President’s Message
Contributed by Joanne Olson

Cog, Elephants, and Elementary Science Teacher Education

Many of us are beginning a new semester, and are continuing our important work of preparing the next generation of new teachers to teach science well. I once attended a conference that had a theme of “teaching as a sacred activity,” and I’ve spent much time considering that phrase and what it means. The term “sacred” has its roots in Latin, meaning “set apart.” Time spent with our students is precious; time is set apart to focus on their needs and their development as teachers. However, the act of teaching can easily become just a job. We can quickly lose sight of the broader goals of an education system, viewing ourselves as a small cog in a giant machine. This can cause us to downplay our potential impact, and simultaneously downplay the responsibility we have to address larger issues.
The National Survey of Science & Mathematics Education was conducted in the United States in 2012 and the results were published last year (Banilower et al., 2013). The data contained in that report should be cause for concern for all of us preparing teachers in the U.S., and I suspect the issues in the report cross national borders. One issue that particularly warrants our attention is the current state of elementary science education. Only 20% of K-3 teachers and 35% of grade 4-6 teachers reported that they teach science all or most days, every week of the school year. Elementary teachers who teach science spend an average of 19 minutes per week on the subject. However, some reports indicate that over a third of elementary teachers skip the subject completely (Bayer, 2004). When asked about each major science area (life, earth, physical, engineering), elementary teachers feel most prepared to teach life science, but only 29% feel very well prepared. Only 36% have had coursework that includes earth, life, and physical sciences. Only 1% completed coursework in engineering. 85% of elementary teachers agreed with a statement that students should be provided with vocabulary words and definitions prior to instruction. 54% view hands-on activities as verification of concepts students have already learned.

In 1990, Schaefer accused science faculty of having a “comfortable, elsewhere focus” with regard to attrition in undergraduate science courses. I suspect we have a similar situation facing us: elementary science education seems to be the elephant in the room that too few acknowledge. Teacher educators may not be responsible for the number of minutes that teachers in elementary schools devote to science instruction, but we must acknowledge our responsibility for several pervasive issues in elementary science education. For instance, why do only 36% of our elementary teachers take coursework in each of the science content areas they are expected to teach? Why do only 29% feel well prepared to teach life science, despite 90% having taken a course in life science, and 99% have completed a teacher preparation program? How can 85% of elementary teachers think that science instruction should begin with vocabulary words—a clear misunderstanding of the fundamental principle that experiences should precede abstractions? The learning cycle and 5E models are well-established instructional models, placing experiences early in the sequence. Yet over half of elementary teachers claim that activities should occur after formal instruction.
These problems are our responsibility. Improving elementary science teacher education programs is extremely difficult because elementary teacher education has so many subject areas vying for very limited credit hours. However, we have a responsibility to work toward positive changes in our programs and our practices. Some questions I'd like us to consider are as follows: 1) What courses are required for our elementary education students? 2) How well are these courses aligned to what elementary teachers are expected to teach? 3) Who is teaching elementary science methods courses, and how well prepared and supported are these individuals? 4) What occurs in elementary science methods courses, and how well do these experiences match the research base? 5) What impact do science methods courses have on students' feelings of preparedness and teaching practice?

The future teachers in our classes deserve the best that we have to offer. They deserve programs that confront their misconceptions, prepare them to teach science, and promote broader, noble goals of education. Many examples exist of programs that have made changes to improve elementary science education, and we can learn from their efforts. I encourage all of us to be proactive in the examination and improvement of our courses and programs so that we can better prepare teachers at all levels to teach science. We have much work to do.


From the Executive Director
Contributed by Bob Hollon

August . . . the start of another academic/school year with new projects, challenges, meetings and opportunities! For ASTE, it means elections, membership drives and final planning for Portland from January 7-10, 2015. You will see emails with requests to vote, renew, recruit and register. Many regions will also hold their annual meetings this fall – they are a great tool to spread the word about ASTE and help new colleagues feel more comfortable joining the organization. Please consider contributing to ASTE by volunteering for a committee or running for an elected position in 2015. In the following sections, I have provided a membership update, a report on our financial activities, and some additional information about the upcoming annual conference. First, a question . . .

Is your ASTE Profile up to date?

One of the most helpful things you can do as a member is to ensure that your profile information is current. We download the latest contact information each time we generate mailing lists for journals, distribute electronic materials and listerv postings. We use your username and email to keep track of your contributions to the organization as a reviewer, proposal submissions, and mailing groups for committees. PLEASE take a few minutes to review and update your profile information. You just log in, go to the member resources tab, then select “edit your contact information” under the general links section. Check to see that addresses are accurate, do not have misspellings, and use standard abbreviations when possible. Make sure that your mailing information matches your “home/institution” selection.

