



# The South Dakota Engineer

November 2016

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## SDES

2016-2017

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## President's Message

Brian S. Jenner, PE      2016-2017 President

Greetings from the West Side of South Dakota! Hopefully everyone was able to enjoy their summer. I know I was able to do a little camping, hiking, kayaking, and fishing. Thank you all for participating in SDES. Without your support, we would not exist. Fall activities are in full swing and school is back in session as well as everything that goes along with it. Fall sports are wrapping up and winter sports are preparing to begin. Chapter monthly membership meetings are being set up and I hope you are able to attend your respective chapter meetings. The Fall PDH Conference in Brookings was well attended and had some great varied topics. It was good to see fellow engineers and friends and catch up. The SDES 2017 Annual Conference will be held in Spearfish and I hope everyone is able to attend. Thank you all again for supporting SDES!

Thanks!

-Brian S. Jenner, PE

Have you remembered to pay your membership dues? If you need an invoice, please go to [www.sdes.org](http://www.sdes.org), where you can pay your dues online or contact Gail Boddicker at 394-6674 or [gail.boddicker@sdsmt.edu](mailto:gail.boddicker@sdsmt.edu) for a copy of your invoice.

It is a good idea to periodically check your records to be sure your contact information is correct. You can update your information online or contact Gail with the information.

## SDES 2016 Fall Conference

The SDES Fall Conference was held October 13, 2016 at the Days Inn Convention Center in Brookings. We had over 130 people registered for the event and were able to schedule 10 presenters for the day. The conference provided 7 PDH's and we have heard from many regarding the great value this conference provides for the registration fee. The conference was followed by a tour of the new Dana J Dykhouse Stadium at SDSU that was sponsored by ASCE.

Thank you to all the speakers, sponsors and those who helped organize the event to make it such a great success.

Sponsors: American Engineering Testing, Inc., Banner Associates, GeoTek Engineering, HDR, HR Green, and SD Ready Mixed Concrete Association.



Photo is of SDES President Brian Jenner, PE, addressing and welcoming the attendees at the SDES 2016 Fall Conference.



A snapshot of the over 130 professional engineers attending the SDES 2016 Fall Conference. Thanks to everyone for supporting SDES by attending the conference.



## ENGINEERING A STRONGER PROFESSION

NSPE is on a mission of organizational innovation and development to effectively serve the licensed professional engineer and those on the licensure path.

*If you haven't already seen the video and other resources related to the Society's new Statement of Strategic Direction, check out [www.nspe.org](http://www.nspe.org) and the link to "Mission: Engineering a Stronger Profession."*

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Have you joined NSPE's online Communities yet? If not, you are missing out on many interesting discussions with members across the country! Just log on to the NSPE website and participate.

### Welcome New SDES Members

#### Central Chapter

Brandon Carda  
Allen Prince  
Ben Sampica  
Broc Swanson

#### Eastern Chapter

Matthew Buenger  
Claire Eggleston  
Taylor Fauth  
Sam Ireland  
Allison Meintsma  
Eric Olson  
Mike Pardy  
Anna Schleper  
Allie Simons  
David Sykora  
Abbagayle Warmbold

## City of Rapid City Selected for National QBS Merit Award



### **RAPID CITY SELECTED FOR NATIONAL MERIT AWARD**

#### *Prestigious Engineering Group Recognizes Cities for National Honors*

Rapid City received national recognition as one of three cities to receive the 2016 Qualifications-Based Selection Merit Award by the American Council of Engineering Companies and the National Society of Professional Engineers. The award was presented October 3 at the City Council Meeting. Presenting the award was Brian Jenner (left), a member of the National Society of Professional Engineers, and accepting on behalf of the City were City Engineer, and interim Public Works Director, Dale Tech and Mayor Steve Allender.

The Mississippi Department of Transportation is the recipient of the QBS Award and Rapid City, Champaign, Ill. and the Maine Bureau of General Services are receiving QBS Merit Awards.

The QBS Merit Award recognizes the City for effectively using and promoting quality-based selection methods to procure professional services of consulting engineers at the federal, state and local levels.

