovery coming to Oregon; and (4) the Bonneville landslide (aka Bridge of the Gods) that was described and accurately interpreted by William Clark. The tour will begin with a brief presentation in the hotel at 8:45 and return to the hotel by 1 PM. (Cost \$15)

### **Things to do in Portland:**

The Portland Visitors Bureau has a wealth of information about things to do and see in the Portland area. Please visit their website at <http://www.travelportland.com/> They are predicting a great skiing season this year, so plan to come early or stay on and ski, board or slalom down Mount Hood!

In addition, several events have been offered to the ASTE membership at discounted rates:

#### **Basketball Fans:**

The Portland Trailblazers are offering us special group discount rates on tickets. On Wednesday, January 11, the Trailblazers will take to the court with the Lakers! (It's also bobble head night!) On Friday, January 13, the Trailblazers take on Orlando.

The ASTE rate will be \$56 for 100-level tickets. (Usual ticket price is \$71.) See the ASTE web page for ticket information.

#### **Art Aficionados:**

The Portland Art Museum has a special collection showing at the time of our conference. Timed Tickets are needed, but they will be holding blocks of tickets for us. I have asked them to save tickets for us on Wednesday night and Friday evening. Cost to the museum and the special exhibit is \$11.

They will be showing the Hesse, a princely German collection. "It's an exhibition of over 400 works of art selected from the extensive collections of the German Princely House of Hesse. The exhibit will provide an unprecedented glimpse into the history and artistic holdings of one of Europe's preeminent royal families. Contained within the collection are Baroque silver and furniture, a royal coach, a gilded throne, German Romantic paintings, extraordinary portraits by Winterhalter, a Russian dowry, turn of the century Jugendstil, and classical antiquities. Also on view will be a pair of portraits by Lucas Cranach the Elder, complimenting the family's famous Holbein Madonna, often regarded as one of the greatest masterpieces of German Renaissance art in private hands." Portland is the ONLY showing of this collection in the United States! Again, ticket information can be found on the ASTE web site.

#### **World Travelers:**

Want to travel the world on a limited budget? At the Forest Discovery Center you can take a train ride through Siberia, a boat ride through China, a tram to the upper canopies of the Tropical Rain Forest. Pretend you're a smoke jumper. Ride the rapids! And get a special admission price! Visit them at: [http://www.worldforestrycenter.org/museum/dm\\_discover.php](http://www.worldforestrycenter.org/museum/dm_discover.php)

**2006 ASTE Workshops**

All workshops are embedded throughout the conference this year! A ticket is required for admittance.