Why can’t you edit your username or email? Those two fields organize all your other information, record communication about financial transactions, and provide journal access through our publishers’ web sites. If you need to update your email, please contact John Rhea at DES@theaste.org.

Membership

Over the past five years, ASTE membership has fluctuated between 670 – 715 people, which is significantly lower than our ten-year average of 730 people. Our final 2014 membership looks like this:

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Number</th>
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<tbody>
<tr>
<td>Canadian</td>
<td>9</td>
</tr>
<tr>
<td>International</td>
<td>21</td>
</tr>
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<td>Retired</td>
<td>16</td>
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<tr>
<td>Student</td>
<td>160</td>
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<td>U.S.</td>
<td>470</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>676</strong></td>
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</table>
It is encouraging that membership is up ten people compared to last year. It is important for all of us to encourage colleagues to include ASTE as part of their professional organization planning. Reach out to new colleagues on your campus, share the Newsletter, our journals and the ASTE website, and bring an extra colleague (or two) to the 2015 annual meeting in Portland!

ASTE membership operates on a calendar year. Each year, we close online membership around mid-August to finalize membership finances, reset the database, and reduce confusion about which membership year is needed to receive reduced rates for the upcoming conference. Membership for 2015 will be available starting October 1, 2014. **You must have a 2015 membership to receive discounted rates for the 2015 annual conference in Portland.** If you still want to register/renew for 2014, contact me at executivedirector@theaste.org. It is still possible to receive all the JSTE issues (and Science Education, if you add the subscription) for 2014.

**Fiscal Update**

ASTE continues to maintain a solid financial base. The conference in San Antonio significantly exceeded budget expectation and generated a significant profit of about $35,000 due to the diligence of the conference committee in reducing costs, adjusting meal expenses, securing external donations, and much higher than expected attendance (474 vs. 400 budgeted). 2014 memberships fell just short of budget predictions (676 actual vs. 680 budgeted). However, publisher revenues were about $9,000 higher than expected, and combined with several other cost-saving measures, the organization is on track to show a modest profit for this year.

As usual, the board worked very hard to anticipate costs, predict membership and publication revenues, and examine how new fixed costs influenced the budget. Two years ago, the decision was made to increase member rates by $5 per category starting in 2015. Why do that if we’re showing a profit, even a small one? Mostly because fixed costs such as editorial fees and stipends, and increasing costs such as insurance, and travel are predictable while some of our revenues have been less predictable. Online journal sales, for example, were much higher in the past year compared to the past five years. What we do not know at this point is whether that trend will continue. Similarly, contributions to the conference have increased in the past two years, but ongoing sponsorships that we enjoyed in the past have not returned. If these trends continue, the board will be able to look at other ways to reduce member costs. In the meantime, the current budget must still account for the known expenses.

Where is the good news in all this? Conference rates for 2015 will remain unchanged while including some new features and returning to a full breakfast service each day. Early bird rates are $225 for regular members and $95 for students with 2015 memberships. These are significant discounts from the onsite rates of $300 and $160 and non-member rates of $410. Registration for the 2015 conference will open October 1, 2014. Details will be available on the conference page of the ASTE website. The conference team is working hard to build an outstanding program with a full range of activities, field trips and keynote speakers.
2015 ASTE International Conference News
Contributed by Tisha Morrell

January 7-10, 2015
Portland, Oregon

Exploring New Frontiers

Be sure to start making your plans to join us for the 2015 Conference in Portland, Oregon! The program will provide rich learning experiences and opportunities to network in a beautiful setting. In keeping with the conference theme of “Exploring New Frontiers,” the keynote speakers will be Dr. Bonnie Nagel and Mr. Jim Clark. Dr. Nagel will share with us the advances occurring in neuroscience relating to the cognitive development of adolescents. Mr. Clark will speak about the processes involved in bridging science, technology, and art.

The 2015 Program Committee would like to thank all of those who reviewed proposals with a special thanks to the thread coordinators. Choosing from a record number of Professional Development proposals and almost 400 conference proposals, the final program will be outstanding! We plan to have a preliminary conference schedule available in mid-September to assist you in finalizing your travel plans.
The Conference will be housed at the Portland Marriott Downtown Waterfront. The hotel is located on the west bank of the scenic Willamette River, with views of both the downtown area and Mount Hood. Between sessions or after the conference, attendees can enjoy the activities on the waterfront, shop in city center (no sales tax in Oregon!), visit one of the microbreweries or coffee/tea houses for which Portland is famous, or explore one of the many museums, galleries, parks or Powell’s Books!

Conference and hotel registration will open October 1, 2014. More information is available on the website (http://theaste.org/meetings/2015-international-meeting/).

See you in Portland!

