MARCH 9, 2017

ISSUE #55

PO BOX 1512 SIOUX FALLS, SD 57101 WWW.SDES.ORG

MEMBERS OF THE NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

The Engineering Informer

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South Dakota

Society

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ATTACHMENT 1: AMERICAN ENGINEERING TESTING, INC. 1ST ANNUAL SPRING SEMINAR		

WebEx: this month's presentation will be broadcast on WebEx so please plan on tuning in on the web if you can't be here in person! See the instruc-

IMPORTANT NEWS

NEXT MEETING: <u>No December Meeting.</u> March 14, 11:30 AM @ 41st Street Pizza Ranch - Sioux Falls City Engineers and SDDOT.

NEW MEMBERS:

- Thomas Spisak, Terex
- Aaron Hartwell, Albertston Engineering

PRESIDENT'S COLUMN BY KURT PEPPEL-PE

Monthly Meeting.. Awards Banquet.. E-Week.. Super 2nd Saturday.. MATH-COUNTS.. Our busy month is finally over!!! I can't take credit for much of it or any of it for that matter, but there are a number of people who can. Thanks to everyone who put in extra time and making our events such a success.

On Saturday, February 25 we celebrated 2016 with our Awards Banquet. Congratulations to the award and scholarship winners. Along with the awards, there was a good turnout of engineers and spouses, and the food and entertainment were great; a big thank you to Wes Phillips and Erin Steever for putting this event together.

Cold, wind, and snow couldn't keep all the Mathletes away, but unfortunately it did prevent some from attending. These kids work very hard and take this competition very serious. I'm sure those were unable to attend were very disappointed. Congratulations to the individuals and teams which are moving on to the state competition.

Our next membership meeting will be Tuesday, March 14 at the Pizza Ranch on 41st Street. Come early for pizza and the opportunity to socialize with your peers. The City of Sioux Falls and Sioux Falls Area DOT will present on their respective upcoming construction programs. I would like to remind everyone our membership meetings can be watched via WebEx, if you are unable to attend in person. WebEx instructions can be found within this newsletter. I am still looking for April and May speakers, so if you have an idea please let me know.

Also, please mark your calendar for the SDES Annual Conference which is to be held April 26-28 in Spearfish. Registration info should be out soon, if it's not already.

Finally, I would like to apologize to SDSU Engineers Without BOR-DERS. I'm not sure how many times I inadvertently used "boarders" in lieu of "borders", but I know it was more than once. Thank you to the members who presented at our February lunch meeting.

As construction season gears up, stay safe!

Kurt Peppel, SDES Eastern Chapter President

TREASURER'S REPORT BY BRETT LOVRO, PE 3/1/2017 Balance as of 2/1/2017 \$ 32,075.68 Expenses: Speaker Lunches \$ (32.25)Banquet Expense - Entertainment \$ (1,055.25) \$ (1,087.50)Total **Deposits:** 2.64 Interest (Feb) \$ Total \$ 2.64 **Total General Fund** \$ 30,990.82 \$ 6.637.80 2/1/2017 Expenses: Scholarship Expense - Award Frames \$ (34.04)\$ (34.04)Total **Deposits:** N/A \$ \$ Total 6,603.76 **Total Scholarship Fund** \$ **Total Account Balance** \$ 37,594.58

FEBRUARY HAD TYPOS...



IMPORTANT CALENDAR ITEMS



EASTERN CHAPTER MEETINGS:

March 14, 11:30 @ Pizza Ranch on 41st Street (City of Sioux Falls and SDDOT)

- April 11, 11:30 @ Pizza Ranch on 41st Street (City of Sioux Falls Planning and Zoning)
 - May 9, 11:30 @ Pizza Ranch on 41st Street

AET Spring Seminar

March 16,9am-1pm @ Concrete Materials Conference Room 1500 N. Sweetman Place (For more information flier)

2017 Annual Conference

April 26—28 **@ Spearfish Holiday Inn** Convention Center

2017 Fall PDH Conference

Date and Location TBD Hosted by the Central Chapter

To add a calendar item please contact Dan Kvasnicka @ Daniel.kvasnicka@hdrinc.com

