President's Message
Contributed by Lisa Martin-Hansen

Dear ASTE Colleagues,

It was a pleasure seeing many of you in Portland at the 2015 Association for Science Teacher Education Conference. Thank you to our fabulous conference planning committee and to Northwest ASTE for the wonderful venue and organization of conference sessions. As usual, we have a lot of critical issues being raised in our conference sessions. It is invigorating to hear discussion of the work our membership is doing in the innovations, practices, and research in science education. Thank you to all who presented professional development workshop sessions, innovative practices, and research sessions as well as those who participated in those sessions. I am eager for us to continue to reach out to all types of science educators who can benefit from this collaborative work and discussion.
At the Town Hall meeting at ASTE, we spent time sifting through data provided by our participants regarding the strengths of ASTE and areas of improvement. That information was compiled and action is already being taken by the ASTE Board. First, we find that ASTE has many strengths -- especially the general welcoming attitudes of membership and the quality of mentoring provided. We also embrace all who educate science teachers – including those who primarily teach courses, others who teach and conduct research, those who work in informal science education institutions and those who are teacher leaders. In areas to improve, we find that we have several different types of conference committees. We are calling those committees together to see if there is a better, more efficient structure for accomplishing the work of those committees to eliminate overlapping duties and to create better communication channels. Also, we are looking to revitalize and consider the role of the Policy and Government Relations Forum. This seems to be the right time to focus on policy and government issues that are affecting science education. We are also working to reinvigorate our regions with attention being paid to the international group.

If you have not yet done so, please forward our messages to colleagues who may not yet be involved in ASTE. We are working to provide spaces for both researchers and practitioners (and those who do both!) to benefit fully from the experiences and opportunities provided by our association – those who teach science educators. If there are smaller colleges and/or universities, Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), education departments with teacher leaders, or institutions that employ informal science educators who may not currently be involved in ASTE, please reach out to them with the call to present and/or simply sharing news about professional development opportunities with ASTE. Please consider three or more individuals you might forward ASTE information to on a regular basis.

Another event occurring at the beginning of this calendar year took place when teacher educators were alerted to proposed U.S. legislation regarding assessment of teacher education programs through the tracking of children’s test scores, relating back to their teachers, then tracing back to teacher education programs. Some educators read the legislation and created individual responses. Others responded as part of a group. The ASTE leadership, with guidance from Joanne Olson (past-president, ASTE) created a formal response to the legislation that you will find reprinted below. This formal statement was approved by the ASTE board and submitted on January 30, 2015. The ASTE leadership initially planned to receive input regarding the proposed letter from our Policy and Government Relations forum, the timeline was short after creating multiple drafts to be shared quickly with the ASTE board for approval (a 24 hour turnaround) and sent on its way. We would prefer to act proactively rather than reactively. However, in this case, this proposed legislation required a quick reaction.
January 30, 2015

Docket ID ED-2014-OPE-0057

The Honorable Arne Duncan
Secretary, U.S. Department of Education 400 Maryland Ave, SW
Washington, DC 20202

Dear Secretary Duncan:

We write this letter on behalf of the Association for Science Teacher Education (ASTE) in response to the U.S. Department of Education’s proposed regulations for teacher preparation programs released in the Federal Register on December 3, 2014. ASTE is an organization with more than 700 members who are directly involved in the preparation of science teachers, and who conduct research on science teacher education. We are committed to rigorous, research-based teacher preparation programs that serve the needs of the nation’s children, families, and the greater public good. Because of this commitment, we strongly oppose the proposed regulations due to four fundamental flaws: problems with validity/reliability, dangerously simplistic assumptions of teaching and educational outcomes, gross underestimation of cost and implementation burden, and disproportionate harm to those who serve poor and marginalized populations.

- No evidence exists to support the assumption that children’s performance on subject-matter tests is a valid or reliable measure of the performance of a teacher education program. Recent attempts to evaluate teacher performance based on children's test performance, even with “value-added” factors included, has been shown to be highly problematic to the point that it is considered “scientifically discredited” (Kumashiro, 2014). This is because the relationship between the quality of the teacher and the performance of children on a test is confounded by many other variables (National Academy of Education, 2013). A teacher education program is even further removed from the children’s classroom, making claims about a teacher education program from test scores lacking in validity. Teacher preparation programs have no control over the following: where graduates choose to teach, the working conditions in those schools, the powerful socialization that occurs to teachers through mentoring programs that push teachers toward low-level testing, the socioeconomic status of the community of the school, whether the teacher is forced to teach out of field or in an area outside of the primary endorsement, the number of students in the class, the home environment of the children in those schools, the physical and mental health of those students, their readiness to learn, access to professional development in the teacher’s content area, the presence of knowledgeable colleagues, the quality of the administrator, quality of professional development, quality of curriculum materials, etc. The proposed legislation assumes a one-to-one relationship of causality between the teacher preparation program and children’s test scores. This assumption is completely flawed.
• The legislation relies upon dangerously simplistic assumptions of teaching and educational outcomes. To create an educated public, schools teach toward a number of goals that are difficult to quantify, but are fundamentally important to a functional democracy: critical thinking, social skills, creativity, problem solving, effective communication and use of resources, valuing self/others/the environment, healthy decision-making, in addition to fundamental concepts in a variety of subject matter disciplines. How well do test items measure valued educational outcomes? This system reduces schooling and teacher preparation to those practices that will boost test scores rather than promote more noble ends of education. This dehumanizes the educational process.

• Even if the proposed system were valid and reliable and reflected meaningful goals of education, the implementation is enormously costly, burdensome, and raises practical and ethical questions. Large systems would have to be put in place to track all teachers and their children’s test scores, linking both to teacher education programs, raising issues of student privacy and data management security issues. Who pays for this and where are such data gathered and stored? What rights do children, parents, and families have over children’s test scores and their dissemination? Where are the valid and reliable tests for every subject area and every grade level? How many years into a teaching career are claims on the teacher education program to be made? For example, if a teacher has been in the profession for one year, or twenty years, to what extent are children’s test scores correlated to the quality of the teacher education program? Clearly, teacher education has some impact on teachers. And clearly, teachers have some impact on children. However, the percentage of variance in test scores that is caused by the teacher, and then caused by the teacher education program is still unknown, and this number would be expected to change over time, as working conditions, school expectations and constraints, professional development, and other factors increase their influence on a teacher the longer he/she is in the profession. The proposed legislation assumes these factors do not exist, yet their actual influence may be very high.

• The proposed legislation will have a negative impact on programs whose graduates are committed to teaching children in poverty. Over half of America’s school children now live in poverty, and we know that poverty has profound effects on students’ achievement. The negative consequences associated with the proposed legislation could easily cause teacher education programs to dissuade their graduates from teaching in high-need schools. This goes against the very commitment of the Department of Education to recruit and support STEM teachers in high-needs schools.