**ASTE 2015 Environmental Education Forum Sponsored Preconference Field Trip: Science and Cultural Intersections of the Oregon Coast**
Contributed by Al Bodzin
Photographs contributed by Al Bodzin

The ASTE Environmental Education Forum will be sponsoring a pre-conference all-day field trip workshop on Wednesday, January 7 from 7:30am – 6:00pm at the ASTE 2015 International Meeting in Portland, Oregon. The field trip will explore the science and cultural development of the Pacific Northwest. Topics include ecology, resource usage, coastal hazards, and cultural maritime events relevant to the Columbia River System and the waters of the North Pacific. The field trip includes stops at the Columbia River Maritime Museum, Ft Clatsop - Lewis and Clark National Historical Park, and Seaside.
Our first stop will be at the Columbia River Maritime Museum in Astoria (http://www.crmm.org/). We will learn about the museum's science education and outreach activities for teachers and students and have a guided tour of the museum. Topics will include ecology, resource usage, and cultural maritime events relevant to the Columbia River System and the waters of the North Pacific.

We will have a catered lunch at the museum and have a presentation on Oregon coastal geology and hazards by Dr. Robert Butler, Professor of Geophysics in the Department of Environmental Studies at the University of Portland who will be joining us on the field trip. After lunch, there will be some free time in Astoria.

We will then travel to Ft. Clatsop – Lewis and Clark National Historical Park (http://www.nps.gov/lewi/planyourvisit/fortclatsop.htm) and learn about their new science education and outreach activities for teachers and students from the site’s educational specialist. Topics include the Lewis and Clark River and the development of the Pacific Northwest, and the history and culture related to the Lewis and Clark expedition to the Oregon coast.

We will then travel to Seaside and participate in a tsunami evacuation route activity before returning to Portland.

Cost will be $59/person. Lunch and snacks are included in the price. Like our previous field trips, family and guests are welcome.

For more information, contact Al Bodzin at amb4@lehigh.edu
We are pleased announce new details regarding the upcoming Mid-Atlantic regional meeting of the Association for Science Teacher Education. The conference will be held at the Chetola Resort in Blowing Rock, North Carolina on **September 18-20, 2014**. The conference will begin Friday morning at 8:00 AM, and will end on Saturday afternoon at approximately 2:00 PM followed by an optional field trip. We hope that you will be able to attend this year’s conference. Thirty-two papers and more than a dozen posters will be presented over the course of the event; themed strands include: STEM; Environmental Education; Teacher Response to PD; Innovative Teaching and Projects; College Teaching and Learning; Learning Through Technology; Elementary Student Learning; Preservice Teacher Preparation and Identity Development; and Student Learning and Identity Development.

The conference registration form and hotel information are available from the [2014 Mid-Atlantic ASTE Regional Conference Webpage](http://ma.theaste.org/meetings/mid-atlantic-aste-regional-conference). This registration includes food for breaks and meals (breakfast Friday and Saturday, lunch Friday and Saturday, and dinner/reception Friday night).

We look forward to seeing you in the mountains of North Carolina, where the views are spectacular and the folks are downright friendly!

Meg Blanchard, Leslie Bradbury, and Lisa Gross
Conference Co-Chairs
21st Century Science in the South: Spotlight on the People and Places We Teach
Contributed by Katie Brkich

What does it mean to teach science in the South? As an organization dedicated to quality science teacher education in the Southern United States, SASTE is in the unique position of providing direction to both science teachers and science teacher educators on how best to meet the needs of a truly, uniquely regional population. This year’s Annual SASTE Meeting—held at the Coastal Georgia Center in historic Savannah, GA—will focus on the multifaceted and complex nature of teaching science in the South. To this end, we invite proposals which focus on questions of what it means to teach and learn science in the South, including considerations of place, culture, language, politics, policy, or faith—and how all of these factors influence classroom practice.

Proposals for paper sessions should be submitted via saste.net by Sept. 6, and graduate students are encouraged to submit.

Please also consider nominating yourself or someone else for one of our five awards, including the Eddie Griffin Outstanding Graduate Student Position Paper, the Outstanding Faculty Position Paper, the Rod Nave Award for Outstanding Friend to Science Teacher Education, the John Shrum Award for Excellence in the Education of Science Teachers, and the Deborah Tippins Mentoring Award. Award nominations and position papers are also due Sept. 6, and more information about each award is available on the website (saste.net).