The purpose of the QBS Awards Program is to recognize public and private entities that make exemplary use of the QBS selection process.

"Our state and cities rely on engineers every day to design the bridges, highways, transportation systems, water supply systems, wastewater systems, public buildings and other facilities that South Dakotans depend on," said Gail Boddicker, executive director of the American Council of Engineering Companies of South Dakota and South Dakota Engineering Society.

*(Copied from the City of Rapid City October 2016 newsletter)*

## SDES Members In the News!

Andrea Surovek, Ph.D., P.E., BH Chapter NSPE/SDES Member

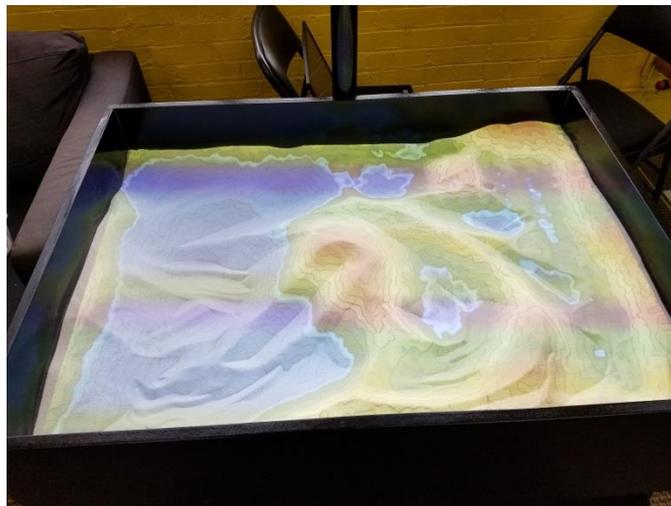
### ANDREA SUROVEK NAMED AS WINTER AWARD WINNER

SHARE



Thursday, April 21, 2016

The Structural Engineering Institute of the American Society of Civil Engineers is proud to announce that Andrea E. Surovek, Ph.D., P.E., F.SEI, M.ASCE has been named as the recipient of the 2016 [George Winter Award](#). The George Winter Award is intended as a recognition of the achievements of an active structural engineering researcher, educator or practitioner who best typifies the late Dr. George Winter's humanistic approach to his profession: i.e., an equal concern for matters technical and social, for art as well as science, for soul as well as intellect. The recipient shall be first and foremost a structural engineer, one who has consistently worked at advancing the state-of-the-art of the profession through the practical application of design and/or research studies. Secondly, the individual must have demonstrated a commitment to the social or artistic needs of the community through work performed in an area not directly related to engineering or science.



#### **NEW EXHIBIT AT SOUTH DAKOTA DISCOVERY CENTER**

The South Dakota Discovery Center has a new exhibit called an Augmented Reality Sandbox, it uses a 3-D Xbox Kinect camera, computer software program and projector to create a real time topographic display into a custom built sandbox. As you move the sand and change the topography, the computer automatically adjusts the output to match the actual elevations. The program also has a feature that simulates rain falling in the basin, showing the water run-off realistically from high to low and following the contours to the lowest path. This will be an excellent tool for the Discovery Center to read a topographic map and to demonstrate how watersheds work. The following link

is a more in depth video and explanation of the sandbox built by a different group <https://www.youtube.com/watch?v=CE1B7tdGCw0> . Building of the exhibit for the Discovery Center was made possible by the Central Chapter of the South Dakota Engineering Society donating \$2,300. Several DENR employees helped to plan, build, and get the box up and running with help for BIT's Dan Jochims on the program. There are still a few finishing touches to be completed, if you have time stop down to the Discovery Center and try it out!

\*\*\*\*\*

Spread the word – the Eastern Chapter SDES donated to the Kirby Science Center to bring the film *Journey to Space* to the Wells Fargo CineDome. The film is now playing!

Check out the website <https://www.washingtonpavilion.org/online/> for show times.