ASTE is the largest professional association in the United States that is dedicated to the preparation and development of pK-12 science teachers. For the above reasons, we cannot support the proposed legislation. We, like the Association for
Mathematics Teacher Education, are concerned that these regulations would neither serve teacher education candidates in their selection of a teacher education program, nor would they serve teacher education programs in having valid and reliable data that could be used for program improvement. Like AMTE, we also stand with the American Association of Colleges of Teacher Education and our other teacher education partners in questioning the wisdom of the proposed federal regulations. We encourage you to revisit these proposed changes, and when doing so, to utilize the expertise of professionals in the field of teacher preparation. In addition, we encourage you to reject the “test and punish” systems of “accountability” that have been shown to be highly problematic in design and implementation. We are deeply committed to ensuring that every child has well-prepared teachers. If we can be of assistance to you in your efforts to revise the regulations, we are prepared to work with you to meet our shared goal of strong teacher preparation programs.

Sincerely yours, and on behalf of the ASTE Executive Board and members,

Dr. Lisa Martin-Hansen, President
Dr. Joanne Olson, Past President
Dr. Malcolm B. Butler, President-Elect

Association for Science Teacher Education (ASTE)

We know we cannot rely on third-source information to assess our teacher preparation programs. However, this also means that we must willingly critique ourselves (as stated by Joanne Olson during her presidential speech at ASTE, 2015). We must be ready to stand up and to demand what we know is necessary – meaningful pedagogical instruction for reaching all children in rigorous and culturally relevant science content courses.

I wish you well as you continue to work for excellence in science teaching. Here’s to our continued struggle to improve science learning for all children.

Lisa Martin-Hansen

ASTE President and ASTE liaison to the National Science Teachers Association
An Interview with Joanne Olson
Contributed by Ron Hermann

This is the first of a series of interviews with ASTE leaders and members designed to provide greater insight into the association. We hope this section provides a better understanding of the roles and responsibilities of ASTE leaders and motivation for ASTE members to become increasingly more involved in the association. At the 2015 ASTE International Conference in Portland, Oregon I had a chance to meet up with outgoing president Joanne Olson.

Ron Hermann – Thank you for your service to ASTE. Serving as ASTE President is a major commitment. One question that Rommel and I sometimes get in regards to editing the newsletter is how much time we devote to the newsletter. I imagine you may receive similar questions. Can you speak a little bit about the time commitment and how you manage your responsibilities at Iowa State University while serving as president?

Joanne Olson – The ASTE presidency is a lot of work, and yet I need to emphasize how important our leadership and committee structure is to the successful operation of the organization. While the president is the visible face of the organization, our executive director, director of electronic services, journal editors, newsletter editors, conference planning teams, committee chairs, president-elect, and past president are hard at work throughout the year to ensure that the many parts of ASTE are running smoothly. All of us who consider ASTE our professional home are deeply indebted to the many ASTE members who give of their time to make ASTE the wonderful organization that it is. The workload of the ASTE president ebbs and flows depending on the issues at hand, and I was very fortunate last year that, for the most part, the hectic ASTE tasks occurred at times that were compatible with my university responsibilities. That wasn’t always the case, but people around me have been very understanding!

Ron Hermann – Prior to your tenure as president, you have served on several ASTE committees, a year as ASTE President Elect and you are now finishing up a year-long commitment serving as President. In what ways has your view of the organization changed as a result of your presidency? Are there any aspects of the association that you view through a different lens as a result of your presidency?
Joanne Olson – Serving as the president has provided new insight into our financial operations and obligations, contracts, relationship with other associations and our influence on policy, and it has also helped me gain a greater perspective of other ASTE members’ views of the association. I’m on the receiving end of a lot of e-mails from those who want to sell their products and services. That deluge aside, I also receive member concerns and requests, and hearing what my colleagues want and need from ASTE has been very insightful and is shaping where we are heading in the future.

RH – Science teachers are experiencing a lot of change at the moment. These changes range from new standards and student assessments to new measures to evaluate their effectiveness at teaching science. What role can ASTE play in preparing pre-service and in-service science teachers to address these changes?

JO – Change is indeed facing our field at a rapid rate. In addition to preparing pre-service and in-service teachers to address these issues, those of us who work in the U.S. are also facing legislative attempts to regulate teacher education programs based on the performance of the children of teacher education program graduates on standardized tests. These efforts are ludicrous given the myriad factors that influence both teachers’ effectiveness and children’s test scores, and we must be proactive in sharing our expertise with those who make these decisions. ASTE has an important role, particularly in recruiting our colleagues who are not yet involved with ASTE to join the conversation. We need to reach out to smaller colleges and programs, state and local curriculum coordinators, and others who are involved in science teacher preparation. We need to work both individually and collectively to speak out about misguided policies, and ensure we are preparing teachers exceptionally well. Our voices about the importance of science teacher education will be taken far more seriously if our programs exemplify what we know about strong science teacher education programs, and if our research is focusing on questions that address what policymakers need to know.

RH – What are some of the challenges that ASTE faces in the near future and how can ASTE members help address those challenges?

JO – ASTE membership has not fully recovered after the decline in 2008. This is unusual given the increasing number of jobs in science education and the strong presence of graduate students at ASTE meetings. I think one of the central challenges facing ASTE is to ensure that we meet the needs of those we are intended to serve. This includes reaching out to those who should be involved with ASTE but are not—our colleagues at teaching-extensive institutions, curriculum directors and other in-service teacher education providers, and those involved in science teacher education who may have expertise in areas other than science. And we cannot stop with recruitment. I think we need to ensure that ASTE has something to offer them when they come. For me, that includes a balance between sharing research and sharing what we are doing in
methods courses, science content courses for prospective teachers, and inservice professional
development. We need to value professional development for the teacher educator as much as
we value the dissemination of our research. That sets us apart from other professional
associations and is what makes ASTE such a special and welcoming organization.

RH – Can you describe the role of the ASTE President? What aspects of the ASTE President’s role
are likely unknown to a lot of ASTE members?

JO – The role of the ASTE President is multifaceted. In my term of service, I represented ASTE at
several meetings where the heads of our sister associations (such as AMTE) attend. I’m working
with NSELA and AACTE to pursue policy issues and consider affiliate relationships between our
groups. The president runs the summer and winter board meetings, and manages business that
needs to occur between the meetings. I worked closely with Bob Hollon, our executive director, on
issues of budgets, contracts, and logistics issues. I fielded a lot of questions from committee
chairs, and I worked on other issues that arise throughout the year. We have several contracts,
and these require a lot of time on the part of our committees and leadership. I also have the
pleasure of seeing the work of our exhibitors, sponsors, forums, committees, and conference
planning teams, and working with them as needed.

Aspects of this position that are likely unknown to ASTE members is just how detailed our budget
and contracts are. For ASTE to run a conference, a journal, and our website (and
renewal/registration system) requires a lot of knowledge, attention to detail, strong negotiation
skills, and collaborative efforts. Until I assumed the president’s role, I was unaware just how
pivotal the role of the executive director and the director of electronic services are. I work closely
with Bob and John, and their work is phenomenal. We also owe many thanks to our members who
previously served in this role and ensured that ASTE is run efficiently and that we are careful
stewards of ASTE resources so that we can do the work that we need to do.

RH – Over the course of the last year or two, what have been the greatest areas of success for the
association?