In addition, SASTE plans to propose an edited collection of book chapters focusing on this year’s conference theme. We invite you to consider how your proposals may fit into such an edited collection as you prepare your submissions. We further encourage anyone interested in writing for this proposed volume to make note of this during the proposal process. The edited collection will have room not only for original research on 21st Century Science in the South, but also chapter responses to extend the conversations held within each.
Facing Our Manufactured Fears
Contributed by Kathy Cabe Trundle

Speech presented at the Association for Science Teacher Education, San Antonio, TX

After the 2014 ASTE conference in San Antonio, several members asked me to share my presidential remarks. In response, I provide the text of my speech here. Unfortunately, I do not have permission to publish or share the images used in the talk. I hope you find the content useful as you face the manufactured fears in education and reframe educational discussions. And may the Force be with you in your efforts!

Facing Our Fears
One of the most challenging tasks during my term as ASTE President was writing for the quarterly newsletter. Although I enjoy writing, doing so on demand challenged my creativity, and the hardest part was coming up with a theme or topic.

As you may recall, my entry to the summer 2013 newsletter focused on facing our fears. With the release of the latest PISA scores, I would like to revisit this topic.

In my article, I used the metaphor of Luke Skywalker and his experience in the Dark Side Cave, also known as the Cave of Evil. When Luke asks Yoda what he could expect to discover inside the cave, Yoda replies that Luke will find only what he takes with him.

By the way, in searching for images for this presentation, I learned about a new Internet resource that the Star Wars fans among us might appreciate. In addition to Wikipedia, we also have Wookieepedia available to us!

Fighting Our Fears

Hurting Ourselves
….only to find his own face inside Darth Vader’s helmet. This metaphor tells us that if we fight our fears we only defeat ourselves. The best we can do is to face our fears, and we must face those fears alone. No one can go into the cave with us.

Fears about Education
Today I want to return to this topic and face our fears as well as look closely at manufactured fears. We hear from the media, legislators, and business leaders that US schools and our teachers are failing. And the hype escalates when we see how US scores rank against other countries on
standardized tests. The great fear is that we are losing our competitive edge and our economy will suffer further if we cannot compete on the global front.

**Long-term Manufactured Fears**
Legislators, corporate reformers, and other policymakers have used international comparisons for decades to create and perpetuate fears that the US is losing the global economic race against the competition, especially when the winning countries are seen as threats or as the enemy.

** Manufactured Fear Reinforced**
This manufactured fear that our schools are failing and we are losing the global race has been perpetuated over time as the focus of our fears shifted from Germany to Russia to Japan to China. This manufactured fear was further underscored and reinforced in 1983 with the release of A Nation at Risk, the report of Ronald Reagan’s National Commission on Excellence in Education. Among other things, the report contributed to the ever-growing assertion that American schools were failing. The report stated "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war."

**2012 PISA Results**
Most recently, the manufactured fear was perpetuated with the release of the 2012 PISA results. As you know, the US results indicate that our children are scoring a bit below the mean in Mathematics and just about at the mean in Reading and Science. The manufactured fear comes into play when we look at how the US results compare to other countries. The fear mongers lament that the US is losing ground, and they claim we can’t compete in the global market.

**Inciting Hysteria**
Corporate America is using standardized test results, as well as value added assessments, to incite hysteria, claiming that our country is going to Hell in a hand basket. Of course, our schools and our teachers must be blamed for this dismal failure.

**Privatizing**
Corporate America has used standardized test results, as well as value added assessments, to shift philanthropy from assisting schools with the implementation of policy to leveraging donations to determine education policy. In doing so, Corporate America benefits in two ways:

1. Developing and marketing education products, including standardized tests, and charter schools (using public tax dollars), yielding major economic profits.
2. Coopting of educational curricula for cooperate needs.
Incentivizing
Test scores are used to argue for merit-based pay for teachers.

Disbanding Unions
Standardized test results are used to attack professional organizations and unions.

Closing Schools
Neighborhood schools are closed.

Firing Teachers
Teachers lose their jobs.

Removing Tenure
Teachers are stripped of their tenure. This is happening now in NC, its neighboring states, and across the nation.

Reframing the discussion
I recognize that I am preaching to the choir here. We all know how standardized test scores are being used against teachers and their students. However, the time has come for us to take a stand. We must help policymakers at all levels understand why high stakes testing is what must be feared in both its intended and unintended consequences. And we, as leaders in education, are responsible for reframing this discussion.

Consistency
First, we must change the discourse related to PISA results and the international comparisons. Many legislators believe that the US education system is declining because our ranking against other countries has dropped. However, our scores have been consistent for decades. This consistency dates back to 1964 and the First International Mathematics Study (FIMS), which was followed by the Second International Mathematics Study (SIMS), then the Third International Mathematics and Science Study (TIMSS), and now Programme for International Student Assessment (PISA). Looking at the PISA results over time, the US results are consistently average.