“The new space exhibit is also open and what a treat. I took my kids last Friday for Free First Fridays and we LOVED it! “ Erin Steever, PE | Project Engineer

Watch for details on upcoming SDES PDH opportunities:

2017 SDES Annual Conference

April 26-28, 2017

Holiday Inn, Spearfish, SD

2017 SDES Fall PDH Conference

Dates TBD

Hosted by Central Chapter

## NSPE has a lot of activities going on and as a member of the organization, you may want to read on to see what's happening!

**TO:** NSPE Board of Directors

**FROM:** Mark J. Golden, FASAE, CAE , Executive Director

**DATE:** November 1, 2016

**RE:** Board Update: October 15-31, 2016

As the board discussed on its October call, [Frequently Asked Questions](#) have been added to the Leadership Toolbox. Succinct responses to the questions directors report they are getting asked in their rep-visits have been posted for the [integrated membership business model](#) project, [new logo](#), and [core messages](#). Additional entries are in development on NICET and the Future of the Professions Task Force.

### Championing the PE License

On October 25th, NSPE submitted a formal [public comment](#) to the National Highway Traffic Safety Administration calling for greater involvement by professional engineers in NHTSA's guidelines for the development and deployment of autonomous vehicles. [NHTSA's recently released Federal Automated Vehicles Policy](#), while not binding, is a clear indication of the agency's views on the regulation of this quickly developing technology.

NSPE urged NHTSA to address critical safety and ethical challenges posed by autonomous vehicles, which were not resolved in the Federal Automated Vehicles Policy, by supporting a key role for the professional engineer in these efforts. "These guidelines allow manufacturers and suppliers to self-certify, eliminating a critical third-party safety check," wrote NSPE President Kodi Jean Verhalen, P.E., Esq., F.NSPE. "In the absence of a third-party certification, verification is needed by a licensed professional engineer, internal to the development company. The licensed professional engineer will affix his or her seal to the engineered component attesting to the conclusion that the design is adequately protective of the public health, safety, and welfare."

In the past two weeks, NSPE advocacy staff has been working with the Arizona Society of Professional Engineers to oppose continued efforts by the Arizona Governor's office and the Arizona state legislature to attack [occupational licensure](#) and also provided counsel to the New Jersey Society of Professional Engineers as to how to best proceed regarding recently introduced legislation resulting from the [Supreme Court decision](#) in *North Carolina State Board of Dental Examiners v. Federal Trade Commission*.

The Committee on Policy and Advocacy (COPA) is making solid progress on its charges, including the most immediate to do's:

☐ *Review and revision of Position Statements 1737 and 1739*, reflecting the NSPE House of Delegates' revisions to [Professional Policy 168](#) (Engineering Education Requirements). The committee has collected input, and a task force within COPA

has been assigned to review, revise and approve a draft for board consideration by the end of this month.

▣ *Developing a unified position statement on domestic energy* that addresses the important role professional engineers should play in balancing energy needs and environmental impacts. Initial drafts have been developed, and a task force of COPA created for review, revision and a decision on whether a Position Statement will be sufficient to address this important matter, or if there is a need for a new Professional Policy (which would require House of Delegates approval). The deadline set by COPA Chair Dan Wittliff for this task force is also the end of this month.

In addition, COPA is making progress on its two additional charges dealing with an overall assessment of position statements (particularly those scheduled for automatic sunset this year) and consideration of whether a policy or position is required on the issue of peer review legislation.

This past weekend I attended the fall meetings of ABET (the Accreditation Board for Engineering and Technology, the body that accredits the degree-granting engineering programs required in all states and territories as a condition of licensure) as an observer. This included business meetings and working sessions of the Engineering Area Delegation, Engineering Technology Delegation, and Board of Delegates. (Jon Nelson ably serves as NSPE's voting representative on each of these bodies.) Substantial progress was made on efforts to update and revise Criteria 3 and 5 of ABET's accreditation standards (addressing "Student Outcomes" and "Curricula," respectively) and each iterative draft is getting closer to addressing NSPE's concerns and input into the process.