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2017 EASTERN CHAPTER SDES/ASCE BANQUET RECAP BY WES PHILLIPS, PE

Banquet Emcee- Jon Wiegland

SDES Eastern Chapter President-Kurt Peppel

Outstanding Engineering Achievement Award -

North Rapid Booster Pump Station Project, Bartlett & West

12th Street Bridge Replacement Project , HDR

Young Engineer of the Year— Scott LaVoy

Engineer of the year-

Josh Peterson

Monty Miller

Scholarship Recepients-

Jesse Morris

Jaord Osborn

Ellie Burczek

Entertainment:

Murder Mystery performed by CharActors of Sioux Falls

2017 EASTERN CHAPTER SDES/ASCE AWARDS BANQUET

Over 65 SDES and ASCE members and guests attended our annual Awards Banquet on Saturday, February 25, 2017. The banquet was held in the Starlite Ballroom at the top of the Holiday Inn City Centre.

2017 EASTERN CHAPTER SDES/ASCE BANQUET RECAP (CONT.) BY WES PHILLIPS, PE

Outstanding Engineering Achievement Award

Bartlett & West - North Rapid Booster Station Project

The former North Rapid Booster Pump Station in Rapid City was constructed in 1961 to provide potable water to a northern portion of the city. Having exceeded its design life, the former Booster Pump Station (BPS) was a below grade, pit type station with poor physical access into and out of the facility, as well as restricted clearances and access for maintenance within the facility.

The City had several design goals for this project, with some of the most critical including:

The design philosophy toward functionality, energy efficiency, economy and minimal maintenance requirements while maintaining pleasing aesthetics.

The facility would be an above-grade BPS structure housing parallel booster pumps capable of providing a firm pumping capacity sized to maximize the existing water distribution system infrastructure.

Utilize variable speed drives (VFD) on the pumps to help with start/stop surge and allow operations flexibility.

Detailed surge analysis and mitigation for emergency pump stops and valve closures would be analyzed and built into design.

The pump station would have system controls in place for local and remote operation and monitoring and would be integrated into the City's existing SCADA system.

The overall project construction cost was \$2,069,490.





2017 EASTERN CHAPTER SDES/ASCE BANQUET RECAP (CONT.) BY WES PHILLIPS, PE

Outstanding Engineering Achievement Award

HDR - 12th Street Bridge Replacement Project

This project is located in Sioux Falls on 12th Street, just west of the intersection with Grange Avenue. The existing bridge was originally built in 1965 and was suffering from deterioration of both the bridge structure and associated retaining walls.

Traffic analysis and phasing of the bridge construction, along with public involvement, were key items that were critical to the success of this project. After evaluating alternatives, costs, and impacts to the public, a 3-lane traffic control configuration was selected to maximize traffic flow through the project.

Use of unique Accelerated Bridge Construction techniques (ABC's) such as pile sleeves, geofoam and precast panels were used reduce construction time and impact to the traveling public. The new bridge footings were constructed below the existing structure prior to the old bridge being removed. This enabled a significant reduction in the time in which traffic was impacted.

Unique challenges on the project included a very uncommon 60 degree skew on the bridge, working over the railroad, with several businesses close to the bridge. The total project cost was 9.2 million.





2017 EASTERN CHAPTER SDES/ASCE BANQUET RECAP (CONT.) BY WES PHILLIPS, PE

Young Engineer of the Year Award

Scott LaVoy, PE

Scott LaVoy attended St. John's University and University of Minnesota, graduating with degrees in Mathematics and Civil Engineering. He has worked for SEH for nearly 10 years and is currently a Project Manager and Client Service Manager for SEH in Sioux Falls. Scott leads design teams of up to 10 people though project planning, development and construction. Throughout his career, Scott has done work with many communities throughout Southwestern Minnesota, Northwestern Iowa and Eastern South Dakota. Notable projects Scott has been involved in include Grand Round North Loop Corridor in St. Paul, MN, 14th Street between Minnesota Avenue and Phillips Avenue, Garfield Avenue Bridge in Dell Rapids, Brookings Southland Lane Detention Pond Project and Reconstruction of 8th Street between Sherman Ave. and Fairfax Ave. He is an active member of SDES, Member of St. Mary's Parish in Dell Rapids, Little League Baseball Coach, Committee Member and Volunteer for the annual Curt Alberty Memorial Golf Tournament, fundraiser for Bethany Meadows Senior Living in Brandon and volunteer for Feeding South Dakota. Scott is married to his wife Laura with 4 children: Thomas (8), Madalyn (5), Sophia (4), and Emerie (1).