JO – I’m very encouraged by the work of an ad hoc committee that was charged with exploring
the creation of a practitioner journal. As a member once said to me, “There is no NSTA for teacher
educators.” Science teacher educators need a place to share their work in science teacher
preparation so that we can learn from one another and advance our practice. I think our
movement in this direction is very positive and will meet an unfilled need. Another area of
success is the creation of a new forum on Small Colleges and Programs, an effort led by Daniel
Meyer. This forum is a wonderful opportunity for those working in such settings to meet together
and address needs unique to this group. Finally, we’ve created a new committee that is
responsible for the creation of the conference program. This should reduce the need to “reinvent
the wheel” every year and should reduce inadvertent mistakes from repeating themselves, and
should alleviate the workload from local conference planning teams. I hope this frees up the local teams enough that they can have time to recruit local exhibitors and attendees, and I hope this encourages regions to put forward proposals to host an ASTE conference.

**RH** – As ASTE President you have had the opportunity to speak with a lot of members. Are there any concerns, suggestions or recommendations from members that you repeatedly hear and how can they be addressed?

**JO** – We need to be more transparent about how to get involved with ASTE. We need to be more deliberate in our recruitment of our colleagues who aren’t involved. We need to continue to work on ways that we can impact policy issues.

**RH** – Thank you again for taking the time talk about your presidency and for all your service to ASTE.

**JO** – Thank you! I appreciate the trust that the membership has placed in me to do this job, and all of the support that I’ve had from fellow ASTE members has been invaluable. This truly is a volunteer organization made up of many people who give so generously of their time. It has been a pleasure to work with all of you.

### 2015 ASTE International Conference Notes

Contributed by Tisha Morrell, Kevin Carr, and Judy Morrison (2015 ASTE Conference Team)

The 2015 ASTE International Conference was hosted by the Northwest Region of ASTE in Portland, Oregon. We all did our best to help “Keep Portland Weird!” The Environmental Education Forum Field Trip was well attended and even had sun during their trip to the Coast (that was definitely WEIRD for Portland in January!). Many feet were involved in The Science Teacher Shuffle and, of course, the conference offerings were well-attended. The keynotes ran the gamut from the importance of fostering creativity to the neurophysiology of the adolescent brain. The workshops and member presentations were of high quality and varied in nature, which often made for hard choices of which session to attend! And the inauguration of having an interactive program app was well received (and we’re working on making it even better).

Special thanks to all who attended, presented, reviewed proposals, presided at sessions, served as strand coordinators, mentored new members, manned the registration desk, solicited exhibitors and sponsors, and took care of the technology! The conference was well attended with 535 attendees! Let’s keep that momentum going as we head into the 2016 conference in Reno!!
ASTE 2015 International Conference Photo Collage

Photos contributed by Ron Hermann, Sherri Brown, Stephen Burgin and Valarie Akerson
2015 ASTE Awards
Contributed by Nate Carnes

2015 Award I Level II, Outstanding Science Teacher Educator

Award – Dr. Gail Jones, nominated by Dr. Kathy Cabe Trundle

Award I Level II, the Outstanding Science Teacher Educator of the Year Award, recognizes the individual achievements and contributions of an ASTE member, spanning more than ten years in his/her career service.

Gail Jones is a professor of science education in the Department of Mathematics, Science, and Technology at North Carolina State University. Among her many accomplishments, she has earned high course evaluations (frequently at or above 4.8 on a 5.0 scale). The following comment on a course evaluation reflects how her teacher candidates feel about her:

“Gail is wonderful! She cares so much for each and every one of her students. I have come across few instructors that will literally bend over backwards to see their students succeed- but she is one of those professors. I love how in just one short semester, she provided us with ample opportunity to get up and teach. This is her passion and it shows. I hope to have a course with her again someday. “

On a grander scale, Dr. Jones has served the science education profession through a variety of leadership and service roles at multiple levels within NSTA, NCSLA, ASTE, NARST, and NSF organizations.

In honor of this recognition, Dr. Jones received an inscribed plaque and $500 from Carolina Biological Supply.
Award II, the *Outstanding Mentor Award*, recognizes outstanding accomplishments in contributing to the professional development of pre-service and in-service science teachers and teacher educators.

Pat Obenauf was a professor of curriculum and instruction with an emphasis in science education at West Virginia University who recently retired this past year. She has chaired 77 doctoral committees over a time period of approximately 40 years! This feat does not include the scores of teacher candidates and classroom teachers that she touched in the many teacher preparation and professional activities that she has led.

The nominator included the following statements that resonated throughout the several letters of support included in the nomination package:

“As my advisor, Pat helped me put a program of study together. Also, she helped me navigate the logistics of graduate school being a part-time student. In addition, Pat in a quiet and unassuming way, provided support for me as I progressed through my program.”

“Over the years, my relationship with Pat evolved from advisor to mentor to colleague to cherished friend. Pat has, without a doubt been one of the most significant influences in my life. I have learned much from her and would not be the person or science educator that I am today without her mentoring.”

In honor of this recognition, Dr. Obenauf received an inscribed plaque and $500 from Carolina Biological Supply.
2015 Award III, Outstanding Longtime Service to ASTE

Award – Dr. Jon Pedersen, nominated by Dr. Herb Brunkhorst

Award III, the Outstanding Longtime Service to ASTE award, recognizes outstanding service by a senior member of ASTE. For the purpose of this award, service is defined as work accomplished over 15 consecutive or nonconsecutive years by a committed ASTE member in an effort to address issues, goals, and actions that have intellectual merit and broader impact on science teacher education, while simultaneously serving the needs of ASTE members.

Jon Pedersen is a professor and Associate Dean for Research in the College of Education and Human Science and Director of Science Education for the Center for Mathematics, Science and Computer Education at the University of Nebraska-Lincoln. Over the course of his 24-year professional career, Dr. Pedersen has served in multiple capacities within ASTE. He has volunteered and served on the Editorial Review Board for JSTE, various committees including chairing several committees, as well as serving as President of ASTE, Executive Secretary, and as a Board Member. He is the author of over one hundred publications most of which focus on science teaching and/or the incorporation of social issues into the extant curriculum and has also published thirteen books, including two teacher manuals. Dr. Pedersen has been primary investigator and co-primary investigator of numerous grants and supported projects on science curricula development, science in-service education, middle level education and international education and has also worked in more than a dozen different countries around the world.

In honor of this recognition, his ASTE dues are waived. All rights and privileges of an active member shall be maintained. Additionally, he receives a free electronic copy of JSTE/JESE, an inscribed plaque, and a tribute to him will be printed in the awards issue of the Journal of Science Teacher Education.
2015 Award IV, Innovation in Teaching Science Teachers

Award IV: Innovation in Teaching Science Teachers recognizes the best paper submitted for nomination and presented at the ASTE 2014 conference that seeks to encourage the development and dissemination of new designs for courses and curricula, new instructional methods or approaches, and other types of innovations in the pre- or in-service education of teachers of science.

The authors of the best paper presented at the 2014 ASTE conference are Joshua Ellis, Tasneem Anwar, Justin McFadden and Gillian Roehrig at the University of Minnesota. Congratulations!