One small, but significant indicator that our efforts as a profession are having an impact: The Bureau of Safety and Environmental Enforcement's final rules, updating [oil and natural gas production safety regulations](#) (which, at NSPE's urging, included increased emphasis on the role of professional engineers), now includes the term PE in its list of acronyms and references.

During the regular conference call of the State Society Executives Council (SSEC) on October 19th, NSPE advocacy staff reviewed the expanded advocacy services and support available to our state societies from national. NSPE has evolved beyond the traditional federal legislative government relations office to a more multi-faceted advocacy approach.

We now work on federal regulatory and legislative issues as well as assisting state societies on state-level legislative and regulatory issues. National advocacy staff is also working to put out state-by-state assessments of key issues of interest to state societies, empowering them to more effectively serve their own members. Communicating the great work that is being done, both at the state and national levels, is central to conveying the value of membership, but also enhances and

maximizes our collective effectiveness advocating for licensure. We all benefit when this information makes it to our members, and I strongly encourage you to encourage your state societies to include [advocacy updates](#) in their electronic and print newsletters and other member communications.

During the call, we also spoke about resources national provides to the states at no cost:

☐ NSPE's [MultiState Associates database](#), which includes state legislative tracking on issues and trends of concern to the licensed profession. States can view legislative proposals and status for all states, or filter on just legislation in their own states. (Each state society executive director has been provided login credentials to access this database.)

☐ Additionally, NSPE provides access to [VoterVoice](#)'s online action alert system, which enables you to put out action alerts to your state's members. If a state is interested in using VoterVoice and not yet familiar with it, they can contact [Nick Cox](#), and he will be happy to set them up.

☐ Lastly, in response to SSEC's request, national advocacy staff is trying to finalize a comprehensive compilation of information to evaluate lobbying capabilities within the states. [Nick Cox](#) is again the contact on this.

President Verhalen, President-elect Roberts, Vice President Aitken and I will be meeting this week with volunteer and staff leadership of ABET, the American Society of Engineering Education (ASEE), the National Council of Examiners for Engineering and Surveying (NCEES) and the American Society of Civil Engineers (ASCE), to discuss collaborative efforts to address licensing concerns. (This meeting is held annually, in advance of the American Association of Engineering Societies' (AAES) General Assembly, which convenes later in the week.) NSPE has prepared and presented agenda topics for discussion, including: 1) whether there is an opportunity to increase the coordination of work and alignment of the individual organization's ongoing efforts regarding education-experience-testing components of licensure (particularly in light of ASCE's recent decision to review its stance on "Raise the Bar," and ongoing efforts within ABET to revise student outcome and curriculum criteria for engineering education programs); and 2) whether there is an opportunity to consolidate and streamline efforts by our societies to respond to the National Academy of Engineering (NAE)'s *Role of Professional Societies in Engineering Education* project prior to NAE's January 2017 workshop.

### **Ethical Guide to the Profession**

The NSPE Board of Ethical Review (BER) is currently reviewing the NSPE Engineering Ethics Essay Contest to identify improvements and encourage greater participation among NSPE members including student members. Each year, the BER selects the facts from one of its annual cases and asks NSPE members to use the NSPE Code of Ethics as well as previous Board of Ethical Review opinions to

analyze and submit a formal written ethics opinion. The BER serves as the panel of judges.

Under the contest rules, all current NSPE members, through their state societies and local chapters (including student chapters), are invited to participate and match their wits with the NSPE Board of Ethical Review, other experienced PEs, and engineering students throughout the country. Both the NSPE member and the NSPE student member of the winning essay receive an award of \$1,000 (\$500 to the NSPE state society or NSPE chapter, and \$500 divided equally among the authors) provided by NSPE and the NSPE Educational Foundation, an award certificate, and recognition in PE magazine.

To improve the NSPE Engineering Ethics Essay Contest and encourage greater NSPE member and NSPE student member participation, the BER is seeking input on the contest, which can be provided by completing a brief, online [survey](#). The survey should not take more than a minute to complete. The deadline for responding has been extended to this Friday, November 4th.