Indicators of US Success.
What I propose to you today is that policymakers are looking at the wrong data when they use standardized test scores as indicators of US success. Keith Baker, in his article titled Are International Tests Worth Anything? (Baker, 2007), used data to answer the question “Do the US Rankings on international tests signal doom for the country’s future standing in the world?” To answer this question, Baker looked at how well test scores on the first international comparison study, FIMS, predicted national success in the first half of the 21st century.
FIMS was administered in 1964 to a sample of 12-year olds in 11 countries. Today’s world is largely created and operated by the FIMS generation. Baker reasons that if indeed there is a connection between high test scores and national success, it should show-up in looking at how well the 1964 FIMS scores predicted where those participating nations are today.

To find out how the FIMS nations are doing in their quests for life, liberty, and the pursuit of happiness, Baker looked at 7 indicators of national success.

**Wealth**  
The first indicator of national success is wealth. Baker used per capita GDP (adjusted for cost of living differences or purchasing power parity) and he found a negative relationship between wealth and FIMS scores. In fact, the higher the national test scores, the worse the national wealth!

**Rate of Economic Growth**  
For this indicator of national success, the US had stronger economic growth than all countries that scored higher on FIMS. Again, Baker found that the rate of economic growth for nations improved as standardized test scores dropped!

**Productivity**  
Baker also looked at productivity as an indicator of national success. He used GDP/hours worked, and he found that nations that outscores US on FIMS had lower productivity than the US. Interestingly, none of the nations with higher productivity than the US had higher PISA scores!

**Quality of Life**  
My sister Karen is here with me today, and I told her that we are working on becoming the female versions of this guy. When my doctoral student Mandy heard me joking about this, she asked about the mustache… and unfortunately at this stage of life, I’m might be working on one!

In terms of results of the Quality of Life Index, the US ranked 7th. Again, Higher FIMS scores were related to lower Quality of Life scores.

**Livability**  
As some of you know, I recently relocated to NC and my home is in Apex, which rated as one of the top 10 most livable cities in the US. In fact, Apex had the top livability score for all NC cities.

When Baker looked at livability, 6 of the 9 countries that scored higher than the US on FIMS have lower scores on the Most Livable Countries Index, and Higher FIMS scores were associated with lower livability scores.

**Democracy**  
On Economy Intelligence Unit’s Index of Democracy, the US scored higher on attaining democracy than all nations with higher test scores.
Creativity
Baker used the Number of patents in 2004 as an indicator of creativity. Nations with scores higher than US produced 127 patents per million people while the US produced 326 patents per million people.

US is Outperforming
OK. So what do these results tell us? The US is winning!

US is Winning Big
And our victories are big! In every outcome that matters to us including wealth, quality of life, and creativity, the US is outperforming countries with higher standardized test scores.

Standardized Tests Fail!
The results also tell us that standardized test scores are not very good at measuring the outcomes we really care about. If the test scores are not good indicators of national success, then the tests are not valid measures for the outcomes we desire.

Learning from PISA
So if our nation is succeeding, what messages should we be getting from results like the recent PISA scores?

Investing in ECE
We should look at what the countries who are improving are doing to make a difference. First, they invest in ECE.
For example, only 51% of 3 year olds in the US are enrolled in high quality preschools compared to 99% in Belgium, 89% Germany, and 86% New Zealand.

Funding Education
Higher scoring countries do a better job at reducing the achievement gap, addressing issues of poverty, and funding education. Spending for US Education is decreasing overall. Only 3 countries have cut more funding for education than the US, and those countries are Mexico, Iceland, and Ireland. Also, there is a myth that teachers are overpaid. In reality US Primary teachers spend more hours in classrooms. The US ranks at the top of all nations for teachers’ time in the classroom, and we rank near the bottom for teacher pay.

Supporting Equity
Successful countries address issues of equity. Children who live in poverty in the US attend schools with the highest student to teacher ratios.

Addressing Poverty
The US has the highest level of poverty for all developed/industrial countries. The US ranks near the bottom in providing children in poverty access to quality education. When we look at counties with similar levels of poverty, we lead those nations in test scores.
Recognizing Failure of Reforms
After billions of dollars have been spent, our scores have not improved! We must stop spending money for the things that are not working and redirect the money to interventions that do work!

Authentic Measures of Success
Standardized test are not predictors of success. There is NO correlation between International rankings and authentic outcomes. Thus, there is NO CONSTRUCT Validity for our tests. The US is #1 or at the top in all the measures that matter. Thus, we are spending money to improve education, but the ways we invest DO NOT matter! Our investments are not making a difference.

Successful Interventions
Our take home message today is to invest in interventions that do and can make a difference.

Reclaim Education
In closing, I want to return to our cave metaphor. As educators we must be willing to go into the cave and face our own fears and the manufactured fears thrust upon us. Then we must return from the cave ready to fight for teachers’ right to teach and students’ right to learn in meaningful ways within the context of democratic living! Thank you.