Engineer of the Year Award

Joshua Peterson, PE

Joshua Peterson attended South Dakota, graduating with Honors in Civil Engineering. He worked for the South Dakota Department of Transportation for seven years where he managed highway construction projects, directed project staff, developed construction documents, reviewed plans for constructability and sequencing, performed construction inspections and materials testing, and evaluated specifications and procedures. Joshua has been with the City of Sioux Falls for 10 years where he is a Principal Engineer, providing guidance and leadership to a team of civil engineers and engineering technicians who manage the daily activities of the City's capital program. Josh is also the project manager and lead engineer for the City's Railroad Relocation project. What began as a concept and evolved through the development and evaluation of many alternatives, resulted in the selection of a preferred alternative. The preferred alternative had to meet the operation needs of the BNSF Railway and the expectations, with minimal impact to the environment, of the Sioux Falls community and region at large. Under Josh's leadership, the project met the requirements to use Federal funds, met the project schedule and financial goals, and the City completed the acquisition of the ten acres of land in the heart of downtown Sioux Falls in November of 2015. Josh has participated in many SDES activities, presented at monthly meetings and conferences, and has published the monthly newsletter since 2006. In his spare time, he is aggressively training for his next career as a professional bowler and/or pool shark. Weekly, he travels southeastern South Dakota with a bowling ball and a pool cue and annually bowls in Nevada.

Engineer of the Year Award

Monty Miller, PE

Monty Miller attended North Dakota State College of Science and South Dakota State University, graduating with degrees in Civil Engineering. Monty has over 30 years of experience in the planning, design, administration, and management of public works projects. He has experience in all aspects of civil engineering infrastructure and site development including the planning, layout of facilities, grading, drainage, surfacing and utilities. He has worked as a part of, coordinated, managed and supervised many different kinds of projects. Monty started his career with Kaiser Engineers and as the Assistant City Engineer for the City of Brookings, SD. Since 1990, he has been a principal with Sayre Associates. Monty has been an active member in the SDES Southeastern/Eastern Chapter and NSPE since the 1970's. Monty has held offices including President (1997-1998), Vice President (1996-1997) and Secretary/Treasurer (1992-1993). He served SDES at the State level as a state director. Monty has participated on the Annual Conference Committee, Scholarship Committee and assisted with Mathcounts. Monty has actively been involved with ACEC since the 1980's and has held many offices within that organization as well. Monty has served as a state president (2007-2009) and as a National Director. Monty is an active member of St Katharine Drexel Catholic Church in Sioux Falls, SD, and the Knights of Columbus, chairing the Lent Fish Fries every year. He serves on the Southeast Technical Institute Board of Directors and is currently the president of that board. He volunteered with Junior Achievement for many years teaching grade schoolers about business and entrepreneurship. He has been married to Cindy for 36 years, raised 4 daughters, and now enjoys 4 grandsons.

MATHCOUNTS RECAP BY KRISTA MAY, PE



On behalf of the South Dakota Engineering Society, I want to thank all those that volunteered and contributed financially to this year's program. Your contribution helped ensure another successful program on the local level. This year's competition was held on February 23, 2017 at Southeast Technical Institute in Sioux Falls. In total, over 40 people competed, coached, and assisted with this year's competition. Unfortunately, the snow storm prevented 3 schools from making the trek to Sioux Falls.

The first-place team was Edison Middle School and the second-place team was Memorial Middle School, both of Sioux Falls. The top 2 teams and top 4 individuals (2 from Edison MS, 1 from Yankton MS, and 1 from Patrick Henry MS) from the local competition advance to the state competition in Pierre on March 11th. There they will compete against the top students from 2 other chapters in the state. The top four individuals from the State Competition will represent South Dakota at the 2017 Raytheon MATHCOUNTS National Competition in Orlando, FL on May 8th.