The title of their award winning paper is: If You Can’t Say Something Nice: A Design-Based Research Approach Investigating the Social Interactions of New Science and Math Teachers Using a Video Annotation Tool

Awardees (l to r): Tasneem Anwar, Gillian Roehrig, and Joshua Ellis (Justin McFadden not pictured) with Michael Clough.
Joshua Ellis is a Ph.D. student and graduate research assistant in the University of Minnesota STEM Education Center. His research addresses the use of technological affordances to support teacher candidates and beginning teachers.

Tasneem Anwar is a Ph.D. student and graduate research assistant in the University of Minnesota STEM Education Center. Her research addresses science teacher support through coaching in online environments.

Justin McFadden is a Ph.D. student and graduate research assistant in the University of Minnesota STEM Education Center. His research addresses teacher professional development, STEM integrated curriculum development, and technology integration in K-12 schools.

Gillian Roehrig is a professor of science education and Associate Director of the University of Minnesota STEM Education Center. Her research regarding the support of beginning secondary science teachers is highly regarded, and her work currently focuses on how teachers translate STEM standards into classrooms.

Carolina Biological Supply has made possible a cash award of $500 to be divided between the co-authors.
Award V: Implications of Research for Educational Practice recognizes the best 2014 ASTE conference paper presentation that seeks to identify a persistent and recurring problem in the practice of science teacher education. The paper should develop strategies to resolve the problem based upon a comprehensive synthesis of relevant research and interpret theory and research for practice.

The authors of the best paper presented at the 2014 ASTE conference are Sami Kahn and Dana Zeidler at the University of South Florida.

The title of their award winning paper is: Using our Heads and HARTSS (Humanities, ARTs, and Social Sciences): Developing Perspective-Taking Skills for Socioscientific Reasoning

Sami Kahn is Presidential Doctoral Fellow in Science Education at the University of South Florida. She is a 28-year veteran science educator with extensive experience in teacher education, classroom teaching, and curriculum development.

Dana Zeidler is a Professor and Program Coordinator of Science Education at the University of South Florida. His research regarding socioscientific instruction as a means to facilitate scientific literacy is highly regarded. Dana has previously served on the ASTE Board and has received ASTE's Outstanding Mentor Award. He has also served as NARST President and is the incoming co-editor of the Journal of Research in Science Teaching.

Carolina Biological Supply has made possible a cash award of $500 to be divided between the co-authors.
The National Technology Leadership Initiative (NTLI) Fellowship was established to recognize *an exemplary presentation on technology* at the annual conferences of each of these organizations. The purpose of the NTLI Fellowship is to encourage further dialog among professional associations regarding *appropriate technology use in teacher education*. Each year NTLI Fellows from ASTE are invited to present at the Society for Information Technology and Teacher Education (SITE) conference where they receive an award plaque, complementary conference registration, and funds up to $1000 provided by Vernier Software and Technology to help defray travel expenses.

The NTLI Fellowship for 2015 was awarded to: Mark Guy, Richard Hechter, and Steven Ternes for their presentation: Pre-service elementary teachers creating science concept movies as context for communicating evidence-based explanations aligned with the *Next Generation Science Standards*.

Pictured are Mark Guy and Richard Hecter receiving the NTLI Fellowship from David Slykhuis, President of SITE.
Special Awards Committee Announcement
Contributed by Nate Carnes, Outgoing Chair & Michael Clough, Chair

The Awards Committee solicits nominations from any ASTE member for awards I, II, and III, and for papers presented at the 2015 conference for awards IV and V. On our ASTE Web site, there is a link to Awards where nominators can find their descriptions.

The deadline for ASTE Awards IV and V is March 1st, 2015.
The deadline for ASTE Awards I, II, and III is June 1st, 2015.

ASTE members may be nominated.

Please consider a deserving ASTE member to nominate for any of the awards. Also be thinking of papers presented at this meeting to nominate for Awards IV and V. You may nominate yourself for paper awards IV and V.

Departing ASTE Board Members

Outgoing ASTE board members were recognized for their service to ASTE at the 2015 Conference. Pictured (with Joanne Olson left to right) are outgoing Past-President Kathy Cabe Trundle, Senior Regional Representative Michael Dias, and Board Member at Large Nate Carnes. Not pictured are outgoing Board Member at Large Valarie Akerson, as well as Deborah Hanuscin and Julie Westerlund who completed their service on the elections committee.
ASTE 2015 Environmental Education Forum Field Trip: Science and Cultural Intersections of the Oregon Coast

Contributed by Al Bodzin
Photographs contributed by Al Bodzin

The ASTE Environmental Education Forum sponsored a pre-conference field trip workshop at the ASTE 2015 International Meeting in Portland, Oregon. Our group traveled to the Oregon coast and explored the science and cultural development of the Pacific Northwest and learned a great deal about ecology, resource usage, coastal hazards, and cultural maritime events relevant to the Columbia River System and the waters of the North Pacific. On our way to the coast, Dr. Bob Butler provided us with a great orientation to the area’s geology and discussed coastal issues. We had a guided tour of the Columbia River Maritime Museum in Astoria and learned about the museum’s science education and outreach activities for teachers and students. During lunch, Dr. Butler provided us with an excellent presentation about the tectonics and hazards of the Cascadia Range. We then traveled to Ft. Clatsop, the Lewis and Clark National Historical Park site, where we toured the fort area and learned about the National Park Service’s new science education and outreach activities for teachers and students from the site’s educational specialist. Our last stop was at Seaside, where we participated in a tsunami evacuation route activity before returning to Portland.
The Portland Art Museum hosted a special tour and activity entitled, “Drawing Is Seeing”, where ASTE members took a tour of the museum’s collection of more than 42,000 objects, displayed in 112,000 square feet of galleries. We were given a sketch pad and pencil as Docent Barbara Masterson shared history of many pieces of art, and we used easy sketching techniques such as gesture, contour, shapes, and perspective to draw what we see. We also discussed the science in the artwork by focusing on our observation and exploration skills while learning personal facts and artistic style of various artists, such as Renoir, Pissaro, and the work of local artists. We enjoyed the art and STEM connections throughout the museum tour. ASTE Members: Felicia Moore Mensah, Art Corvo, Philip Boda, Danielle Ross, and Elaine Lucas-Evans with Docent Barbara in front of contemporary art piece.
On December 4-5, 2014 in Long Beach, California the Far West Region had its annual meeting in combination with the ASTE Northwest Region at the National Science Teachers Association NSTA Western Regional Meeting. With nearly 27 people from approximately nine western states including Hawaii and Alaska, we had three ASTE formal sessions including one hands-on workshop and a poster session with 20 posters.

Professor Lisa Martin-Hansen, secondary science education faculty and chair of the Science Education Department at California State University Long Beach (and current President for the Association for Science Teacher Education) organized the sessions in coordination with Professor David Crowther, secondary science education faculty at the University of Nevada Reno and Professor Mike Mueller, secondary science education faculty at the University of Alaska Anchorage. University students at all three institutions helped to review formal session and poster session proposals and design forum materials.