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ASTE and NSTA Collaborative Work
Contributed by Lisa Martin-Hansen, ASTE President-Elect and Affiliate Representative to NSTA (California State University, Long Beach)

As your ASTE representative to the National Science Teachers Association (NSTA), I coordinate the regional and national events at NSTA that are co-sponsored by ASTE. We have several ASTE sessions coming up at regional NSTA conferences. Be sure to mark your calendars to attend.

ASTE Presentations at Regional and National NSTA Meetings

NSTA Orlando (Regional), Nov. 6-8, 2014

- Katie Brkich is presenting a hands-on workshop -- Experiencing Communication Barriers: building Teacher Empathy for ELL.
NSTA Long Beach (Regional) and Northwest ASTE/Far West ASTE Regional Meetings, Dec. 4-6, 2014

- The **Northwest and Far West ASTE Regions** plan to hold their regional business meeting, a research/sharing session, and a large poster session in conjunction with the NSTA Regional meeting in Long Beach. This will allow ASTE members to attend two conferences, thus making airfare less of an issue (those western states are large!). It is hoped at that at this conference, we will build synergy strengthening the activity and scholarly exchange of these two ASTE regions. The poster session includes the following presenters: Wendy Ruchti, Miriam Munck, Donna Rainboth, Adele Schepige, Judith Morrison, Bill Straits, Bill Ritz, Ramoncito Casillan, Patricia Morrell, Stephanie Salomone, Mike Mueller, Youngjin Song, Teresa Higgins, Miyou Lim, Lisa Martin-Hansen, Toutoule Ntoya, Christine Ullerich, Marco Masoni, Rochelle Tawiah, Frederick Freking, Jim Kisiel and Laura Henriques.

- A hands-on workshop at NSTA Long Beach will be facilitated by Aimee Navickis-Brasch and Anne Kern titled: The Fish Weir Engineering Challenge: A culturally relevant activity.

NSTA Chicago (National) March 12-15, 2015

At the national conference, we have 10 hours of ASTE sponsored sessions as well as the ASTE/NSELA luncheon.

- ASTE/NSELA Luncheon. **Sign up for the ASTE/NSELA event when you register** for the conference in order to attend the upscale luncheon with an invited speaker presentation about a timely science education topic. The lunch is fabulous, the invited speaker has relevant and thought-provoking information to share, and we have the unique opportunity to meet science education leaders from NSELA (National Science Education Leadership Association). We make a point to recognize ASTE leadership and members who are in attendance.

- ASTE Distinguished Science Educator Panel presents Bridging Policy & Practice- Science Teacher Education for the Next Generation. At this session, we will learn from our own ASTE leaders about how NGSS is affecting teacher preparation. Expect to hear about changes and innovations taking place in teacher preparation programs across the country. Panelists include: Michael Clough, Deborah Hanuscin, Julie Luft, Joanne Olson, and John Tillotson.

- Comfort Ateh presents a workshop titled Lessons that create opportunities for students to develop proficiency in the 21st century standards.

- Judith Morrison presents STEM High School Teachers' Implementation of Science and Engineering Practices.
• Aaron Hamilton, Colleen Cooper, Brenda Capobianco, Chell Nyquist present a hands-on workshop titled It’s Alarming! Using Engineering Design to Build Students’ Understanding of Simple Circuits.
• Jamie Peterson, Jill Shambach, Brenda Capobianco, Chell Nyquist present a hands-on workshop titled Let’s hear it for sound!
• Debra Bloomquist, Amanda Gilbert, Eugenia Johnson-Whitt, Meredith Reinhart, Lacey Strickler-Eppard present a hands-on workshop titled Making Time for Science and Engineering in Early Childhood Classrooms.
• Stephen A. Bartos presents a hands-on workshop called FOSTering Deeper Learning of Science, Addressing Literacy, and Avoiding Kitastrophie!
• Ivan Marin Cussianovich & Karen E. Irving present -- Use of Electronic Simulations in 7-12 Science Teaching.
• Katie Brkich is facilitating a workshop called Experiencing Communication Barriers: Building Teacher Empathy for ELLs.
• Stephen A. Bartos and Allison Antink Meyer present Summer Camp Science and Engineering: Changing Students’ Understanding about Scientific Inquiry.
• Michael Svec presents A Pedagogy of Kindness for the Science Classroom.