### **Powering Professional Advancement**

January 31, 2017 is the deadline for nominations for three of NSPE's most prestigious honor awards:

- ☐ *The NSPE Award*: the highest award given to an individual by the Society. It is presented to an engineer who has made outstanding contributions to the engineering profession, the public welfare, and humankind;
- ☐ *The Young Engineer of the Year Award*: recognizes a young (35 years of age or younger) NSPE member who has made outstanding contributions to the Engineering Profession and the community during the early years of one's career; and,
- ☐ *The Distinguished Service Award*, recognizing an NSPE Licensed Member for exceptional contributions to the Engineering Profession, to one's community, and specifically to NSPE.

Full information on these and other awards that will be considered later in the year is available on the [website](#).

NICET staff is proceeding well with the conversion of the Highway Construction and the three Construction Materials (asphalt, concrete and soils) testing programs from paper and pencil testing to computer-based testing. NICET will be implementing the new Transportation Construction Inspection program in December 2016; and the three CMT programs by April 2017.

### **Uniting the PE Community**

After several months of planning, NSPE's marketing team launched its Fall membership recruitment campaign on October 19th. The launch included:

- ☑ The direct mailing of a printed brochure to all prospects;
- ☑ A dedicated e-mail blast to all prospects;
- ☑ The creation of a dedicated landing page: [nspe.org/join](https://nspe.org/join); and,
- ☑ The publishing of 16 member benefit videos, which have been incorporated into the electronic solicitations and are all available for viewing on [nspe.org/join](https://nspe.org/join).

On the day of launch, the NSPE website received its highest number of unique page views for the month: 11,880. (The daily average is 7,531 unique page views.) The “join now” landing page with its online membership application received its highest number of unique page views for the month: 156. (The daily average is 108 unique page views.) For the remainder of week one, we’ve averaged about 34 unique views per day. Visitors are spending about 4:42 on the page, which is significant (the average amount of time spent on NSPE webpages is 2:18) and a good indicator that people are watching the videos posted there. About 7% of visitors to this page exit to a membership page such as Join Now, Membership Benefits, Membership Application, or Membership Levels.

Additional marketing to support the campaign includes:

- ☑ One new video testimonial posted every Tuesday and Thursday to Facebook, Twitter, Instagram and LinkedIn; and,
- ☑ A new e-mail message sent every other Wednesday to prospects spotlighting one of NSPE’s [core message](#) and a few videos to exemplify it.

In its first ten days, 24 new members have joined NSPE as three-tier members. This campaign will run through December 15th.

Thanks are due to the Communications Committee, NSPE Board of Directors (acting in their capacity as the Membership Committee), and NSPE’s talented staff, all of whom were involved at every step of the process in designing the campaign, refining its content, and creating the supporting materials (particularly, the video testimonials). The board had an opportunity to give final input into the plan, timeline and brochure, e-mail and other collaterals during the strategic dialogue at September’s face-to-face board meeting, and throughout the development process, links to review the online videos and other materials were provided before anything made it out the door to the public. The responsibility for membership does not reside exclusively with any one volunteer or staff component: it takes all of us, working together, to make these efforts the best that they can be. And every campaign tactic executed, provides additional feedback to do even better in the future.

NSPE has received some positive feedback on the look, tone and ease of response to the first membership renewal, e-mail notices that routinely go out to each

member as their renewal date approaches. The powerful graphics, clean and professional appearance, and most importantly, the clickable link in the e-mail -- allowing members to instantly and easily renew their three-tier membership -- have been noted by recipients.

The Texas Society of Professional Engineers (TSPE) became the latest (and twelfth) state society to officially adopt the new logo. State societies are under **no** obligation to make this change, but any states that would like to consider becoming part of the NSPE visual brand family can contact [Dave Siegel](#) for state-specific art and information. The new logo is also extensively addressed in one of our new *Frequently Asked Questions* [entries](#) in the online *Leadership Toolbox*. Additional, anecdotal evidence of the value members perceive from our online [communities](#): several state-only members have contacted us recently noticing that they can't access the forums, creating an opportunity to emphasize the value of integrated, three-tier membership.