<u>Code</u>	<u>Title/Description</u>	<u>Cost</u>
<b>Thursday Workshops (January 12)</b>		
TW1 8:30-11:30	<b>Helping educators apply appropriate writing in and writing to learn science strategies</b> Kathie Black, Valarie Akerson, Roberta Aram, Malcolm Butler, John Cannon, David Crowther, Brian Hand, Brooke Bard. <i>This workshop is designed to help educators prepare preservice students in writing to learn and learning to write in science through tested measures and practices.</i>	\$25
TW2 9:30-11:30	<b>Science and the Westward Movement: Surviving the Donner Party</b> Melanie Reap, Ann Rethlefsen. <i>Inquiry creates large amounts of data; this can frustrate teachers. This workshop presents a lesson using data from the Donner Party to address this issue.</i>	tba
TW3 1:10-3:10	<b>Promoting Teacher Development with The Real Reasons for Seasons</b> Kathleen O'Sullivan, Greg Schultz. <i>The Real Reasons for Seasons, an exemplary module using constructivist strategies, can serve multiple purposes in workshops and classes for middle and high school teachers.</i>	free
TW4 3:45-5:45	<b>Culturally Relevant Teaching: African American Students and Prospective Science Teachers</b> Eileen Parsons, Jamila Simpson, Crystall Travis, Stephanie Foster. <i>Workshop focuses upon facilitating prospective science teachers' high expectations for and development of cultural competence of African American students via science education.</i>	free
TW5 3:45-5:45	<b>Developing Expertise with Classroom Assessment in K-12 Science: The Role of an Assessment Portfolio</b> Maryl Gearhart, Sam Nagashima. <i>This interactive session introduces research on K-12 teachers' developing expertise with classroom assessment, focusing on the role of an assessment portfolio.</i>	c free
<b>Friday Workshops (January 13)</b>		
FW1 8:00-11:00	<b>Video case studies of elementary student inquiry in physical science</b> David Hammer, Emily vanZee, Mary Bell, Jamie Mikeska, Jessica Phelan. <i>We will present cases of 1-8th grade inquiry, engage participants in close analysis of student thinking, and discuss using these cases in teacher preparation.</i>	free
FW2 8:00-11:00	<b>Collaborative Planning &amp; Co-Teaching: Two Process for Fulfilling No Child Left Behind (NCLB) and Individuals with Disabilities Education Improvement Act (IDEIA) requirements</b> Jacqueline Thousand, Kathy Norman, Antonette Hood, Lorri Santamaria, Maureen Lorimer. <i>Learn how applying the four approaches of co-teaching enables students with disabilities, English language learners, and all students to access the core science curriculum.</i>	free
FW3 11:10-2:10	<b>Coteaching and Cogenerative Dialogues: Dynamic Pathways for Innovative Research and Teaching Strategies in Science Teacher Education</b> Catherine Milne, Sarah-Kate LaVan, Rowhea Elmesky, Sonya Martin, Kathryn Scantlebury, Penny Gilmer, Kenneth Tobin. <i>This innovative workshop introduces participants to the theoretical framework and models for coteaching and cogenerative dialogues in different science teacher education fields.</i>	tba
FW4 11:10-2:10	<b>The Winning Equation: Access + Attitude = Success in Science</b> Valerie Sundby, Tracy Jirikowic. <i>An interactive workshop to introduce concepts, strategies, and tools to fully include students with diverse learning needs, including those with disabilities, in science education.</i>	\$15
<b>Saturday Workshops (January 14)</b>		
SW1 7:40-9:40	<b>Leadership Development Valuing Women's Ways of Knowing: Personal Capacity and Leadership Cultures Valued Institutionally and in Professional Science Teacher Education (WISE-Forum Initiated Workshop)</b> . Katherine Wieseman, Barbara Spector, Catherine Yeotis, Penny Gilmer, Janice Koch, Hedy Moscovici, Tamara Nelson. <i>Experiential learning, in-depth interaction and mentoring on aspects of leadership development valuing women's ways of knowing (personal leadership capacity in the institutional/'global' context).</i>	\$8
SW2 7:40-9:40	<b>Preparing Tomorrow's Teachers; What is the Role of Earth and Space Scientists?</b> Stephanie Shipp, Denise Smith, Laurie Ruberg. <i>We would like to engage the community in identifying needs, outcomes, implementation designs, and collaborations for involving NASA's community in pre-service educator preparation.</i>	tba
SW3 9:45-11:45	<b>Children's ideas about the living world: Understanding the Influence of School, Family, and Community</b> Philip Bell, Leah Bricker, Tiffany Lee, Maisy McGaughey, Suzanne Reeve, Carrie Tzou, Heather Zimmerman. <i>In this interactive workshop, we report on research about elementary-aged students' knowledge of the living world and discuss implications of this work.</i>	tba
SW4 9:45-11:45	<b>Using Literature Circles to Explore the Nature of Science through Non-fiction Science Books</b> . William Straits, Sherry Nichols. <i>This two hour workshop will engage participants in use of literature circles as an instructional approach for developing teachers' understandings of the nature of science.</i>	\$5
SW5 2:00-4:00	<b>Revitalizing Biology for Biology Teachers</b> Alan Dickman, Meighan Maloney, Patricia Roy, Kathy Swire. <i>Explore biological advances using a multimedia content course from Annenberg/CPB for new and veteran biology teachers. Learn about evolutionary research methodology with interactive lessons.</i>	free
SW6 2:00-5:00	<b>Using Vernier's Logger Pro for Video Analysis and Synchronous Video with Data Collection</b> John Park. <i>LoggerPro enables FrameByFrame motion analysis from any digitized video, and allows for video synchronization with any data collected using sensors. Learn how it's done.</i>	free
SW7 2:00-5:00	<b>Implementing Japanese Lesson Study with pre-service Teachers</b> Michael Kamen, Stephen Marble, Melissa Mitchell. <i>The theory, research, protocols, and applications for implementing Lesson Study with pre-service elementary teachers will be presented, followed by a short micro-teach experience.</i>	\$30

Saturday Continued:

SW7 2:00-5:00 **Proposal Writing 101: An Introduction to Designing Fundable Proposals** Carole Stearns, Emmett Wright, Robert Sherwood. free  
NSF Program Directors will describe funding opportunities through the Teacher Professional Continuum program and guide  
participants through the process of drafting an effective proposal..

## Position Announcement

### **Chairperson -Department of Education and Human Development**

#### **SUNY College at Brockport, New York**

The State University of New York at Brockport is seeking a candidate for the position of Chair. The department offers undergraduate and graduate programs in science education. Essential functions of the position include: departmental planning; service to students; personnel matters; academic scheduling; formulating and handling department budget; fostering relationships with the liberal arts, school districts, community colleges, and the State Education Department; teaching and maintaining scholarly activities.

For more log onto <<http://www.brockport.edu/hr/vacancies/facultyandlibrarian.html>>. Questions? ontact Moira Fallon <[mfallon@brockport.edu](mailto:mfallon@brockport.edu)>

#### **ELEMENTARY SCIENCE TEACHER EDUCATION**

International Perspectives on Contemporary Issues and Practice

Edited by

**Ken Appleton**

*Central Queensland University, Australia*

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Reflecting recent policy and standards initiatives, emerging research agendas, and key innovations, this volume provides a contemporary overview of important developments and issues that have in recent years shaped elementary science education pre-service courses and professional development, and practices that are shaping future directions in the field. Contributors from several countries who are actively engaged in research and design in elementary science education address:

- conceptual issues which impinge on contemporary science teacher education;
- intersections of content, pedagogy, and practice; and
- professional development as a contextualized practice.

*Elementary Science Teacher Education: International Perspectives on Contemporary Issues and Practice* offers a clear picture of the current state of the field and directions for the future—to the benefit of elementary science teacher educators, aspiring teacher educators, school policy makers, other professionals involved in science education and, ultimately, the millions of elementary school children who will gain from improved practice.

0-8058-4291-8 [cloth] / 2005 / 424pp. / - **\$81.25** Special ASTE Member discount price (regularly \$125.00)

**0-8058-4292-6 [paper] / 2005 / 424pp. / - \$32.45** Special ASTE Member discount price (regularly \$49.95)

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