The City of Long Beach, California welcomed guests to a balmy urban beach climate with average daytime temperatures in the 70s at the Long Beach Convention Center. Withstanding rainy weather, some of the FW-ASTE and NW-ASTE participants even abandoned professional conference garb for t-shirts, shorts, and beachcomber sandals.
Woven within the strands of NSTA Western Regional sessions were three formal sessions, a hands-on session, and poster session celebrating the diversity of contexts in which science education is cultivated. One formal session featured University of Idaho secondary science education professors Aimee Navickis-Brasch and Anne Kern on designing local fish weir through engineering and culturally relevant Indigenous activity. Session guests tried their hand at The Fish Weir Engineering Challenge, which included arranging multifarious popsicle sticks, pipe-cleaners, and other doodads to withstand the forces of a stream table loaded with sets of brightly colored fishing-lure sized plastic fish. Another hands-on session emphasizing STEM involved racing Mattel’s Hot Wheels® cars down a set of tracks to investigate and calculate the physics of speedometry! The day ended with more than 20 poster presentations visited by FW-ASTE and NW-ASTE members, but also more than 30 science teachers and regional graduate students.

Conference participants enjoyed a dinner at Gladstone’s Restaurant in Long Beach overseeing the tranquil waters of the sunset-lit bay and emerging lights of the Queen Mary ship.

The Far West Region is planning on having another ASTE strand at the NSTA Regional meeting to be held in Reno, Nevada in October of 2015. This will again be a partnership with the ASTE North West regional group and NSTA Western Region.
Mid-Atlantic - ASTE Meeting News
Contributed by Rommel Miranda, Regional Director
Photos contributed by Sherri Brown and Ron Hermann

During the International ASTE conference, 45 Mid-Atlantic ASTE regional members met and discussed regional news, the past MA-ASTE conference and the upcoming regional conference. Special thanks go out to Jenn Maeng (Secretary) for taking Minutes and to Rachel Wilson (Treasurer) for providing our Treasurer Report at our Regional Meeting in Portland!

We awarded our first Legacy Award to Pat Obenauf (West Virginia University). She is often described by her peers as being a professor who has had a profound and professional influence on her graduate students.

We also awarded our second Graduate Student Presentation Award, which was a peer-reviewed, merit-based honor intended to recognize outstanding contributions to research, as well as delivery of these contributions. The winner, Jenay Sharp Leach (University of Virginia), presented “Teacher Conceptualizations and Practices of Discourse in Linguistically Diverse Elementary Science Classrooms.” As a recipient of this award, she received a certificate and $750 to travel and present her research at the 2015 International ASTE conference in Portland, Oregon.

Please mark your calendars to attend the 2015 MA-ASTE Regional Conference next October 22-24 at Salt Fork Resort and Conference Center in Lore City, Ohio. Please click on the following link to find out how you can make your reservation TODAY for a lodge room: http://ma.theaste.org/meetings/2015-mid-atlantic-aste-regional-conference/ Special thanks go out to our 2015 regional conference planning team: Karen Irving (Ohio State University), Lin Ding (Ohio State University), Mary Lightbody (Ohio State University), Kathy Malone (Ohio State University), and Christopher Atchison (University of Cincinnati)!

Also, please click on the following link to join our MA-ASTE Facebook group page: https://www.facebook.com/groups/1400991133530421/ This Facebook group page was created for the exchange of ideas and promotion of high-quality science teacher education, both pre-service and in-service. Special thanks go out to Eric Pyle and Christopher Atchison for volunteering to set-up and moderate our Facebook group page!

Lastly, if you are a graduate student planning to attend the 2015 MA-ASTE conference, please click on the following link for information regarding the 3rd annual MA-ASTE Graduate Student Presentation Award at http://ma.theaste.org/mid-atlantic-aste-graduate-student-research-presentation-award/
Our annual NC-ASTE was held in October 2014 in Eau Claire, Wisconsin. Participants engaged in generative conversations through sharing research and teaching approaches from our science education programs.

We are pleased to announce Patricia Simmons from St. Cloud State University as the second winner of the NC-ASTE Legacy Award. Patricia is a founding member of NCASTE and a longtime member of both NC-ASTE and ASTE. She was a key contributor on numerous science education initiatives, particularly the development of goals and standards for the preparation of K-12 science and math teachers, examining the problem of early teacher attrition, and mentorship of young women science educators in ASTE. She has served on the regional and national level. We wish her well in her retirement and hope to still see her at future NC-ASTE and ASTE meetings.

We also initiated a student research award and our first awardee was Joshua Ellis from the University of Minnesota. Joshua’s award was based on his development and research within the Teacher Induction Network, an online induction program for secondary science teachers.
2016 ASTE International Conference  
Contributed by David Crowther, Melissa Jurkiewicz, Camille Stegman, John Cannon, and Adam Kirn (Conference Committee)

Reno, NV. January 7-9, 2016

We are excited to announce the location and theme of the 2016 International Conference for the Association of Science Teacher Educators (ASTE). Come and join us in Reno, Nevada on the eastern side of the Sierra Nevada Mountains near Lake Tahoe and experience the “Biggest Little City in the World.” Reno was founded as a western town with ties to mining and the western expansion. Reno is a full service city with an international airport and the amenities of a large city in a small city atmosphere. Reno experiences over 300 days of sunshine and relatively mild weather. Being located on the eastern side of the Sierra Nevada Mountains puts Reno in a rain shadow, but within one hour drive, you can experience Lake Tahoe and over 20 different world class ski resorts. The conference will be held in the Peppermill Resort Spa and Casino. We will be located in the new Tuscany tower with luxury rooms for everyone! The hotel has eight fine and casual dining restaurants, numerous bars, cafes, a full day spa, multiple pools, full service gym, casino, and an onsite geothermal plant that provides all heating and cooling for the resort [http://www.peppermillreno.com/](http://www.peppermillreno.com/).

The theme of the conference is **Forging New Trails towards 21st Century Science Education.** This theme is based upon forging new trails in science education which include Science, STEM, and Engineering and associated disciplines as a collaboration for teaching and learning science in the 21st century. Although the traditional strands of the ASTE conference will apply, we are also looking for new and innovative proposals that push the boundaries of traditional science education.

The conference leadership personally invite you to attend this conference and experience what Reno and surrounding areas have to offer.
Call for Professional Development Workshop Proposals for the 2016 Conference!
Contributed by Tisha Morrell

The Professional Development Committee invites interested members to prepare to submit a Workshop Proposal for consideration for inclusion in the 2016 ASTE Conference in Reno, Nevada! Applications will be accepted on-line (theaste.org) starting April 1. The deadline is April 30, 2015. As you prepare your proposal, please do review the scoring rubric the Committee uses (also posted on the ASTE website). The Committee looks forward to reviewing your workshop ideas!!