**National Congress on Science Education (NCSE)**

This summer, I met with fellow Alliance of Affiliates (AoA) NSTA representatives at NCSE in Washington, D.C. Our group discussed ways in which we might strengthen ties with NSTA and collaborate in a variety of ways. First, we found that not only did many NSTA members not know what our affiliate organizations do or who we represent, but we found that there were questions even within our own AoA group. Because of this, we decided to create an interactive communication map that will, ideally, be hosted on the NSTA website under Member Resources. We will include full descriptions of each affiliate, an overview of the types of members that each affiliate typically has, as well as contact information for each representative. NSTA would eventually like to create a database that we (ASTE and NSTA) can use to identify NSTA members who are also members of the affiliate organizations. In that way, when collaborative opportunities arise (grants, PD, etc.), there is a ready-list of individuals who could be contacted (organized by state). There was additional discussion of possible joint memberships, or ways we could promote each of our associations by providing a link to the other on the membership page of our websites.
Call for Chapter Proposals
Contributed by Valarie Akerson and Gayle Buck

Two-Page Chapter Proposals Due September 31, 2014

We are seeking chapter proposals for an Association of Science Teacher Education (ASTE) sponsored monograph entitled *Allowing Our Professional Knowledge of Pre-Service Science Teacher Education to be Enhanced by Self-Study Research: Turning a Critical Eye on Our Practice*. This monograph will focus on the implications of self-studies in science teacher education for reflection and enhancement of professional knowledge, individually and collectively. Self-study in science teacher education is being defined as rigorous, critical inquiry in which we--science teacher educators--research ourselves and our practices within the academy. This line of inquiry includes research on science teacher educator identity as well as understandings of our own teaching practices. The critical component is centering the science teacher educator and/or their practices in the research process (i.e., data collection, analysis and implications). The goals of the book include to 1) foster meaningful discussions on the complexities inherent in science teacher education and how we, as a professional community, are understanding and confronting those complexities, 2) encourage the constructing and reconstructing of our identities as science teacher educators, and 3) provide understanding, encouragement and support for science teacher educators as they question, refine and advance professional knowledge. The book sections include chapters that focus on self-studies that explore science content and methods instructors/instruction, as well as chapters on the practice of preparing future science teacher educators, both in the US and internationally. The book will be structured so that scholars of science teacher education reflect upon the cumulative implications of the chapters and readers are left with questions to reflect upon in regards to their own understandings and practices in this field. The Foreword of the book, written by Dr. John Loughran, and the first two chapters, written by Dr. Allan Feldman and the Editors, will illustrate the relationship between self-study and professional knowledge of pre-service science teacher education. This relationship will be further explained and considered in the self-studies in the various sections of the book; content courses, methods courses, and doctoral education. The last section will explore the lessons learned from the entire set of self-studies and its implications for our professional knowledge of pre-service science teacher education.

The respondents to the various sections of the book include:
Dr. Lucy Avraamidou, University of Nicosia, Nicosia Cyprus
Dr. G. Michael Bowen, Mt. St. Vincent University
Dr. Justin Dillon, King's College London
The respondents to the full book include:
Dr. Judith Lederman, Editor of Journal of Science Teacher Education
Dr. Norman Lederman, Editor of Journal of Science Teacher Education
Dr. Joanne Olson, ASTE President

We envision the book will document individual science teacher educators’ experiences with self-study research, and collectively story the development and impacts on our theoretical notions and practices. To that end, we are inviting chapter proposals describing teacher educators’ self-studies in pre-service science teacher education. These chapters will reveal multiple ways science teacher educators are engaging reflexively, considering and reconsidering beliefs about the nature of science learners, pre-service teachers, and teaching, manifesting philosophies of education to be lived out in practice.

SUBMISSIONS: Proposed chapter overviews should be 2 pages in length, single-spaced, APA version 6 format, written in a narrative style. The proposal should include a statement of objectives, theoretical framework, methodology, and key findings with regard to science teacher education. The proposal must clearly illustrate how the science teacher educator and/or their practices are placed within the self-study research process. The teacher educator and/or their practical understandings must be evident in the data collection, analysis and implications. Chapter overviews are due Tuesday, September 30, 2014. If your proposal is accepted, authors will be notified by October 15, 2014. Completed chapters will need to be submitted by February 28, 2015. Proposals will undergo a peer review process and acceptance will be limited to those identified as best suited to the monograph’s overarching theme. Authors will be asked to review two chapters in addition to writing their own chapter.

Please include a cover page including:

(1) Proposed title of the chapter,

(2) Author(s) information – full name(s), title(s), institution, postal address, e-mail address, and telephone

Send both the cover page and proposal electronically to the Editors, Gayle Buck and Valarie Akerson, at gabuck@indiana.edu and vakerson@indiana.edu.
Science Teacher Educators as K-12 Teachers
Practicing what we teach
Series: ASTE Series in Science Education
Dias, Michael; Eick, Charles J.; Brantley-Dias, Laurie (Eds.)
2014, 322 p. 63 illus.

Science teacher educators prepare and provide professional development for teachers at all grade levels. They seek to improve conditions in classroom teaching and learning, professional development, and teacher recruitment and retention.