The National Engineers Week Foundation (d.b.a. DiscoverE) is soliciting role models to promote as part of the 2017 [Girl Day](#) campaign. State societies are encouraged to submit members to be used in this social media communications effort.

All that is needed are:

☐ A photo (headshot) of the volunteer (jpeg format)

☐ Volunteer's name.

☐ An approved quote about volunteering for Girl Day and/or being a role model for girls. It should include a memorable, encouraging message that will help to recruit others to sign up. The maximum length of the quote is 204 characters, including spaces.

DiscoverE staff will create the graphic, following the model provided here. If you would like to participate, please contact [Taryn Egelanian](#) by November 3rd. She will need the photo, volunteer name and quote by November 30, 2016.

And remember, you always have access to NSPE leadership resources in the [Leadership Toolbox](#). This includes answers to [Frequently Asked Questions](#) on current issues and programs, [talking point](#) scripts and presentations for use by NSPE officers, board members, and other leaders during state visits, chapter meetings, or other venues to promote NSPE and its activities, updated on an at least quarterly basis. Current board members can access an online library of board meeting materials (past, current and future) through the online board book site, ([BoardBookIt](#)).

If you want to review NSPE's history and how that has been translated into current plans with a future-focus, NSPE's purpose, mission, vision and a history of

the *Race for Relevance* and the resulting Strategic Plan is summarized in a section called “[Who We Are and What We Do.](#)”

## Important update on a major NSPE advocacy initiative

On November 4, NSPE and the Wyoming Society of Professional Engineers submitted a joint public comment urging the Wyoming Board of Professional Engineers and Professional Surveyors to rescind draft language that would waive the requirement for taking the Fundamentals of Engineering examination (FE exam) for individuals who have engaged in the practice of engineering for at least twenty years.

Licensure as a professional engineer requires three key components: education, examination and experience. The FE exam tests applicants to ensure that they meet the necessary standards in academic competence to practice engineering. In the joint comment letter, NSPE President Kodi Jean Verhalen, P.E., Esq, F.NSPE and WySPE President Kelly Hafner, P.E. stated that “NSPE and WySPE recognize that, in certain instances, where academic competence has already been clearly established, whether by earning a Ph.D or serving as an engineering faculty member, the FE exam may be waived. However, to waive the FE exam for an applicant who has not met the critical academic competence standards, weakens requirements and lowers standards, potentially endangering the public health, safety and welfare. The passage of the proposed legislation would seriously undermine a critical foundation of professional engineering practice. These standards have served as the backbone of the profession and public safety for decades.”

[Read the NSPE-WySPE joint comment to the Wyoming Board of Professional Engineers and Professional Land Surveyors.](#)

Here is a link to the update: [www.nspe.org/resources/issues-and-advocacy/latest-news/...](http://www.nspe.org/resources/issues-and-advocacy/latest-news/)

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Nick Cox  
Policy Associate  
National Society of Professional Engineers  
Alexandria VA  
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## Laughter in the Workplace

After having dug to a depth of 10 feet last year outside of Buffalo, New York scientists found traces of copper cable dating back 120 years. They came to the conclusion that their ancestors already had a telephone network more than 100 years ago.

Not to be outdone by the New Yorkers, in the weeks that followed, a Los Angeles, California archaeologist dug to a depth of 20 feet somewhere just outside Oceanside. Shortly after, a story in the LA Times read, "California archaeologists, reporting a finding of 200 year old copper cable, have concluded that their ancestors already had an advanced high-tech communications network a hundred years earlier than the New Yorkers.

One week later, a local newspaper in Pierre, South Dakota reported the following: "After digging down about 30 feet deep in his pasture near the community of Pukwana, Ole Olson, an engineer and a self-taught archaeologist, reported that he found absolutely nothing. Ole has therefore concluded that 300 years ago, South Dakota had already gone wireless."

Just makes a person proud to be from South Dakota.

Special thanks to the following firms for their support of the South Dakota Engineering Society:

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