Proposal quality and the desire to create a balanced program will be the criteria for making final acceptance decisions. Reviews of workshop proposals will center on how adequately the following are addressed (maximum of 1500 words total):

a. State the focus of the session and its relevance to the ASTE membership.
b. Attach an outline of the workshop that shows the sequence and duration of workshop activities.
c. List the learning objectives of the workshop, briefly describe the instructional strategies you will be using, and how you will judge the effectiveness of your workshop.
d. Will you make yourself available to the participants after they return to their places of employment should they have questions or need assistance? How will you do this?
e. Explain who within the ASTE membership would be most interested in your presentation (e.g., methods instructors, educational researchers, curriculum developers, etc.) and why.
f. Describe the expertise/experience of the workshop presenters to present in the topic area.
g. Provide a budget for the workshop indicating the amount (if any) each participant will be charged. What is the number of people the workshop is intended to serve? If there is a cost for attendance, please specify how this money will be used. Indicate the material and technological needs for this workshop. What are the texts, handouts, videos, etc., required in order to implement this session?
h. If appropriate, provide a pertinent reference list in the separate form field below. (Reference list does not count as part of the proposal word limit).

If you have any questions, feel free to contact Tisha Morrell, Chair, Professional Development Committee (morrell@up.edu).
The Small Colleges and Programs Forum
Contributed by Daniel Meyer

ASTE’s newest Forum had its inaugural meeting in Portland. The Small Colleges and Programs Forum was created to meet the differing needs of members who are faculty in smaller programs and institutions. There was a desire among members to create a mechanism to provide mutual support and address both the unique needs and unique opportunities presented by work in smaller settings.

Science teacher education faculty in small programs are the only science education faculty member in an otherwise general education department. They are often therefore called upon to teach general courses and support the development of science teachers in other general courses. Small programs also lack the economies of scale that are becoming more important in this era of external accountability.

At the Portland meeting, participants also stressed the advantages to such positions. Faculty felt that they were closer to their students and had a greater impact on their lives. They also noted a greater and easier time impacting programs and policies across their home institutions.

It was because of these positive aspects that there was strong interest in holding a panel discussion highlighting faculty experiences, primarily aimed at graduate students, at the Annual Meeting. Other discussed activities included collaboration over research projects focused on the context of small colleges for science teacher preparation and regular conference calls to provide mutual support.

During the planning of the forum, there was a desire to keep the forum as inclusive as possible, hence the name “Small Colleges and Programs”. Any ASTE members who are interesting in being involved in the forum should contact Dan Meyer at daniel.meyer@mail.ic.edu.
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 consider submitting 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 pre-service, 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.
NSTA/ASTE Chicago Conference Events
Contributed by Lisa Martin-Hansen, President and ASTE Liaison to NSTA

If you are headed to the Windy City for NSTA Chicago conference, we have several sessions hosted by ASTE members. Also, we'd love to see you at the informative, intellectually stimulating and delicious ASTE/NSELA luncheon. As one of the conference coordinators of the Far West ASTE meeting this past year, I began a blog to keep our members up to date with ASTE sessions. I have continued with those updates so you can subscribe or check out our Far West ASTE blog (it’s free!) to find all of your ASTE events at NSTA Chicago!

https://farwestaste.wordpress.com/2015/01/13/nsta-chicago-aste-sessions/

Come learn from our colleagues in their sessions:
NSELA/ASTE Luncheon  Friday, March 13, 12 Noon - 2:00 PM
Tickets available through the NSELA website  http://nsela.net/nsela-aste-luncheon

ASTE Session: Summer Camp Science and Engineering: Changing Students’ Understanding About Scientific Inquiry
Thursday, March 12 8:00 AM - 8:30 AM
Hyatt Regency McCormick Place, Dusable A
We describe an annual, two-week summer science camp collaboration between a U.S. university and a Taiwanese middle school. Join us as we review findings on the changes in students’ understanding about scientific inquiry as a result of their participation.
Presenter(s): Allison Antink-Meyer (Illinois State University: Normal, IL), Stephen Bartos (Illinois Institute of Technology: Chicago, IL)
FORMAT: Presentation; GRADE LEVEL: 6 - 8; SUBJECT: General Science Education

ASTE Session: Use of Electronic Simulations in Grades 7–12 Science Teaching
Thursday, March 12 12:30 PM - 1:00 PM
Hyatt Regency McCormick Place, Dusable A
Hear about a series of lessons that incorporate the use of electronic simulations in order for teachers to better explain science topics and address students’ naïve concepts. We’ll cover states of matter, phase changes, solution formation, waves, and food webs.
Presenter(s): Karen Irving (The Ohio State University: Columbus, OH)
FORMAT: Presentation; GRADE LEVEL: 7 - 12; SUBJECT: General Science Education
ASTE Session: STEM High School Teachers' Implementation of Science and Engineering Practices  
Thursday, March 12 1:00 PM - 1:30 PM  
Hyatt Regency McCormick Place, Dusable A  
Review findings from research conducted on STEM high schools' implementation of NGSS science and engineering practices. We will share best practices as well as implications.  
Presenter(s): Judith Morrison (Washington State University Tri-Cities: Richland, WA), Deborah Burke (Delta High School: Richland, WA), MaryBeth Tilson (Delta High School: Richland, WA), Ann Autrey (Delta High School: Richland, WA)  
FORMAT: Presentation; GRADE LEVEL: 9 - 12, College; SUBJECT: General Science Education

ASTE Session: A Pedagogy of Kindness for the Science Classroom  
Thursday, March 12 2:00 PM - 3:00 PM  
Hyatt Regency McCormick Place, Dusable A  
Pedagogy of kindness is an essential feature of the science classroom manifesting itself in curriculum, instruction, and the relationship between student and teacher.  
Presenter(s): Michael Svec (Furman University: Greenville, SC);  
FORMAT: Presentation; GRADE LEVEL: K, 1 - 12; SUBJECT: General Science Education

ASTE Session: FOSStering Deeper Learning of Science, Addressing Literacy, and Avoiding "Kit"astrophe!  
Friday, March 13 8:00 AM - 9:00 AM  
Hyatt Regency McCormick Place, Field C  
Attention will be paid to how typical kit-based science can be used to learn science while developing understandings of scientific inquiry and addressing literacy goals.  
Presenter(s): Stephen Bartos (Middle Tennessee State University: Murfreesboro, TN), Jennifer Parrish (Middle Tennessee State University: Murfreesboro, TN)  
FORMAT: Presentation; GRADE LEVEL: K, 1 - 5; SUBJECT: General Science Education

ASTE Session: Lessons that Create Opportunities for Students to Develop Proficiency in the 21st-Century Standards  
Friday, March 13 9:30 AM - 10:30 AM  
Hyatt Regency McCormick Place, Dusable A/B  
Engage in lessons on population education that support 21st-century standards and bring real-world interconnections of the NGSS three dimensions to the classroom.  
Presenter(s): Comfort Ateh (Providence College: Providence, RI)  
FORMAT: Hands-On Workshop; GRADE LEVEL: 5 - 12, College; SUBJECT: General Science Education
ASTE Session: Making Time for Science and Engineering in Early Childhood Classrooms  
Friday, March 13 11:00 AM - 12:00 PM  
Hyatt Regency McCormick Place, Dusable A/B  
Learn how to thematically integrate the Common Core State Standards, in English language arts and mathematics into your science and engineering lessons by designing and testing your own water filtration systems!  
Presenter(s): Eugenia Johnson-Whitt (The University of Toledo: Toledo, OH), Meredith Reinhart (The University of Toledo: Toledo, OH), Lacey Strickler (The University of Toledo: Toledo, OH), Debra Bloomqust (The University of Toledo: Toledo, OH), Amanda Gilbert (The University of Toledo: Toledo, OH)  
FORMAT: Hands-On Workshop; GRADE LEVEL: PreK, K, 1 - 3;