*Science Teacher Educators as K-12 Teachers: Practicing What We Teach* tells the story of sixteen teacher educators who stepped away from their traditional role and entered the classroom to teach children and adolescents in public schools and informal settings. It details the practical and theoretical insights that these members of the Association of Science Teacher Educators (ASTE) earned from experiences ranging from periodic guest teaching to full-time engagement in the teaching role. *Science Teacher Educators as K-12 Teachers* shows science teacher educators as professionals engaged in reflective analysis of their beliefs about and experiences with teaching children or adolescents’ science. With their ideas about instruction and learning challenged, these educators became more aware of the circumstances today’s teachers face. Their honest accounts reveal that through teaching children and adolescents, teacher educators can also renew themselves and expand their identities as well as their understanding of themselves in the profession and in relation to others.

*Science Teacher Educators as K-12 Teachers* will appeal to all those with an interest in science education, from teacher educators to science teachers, as well as teacher educators in other disciplines. Its narratives and insights may even inspire more teacher educators to envision new opportunities to serve teachers, K-12 learners and the local community through a variety of teaching arrangements in public schools and informal education settings.

The book can be ordered from the ASTE website for a special ASTE member price of USD 30.
Call for Editorial Board Members
Contributed by Valarie Akerson and Gillian Roehrig

This is a formal call to members of the Association of Science Teacher Educators (ASTE) who would like to serve on the Editorial Review Board for the Journal of Science Teacher Education (JSTE). We are seeking both U.S. and International applicants.

JSTE is the flagship journal of the Association for Science Teacher Education. It serves as a forum for disseminating high quality research and theoretical position papers concerning the preparation and inservice education of teachers of science. The journal publishes eight issues per year, featuring pragmatic articles that offer empirically based ways to improve conditions in classroom teaching and learning, professional development, and teacher recruitment and retention at all grade levels.

Again, we are seeking International applicants as well as U.S. applicants.

Qualifications:

· Competence in research and/or methodology within some aspect of science teacher education.

· Ability to judge the quality of a manuscript within an area of science teacher education.

· Ability to identify particular strengths and weaknesses of a manuscript and, in a professional manner, to offer suggestions for revising manuscripts.

· Established record of publication in peer-reviewed science education and/or related journals.

Duties and Responsibilities:

· Read and evaluate approximately six manuscripts per year.

· Provide written reports on manuscripts reviewed using the criteria and evaluation form provided by the Editor(s).

· Review manuscripts within four weeks of receipt.

To apply, please electronically submit the following materials to Norman and Judith Lederman at ledermann@iit.edu by November 1, 2014:

1. A letter of interest that includes a list of at least four areas of expertise in science teacher education in which you would be comfortable reviewing manuscripts.

2. A two-page vita that emphasizes publications in refereed journals and includes any previous reviewing or editing experience.
CITE Reviewers and Submissions Needed
Contributed by Theresa Cullen

I am so excited to tell you that CITE Journal Science Education Section is publishing new articles. Look for upcoming articles about iPad use, the next generation science standards, and serious games! And maybe your manuscript at the journal website: http://www.citejournal.org

The CITE Journal – Contemporary Issues in Technology and Teacher Education is one of the oldest Open Source journals and is a collaboration of the leading education organizations in the country. The CITE Science Education Section is a collaboration between ASTE and the Society for information Technology and Teacher Education. We accept manuscripts on science education and technology combined

We Need Reviewers!!! I need reviewers, we have great reviewers, but we need more! I am especially in need of reviewers with interest in elementary and middle school science education applications and earth science or geological interests. I have some great manuscripts submitted that need your input! Reviewers need to be members of ASTE but this includes graduate students and I try to assign at least one graduate student to each manuscript. If you are interested in reviewing, please email Theresa Cullen, CITE Science Education Section Editor at tacullen@ou.edu and I will walk you through the steps of signing up!

Manuscript Information
Manuscripts should directly address technology within science teacher education. Papers may focus on science teachers at any career stage including preservice, new, continuing, or teacher leaders and any grade level including college science science teachers. Manuscripts that examine how technologies can improve programs, courses, or professional development as well as collaboration and partnerships are welcome. Papers that describe innovative approaches to technology enhanced science teacher education are specifically encouraged.

Submission Guidelines
1. Go to http://www.citejournal.org
2. Click on Submissions
3. Login with your AACE login information or create a new login.
4. Select ‘submit article’. Be sure to select CITE (science), as the journal.
Newsletter Information

Published four times a year by the Association for Science Teacher Education.

Issue Items due by

Summer Aug. 15
Fall Oct. 15
Winter Feb. 15
Spring May 15

All members are invited to submit items.

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