Thanks to the following businesses for their financial contribution to this year's competition:

	Bartlett & West		HDR Engineering
	BX Civil & Construction Inc.	Helms & Associates	
	Cemcast Pipe & Precast		HR Green
	Geotek Engineering & Testing		Infrastructure Design Group
	Goldsmith Heck Engineers	Journey Group	
	JSA Consulting Engineers	KMS En	gineering
Thank you to the following volunteers for helping with this year's competition:			
	Erin Steever		Mo Phifer
	Jon Wiegand		Matt Brua
	Daniel Kvasnicka	Kurt Pe	ppel
	Nick Borns		Phil Gundvaldson
	Jedidiah Reimnitz	Beth Ka	ssing

Thank you again for supporting the MATHCOUNTS program in South Dakota. Your help is greatly appreciated!

MATHCOUNTS RECAP (CONT.) BY KRISTA MAY, PE



Top 10 Individuals (1 student from Yankton not pictured)

1st Place Team – Edison MS, Sioux Falls





2nd Place Team – Memorial MS, Sioux Falls

E-WEEK RECAP BY ERIN STEEVER, PE

E-Week, a Celebration of Engineering

SDES again partnered with the Kirby Science Discovery Center in Sioux Falls with hands-on engineering themed outreach activities focusing on 5 to 12 year olds and their families. This year two activities were developed to focus on water systems for the center's Super Second Saturday event in February.

What better topic to engage young minds to consider environmental engineering than water towers!

ENGINEERING IN ACTION!

The first water system activity included a simplified tower and distribution system. Using a mounted bucket filled with water as the miniature tower, and attached tubing as the distribution system, the kids experimented with water balloons attached to the opposite end of the distribution pipe (tubing). By raising and lowering the balloons and comparing them to the water level in the miniature water tower, they could see exactly how water pressure is created. When the balloons were held close to the floor, water filled the balloons up, which is exactly how drinking water is delivered to their faucets at home.

When they held their balloons above their head the water would drain out of the balloon and they'd eventually have an empty balloon. They learned that if their faucet in their home was at an elevation higher than the water tower, they couldn't be served by the water tower and a pump would be needed to get water to their faucet. And that friends, are why water towers are usually so much taller than the houses and other buildings in your town!

HOW TALL CAN YOU GO?

The second water system activity was a competition to build the tallest water tower! Using aspects of structural engineering, stacks of newspaper and masking tape were the construction materials to be utilized. Using inspiration from the three-different elevated water tower structure types available on the market today (spheroid, multi- column, and composite), there was quite a range of unique tower designs! The only catch was their finished tower had to hold a balloon filled with air and 12 oz of water! If a structure failed, the kids (and sometimes their assisting parent) identified the failing or weakest part of their design and came up with alternatives to keep their water balloon from falling to the ground. It was great to see the kids eagerly working on their designs and problem solving.

Events like this are made by the volunteers! I'd like to send out shout out to our 2017 Super Second Saturday volunteers: Ray Pierson, Krista May, Jed Reimintz, Shannon Schultz, and several high school students from the Fellowship of the Loose Screw First Tech Challenge robotics team. The Washington Pavilion's Kirby Science Center (KSDC) has allowed and encouraged this E-week program to develop through the years. The South Dakota Engineering Society sends a special thanks to Erica Lacey and Jamie Buswell at KSDC this year. We had a great time celebrating National E-Week 2017.



GETTING TO KNOW YOU Member Bio

AARON HARTWELL

Albertson Engineering 315 N Main Ave Suite 207 Sioux Falls, SD 57104 Phone: (605) 343 9606

<u>What JAaron best likes being about</u> <u>an engineer...</u> ... as I watch the construction of the building taking shape from the construction documents that our team put together. A brief history...Born and raised in Rapid City, SD where I was raised by my parents along with two younger sisters. All of us kids were homeschooled from K-12. I attended South Dakota School of Mines and Technology where I earned a B.S. and M.S

in Civil Engineering. While in high school and first few years in college I worked for a few construction companies where I gained some insight into how buildings were constructed. I started out at Albertson Engineering as an intern while a junior in college. While there I was able to complete the FE, PE, and SE exams and am now licensed in SD, NE, MN, and IA. In the last couple years I have transitioned over to running our company's Sioux Falls office.