Friday, March 13 2:00 PM - 2:30 PM  
Hyatt Regency McCormick Place, Field C  
New teachers make up a majority of the teaching population. Join us for research-based suggestions for teacher leaders, administrators, and colleagues of new science teachers.  
Presenter(s): Julie Luft (The University of Georgia: Athens, GA), Shannon Dubois (University of Virginia: Charlottesville, VA), Ryan Nixon (The University of Georgia: Athens, GA), Ben Campbell (The University of Georgia: Athens, GA)  
FORMAT: Presentation; GRADE LEVEL: 6 - 12, College; SUBJECT: General Science Education

ASTE Session: Bridging Policy and Practice—Science Teacher Education for the Next Generation  
Friday, March 13 2:30 PM - 3:00 PM  
Hyatt Regency McCormick Place, Field C  
Join recipients of the Outstanding Science Educator of the Year award as they share ways in which they are responding to the NGSS in teacher preparation.  
Presenter(s): Lisa Martin-Hansen (California State University, Long Beach: Long Beach, CA), Michael Clough (Iowa State University: Ames, IA), Deborah Hanuscin (University of Missouri: Columbia, MO), Julie Luft (The University of Georgia: Athens, GA), Joanne Olson (Iowa State University: Ames, IA), John Tillotson (Syracuse University: Syracuse, NY)  
FORMAT: Presentation; GRADE LEVEL: General; SUBJECT: General Science Education

ASTE Session: It’s Alarming! Using Engineering Design to Build Students’ Understanding of Simple Circuits  
Friday, March 13 3:30 PM - 4:30 PM  
Hyatt Regency McCormick Place, Grant Park D  
By engaging in the engineering design process, participants will learn new ways to teach the science behind simple circuits.  
Presenter(s): Brenda Capobianco (Purdue University: West Lafayette, IN), Aaron Hamilton (Wyandotte Elementary School: Lafayette, IN), Colleen Cooper (Wyandotte Elementary School: Lafayette, IN)  
FORMAT: Hands-On Workshop; GRADE LEVEL: 3 - 5; SUBJECT: General Science Education, Physical Science
ASTE Session: Experiencing Communication Barriers: Building Teacher Empathy for English Language Learners  
Saturday, March 14 8:00 AM - 9:00 AM  
Hyatt Regency McCormick Place, Grant Park D  
We will share a lesson developed for use with preservice teachers teaching the importance of ELL accommodations through affective experience and empathy development.  
Presenter(s): Katie Brkich (Georgia Southern University: Statesboro, GA)  
FORMAT: Hands-On Workshop; GRADE LEVEL: 3 - 8, College; SUBJECT: General Science Education  

ASTE Session: Let's Hear It for Sound!  
Saturday, March 14 9:30 AM - 10:30 AM  
Hyatt Regency McCormick Place, Grant Park D  
By observing, planning, constructing, and analyzing results, participants actively investigate the science of sound using the engineering design process.  
Presenter(s): Jamie Peterson (: No City, No State), Jill Shambach (: No City, No State), Brenda Capobianco (Purdue University: West Lafayette, IN)  
FORMAT: Hands-On Workshop; GRADE LEVEL: 2 - 4; SUBJECT: General Science Education, Physical Science  

Additionally, some of our members will be presenting at the Meet Me in the Middle Day for middle school teachers on behalf of ASTE and the NSTA Middle Level Science Teaching Division. Check it out on Friday, March 13 from 2:00-4:00 p.m.
Using the National Science Teachers Association (NSTA) online portal with Pre-Service Teachers
Contributed by Flavio Mendez

What if professors could select from existing collections of interactive web modules, simulations, lesson activities, e-chapters, and podcasts to create an engaging suite of content that is wrapped in an integrated community for sharing, rating, and discourse with badges, points and leaderboards to engage pre-service teachers’ learning?

The purpose of the NSTA Learning Center (http://learningcenter.nsta.org) is to enhance the personal learning of teachers by providing a suite of tools, resources, and opportunities to support their individual long-term professional growth based on their unique learning needs and preferences and within a professional learning community.

Over the past few years, professors at over 70 institutions of higher education have opted to use electronic resources from NSTA like journal articles, book chapters, interactive science modules, and lesson plans from the Association’s online portal called the NSTA Learning Center (NSTA LC) as an e-textbook when teaching pre-service teachers courses like elementary and secondary methods and other subject matter courses.

Working with NSTA staff and at no cost to the professors or their institution, course instructors can create a class landing page in the Learning Center and assemble collections of resources from the over 12,000 resources available online. In addition to using the resources in the Learning Center, instructors are able to upload their own resources or URLs from other web sites of interest to share with their students.

To track the student activity in the Learning Center, professors access their class administration dashboard which keeps track of all of their students’ online activity. Here is what professors have said about the NSTA Learning Center:

“One of the main advantages of using the NSTA LC as an e-text for teachers is that they become familiar with this resource and they can subsequently return to and use once they are in their own classrooms during their professional careers.” K. Sparrow

“The department chair told me that the NSTA SciPacks offer more in-depth content than what they had before and the students in this course are scoring about a mean of 18% above his other more traditional course.” K. Miller

Bundled with the e-Textbook is one year student membership to NSTA. The cost of the 1-year e-Textbook subscription and the student membership is $99 per student. Professors may choose instead a six-month e-Textbook subscription option and the student membership for $72 per student.

For more information about this opportunity, visit: http://learningcenter.nsta.org/etextbook
2\textsuperscript{nd} International Argument-Based Inquiry Conference
Contribution by Andy Cavegnetto

August 5-7, 2015
Redlion at the Park, Spokane, Washington, USA
http://www.redlion.com/park-spokane/

In February of 2013 a small conference was held at Pusan National University in Busan, Korea to explore the benefits of argument-based inquiry in science education classrooms. Argument-Based Inquiry centrally locates construction and critique of knowledge through emphasis on the epistemological framework of argument by engaging students in posing questions, gathering data, and generating claims supported by evidence. In doing so, it seeks to build students' grasp of disciplinary practices while simultaneously constituting an understanding of disciplinary big ideas. Recent reform efforts such as Common Core and Next Generation Science Standards call for such immersion in and integration of disciplinary practices and concepts, yet there are still many important theoretical and practical constraints to widespread adoption and implementation of such pedagogy. The Second International Conference on Argument-Based Inquiry seeks to bring together researchers in science education, literacy, measurement, cognitive psychology, and mathematics education in a working conference to collectively examine these constraints by exploring the following key questions:

- What resources are critical for students to engage and optimize learning in argument-based environments, how do they manifest in different content domains, and how do these resources contribute to student success in ABI environments?

- Should we expect to see aspects of student learning transfer from these environments to other environments? What might those aspects of student learning be? What might be the characteristics of the learning environment that drive that transfer?

The conference will host paper sessions and a graduate poster session that will serve as an opportunity for new scholars to engage with established researchers across a variety of fields. Sessions are structured to emphasize conversation among participants in order to stimulate trans-disciplinary perspectives on the critical questions raised throughout the conference. We welcome researchers, graduate students, and teachers to participate in the conversations as we seek to establish an on-going network of researchers that can support one another and address future research, development, and publication opportunities. For more information please contact Krenny Hammer, ABI Conference Support Supervisor, at khammer@wsu.edu or visit the conference website at http://abic.education.wsu.edu/.
**Graduate Fellowships in Biology Education**
Contributed by Rosemary Smith

Idaho State University Department of Biological Sciences invites applications for three-year Graduate Fellowships for the Doctor of Arts in Biology program. This program emphasizes preparation for, and scholarship in, college biology teaching. Master’s required. For more information, please contact Dr. Rosemary Smith (smitrose@isu.edu).

**NGSS and edTPA Crosswalk Available**
Contributed by Erica Brownstein

A crosswalk showing the connection between the Next Generation Science Standards (NGSS) and the secondary science edTPA is available. The document includes how NGSS practices are found in edTPA rubrics and writing prompts. It is located on the secure portion of the edTPA website: [http://edtpa.aacte.org](http://edtpa.aacte.org) in the Resource Library. Any faculty using edTPA has access.

**Free Online Training on Digital Dissection Software**
Contributed by Samantha Suiter

ASTE members are offered personalized interactive online training on computer-based animal dissection software. The free training sessions will cover educational efficacy, economic benefits, ethical considerations and current laws and policies regarding the use of animals in science education. Participants will gain hands-on experience with popular digital dissection software programs.

Training is led by Samantha Suiter, a Science Education Specialist at People for the Ethical Treatment of Animals (PETA) who is a college biology instructor and member of ASTE, HAPS, NABT, and NSTA. Please contact Samantha at SamanthaS@peta.org or 843-771-2394 to set up a training session.

[Note from the Editors: Samantha presented a webinar for our NSTA student chapter that provided the benefits and challenges of both physical dissections and digital dissections. The students enjoyed the presentation and found it to be a completely unbiased presentation.]
Brainball Science Edition: Teaching Inquiry Science as a Team Sport
Contributed by Mikey Kolis

Brainball (Science Edition): Teaching Inquiry Science as a Team Sport is an attempt to make the case that not only is Science a game, but that it is one of the most useful and powerful games that teachers and students will ever play. Games are the doing of theory, and doing science is what makes science fun and relevant.

Games are the transformation of theory into practice, and all games have 7 commonalities: 1) games have a clear goal, 2) they have a clear set of rules, 3) chance is part of the game, 4) multiple strategies and skills can lead to success, 5) players need to be adaptable, 6) people play games because they perceive them as fun, and 7) games are dynamic. Basically these same 7 rules apply to learning science.

In Brainball (SE) the responsibility for playing the game is placed on the students within the framework of science knowledge, skills and most importantly science dispositions. As members of a team, students bring their strengths and weaknesses to the game. Using learning science as the game, they must negotiate shared understandings, work toward a common end-in-mind and perform for an external audience.

Great teams seek to elevate the team as a whole and individuals learn to align their personal learning goals with that of the team. Brainball (Science Edition) attempts to explain that process and provides 15 example lessons of what team and science learning would look in a public school classroom.
M. Dias, C.J. Eick, L. Brantley-Dias (Eds.)

Science Teacher Educators as K-12 Teachers

Practicing what we teach

Series: ASTE Series in Science Education

- Makes a unique and powerful contribution to science teacher education by bridging the long-standing research-practice gap
- Presents several different but equally valid arrangements whereby teacher educators have returned to K-12 teaching
- Identifies common themes and implications for science teacher education and science teaching practice

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.
Women’s Experiences in Leadership in K-16 Science Education Communities, Becoming and Being

K.C. Wieseman, M. Weinburg (Eds.)

Series: ASTE Series in Science Education

Discusses why women’s leadership within science education is largely invisible
Contains significant stories around the feminine not as gender but as construct, a quality in all of us
Discusses the power/promise of feminine approaches to transform traditional leadership cultures
Discusses relational ways of knowing as theoretical foundation
Determines that anyone can lead and each of us should lead

A discourse on women’s leadership within science education has, until now, been largely invisible in book form. This, therefore, is the first book to address women’s leadership within science education.

The book embraces relational ways of knowing as a foundation for leadership and takes courageous steps by exposing our innermost tensions, dilemmas, and feelings about leadership, making them available to others. The power/promise of feminine approaches to transform traditional leadership cultures is also addressed.

The authors believe that anyone can lead, regardless of position, title, years of experience or age. They also believe that each of us has a responsibility to provide some leadership and direction for the shared endeavours of which we are part.

The purpose of the book is to inspire and guide educators and academics in K-16 science education, as well as individuals in other professions, as their leadership skills develop. The leadership activities provided offer guidance and/or concrete ways to delve into issues of leadership.
A. Bodzin, B. Shiner Klein, S. Weaver (Eds.)

**The Inclusion of Environmental Education in Science Teacher Education**

Series: ASTE Series in Science Education

- Examines and discusses environmental education foundations and pedagogical principles
- Informs about the historical and philosophical underpinnings of environmental education as well as current trends
- Includes case studies that highlight the teaching and learning of environmental education content and concepts in science teacher education
- Discusses the integration of technology to promote the teaching and learning of environmental education in science teacher preparation

In the coming decades, the general public will be required ever more often to understand complex environmental issues, evaluate proposed environmental plans, and understand how individual decisions affect the environment at local to global scales. Thus it is of fundamental importance to ensure that higher quality education about these ecological issues raises the environmental literacy of the general public. In order to achieve this, teachers need to be trained as well as classroom practice enhanced. This volume focuses on the integration of environmental education into science teacher education. The book begins by providing readers with foundational knowledge of environmental education as it applies to the discipline of science education. It relates the historical and philosophical underpinnings of EE, as well as current trends in the subject that relate to science teacher education. Later chapters examine the pedagogical practices of environmental education in the context of science teacher education. Case studies of environmental education teaching and learning strategies in science teacher education, and instructional practices in K-12 science classrooms, are included.

This book shares knowledge and ideas about environmental education pedagogy and serves as a reliable guide for both science teacher educators and K-12 science educators who wish to insert environmental education into science teacher education. Coverage includes everything from the methods employed in summer camps to the use of podcasting as a pedagogical aid. Studies have shown that schools that do manage to incorporate EE into their teaching programs demonstrate significant growth in student achievement as well as improved student behavior. This text argues that the multidisciplinary nature of environmental education itself requires problem-solving, critical thinking and literacy skills that benefit students’ work right across the curriculum.

Order online at springer.com or for the Americas call (toll free) 1-800-SPRINGER or email us at: customerservice@springer.com. For outside the Americas call +49 (0) 6221-345-4301 or email us at: customerservice@springer.com.

The first € price and the £ and $ price are net prices, subject to local VAT. Prices indicated with * include VAT for books; the €01 includes 7% for Germany, the £ subject includes 19% for Austria. Prices indicated with ** include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted.
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All members are invited to submit items.

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