A LITTLE BIT MORE ABOUT OUR MEMBER OF THE MONTH:

Family: Single

Hometown: Rapid City, SD

Job Title and Years With Firm: Structural Engineer - 11 years

Favorite Room in My House and Why: *Garage, that's where I can work on my projects.*

My Normal Breakfast: Oatmeal and granola, eggs, and fruit

Last CD Purchased: I listen to music on the Pandora app

Last DVD (movie or game) Purchased: I get movies from Netflix, last one I watched was Now You See Me 2

Hobbies: Working out at the gym, cooking healthy meals, watching football and movies, playing the drums, working on remodel projects.

What do you collect? *Quarters with the states minted on them, playing cards with pictures of the tourist destinations I have visited.*

My Best Personality Trait: Honesty

Pets: none

Pet peeves: insincerity

Favorite beverage: Sparkling Cider

Favorite TV Show: I mainly watch sports and news

Favorite Season: Summer

People may not know about me... I used to play chess as a teenager. I once took 3rd place in a state high school tournament. Also I have completed two full basement remodels in

houses while residing in them.

What made you want to be an engineer? I have had a few jobs working in the construction field while going to school. I thought it would be fun to be the one to do the structural design and put the plans together for the buildings I was working on.

Describe a significant event in your career. Watching the erection of the Dignity Sculpture in Chamberlain SD last September. Setting the sculpture on the foundation was a culmination of a lot of design work, a significant portion of which was learning to use what skills I have accumulated in design engineering of buildings in new ways to work within and be part of a sculpture.

Describe a significant event in your personal life. Being the first member of my family to earn a Master's degree is one event. Getting to spend time growing up with my grandparents working at their cattle ranch located in the middle of nowhere in northwest South Dakota is a culmination of events that has impacted me.

Describe an achievement from the past year you are proud of. *I passed the two day Structural Engineer (SE) ex-amination last April*

What are you looking forward to in the next year? I'm looking forward to growing spiritually, mentally, financially and socially and learning how to do new things.

I hate it when... I have to get up before 6am

Favorite Place to Visit and Why: Some place warm in the winter...that's a good enough reason why.

2015-2016 OFFICERS AND CHAIRPERSONS

Officers

President	Kurt Peppel, PE	
President Elect	Jonathan Wiegand, PE	
Vice President	Lance Weatherly, PE	
Secretary/Treasurer	Brett Lovro, PE	
Chapter Director(2nd term)	Joshua VandenBos, PE	
Chapter Director(1st term)	Daniel Kvasnicka, EIT	
State Director	Ben Scholtz, PE	
Past President	Ray Pierson, PE	
Committees		
Nominating Committee	Lee Kaffar	
Mathcounts	Krista May, PE	
Scholarship	Lance Mayer, PE	
Events Coordinators		
eWeek	Erin Steever, PE	
Free First Fridays	Erin Steever, PE	
Winter Social	Gabe Laber, PE	
Golf Outing	Gabe Laber, PE	
Awards	Wes Philips, PE	
Audio/Visual IT	Chad Stensland, PE	
Newsletter	Joshua Peterson, PE	
Membership List	Myron Adam, PE	

SDES MISSION STATEMENT

SDES is the state society of engineers from all disciplines that promotes the ethical and competent practice of engineering, advocates licensure, enhances the image of its members, and advocates legislation and public policy for the betterment of human welfare and the profession.

Webex Login Instructions

- 1. Navigate your internet browser to:
- 2. <u>https://sdes-eastern.webex.com</u>
- 3. Select the meeting date from the calendar in the "Browse Meetings" Window.
- 4. Click the "Register" link by the monthly meeting.
- 5. Fill in your first name, last name, email address and hit the "Register Now" button at the bottom.
- 6. A registration email will be sent with all the information to log into the meeting.

PDH Documentation

Sign-in sheets for Eastern Chapter meetings are posted on the SDES website for members to use for PDH documentation. Go to www.sdes.org to download sign-in sheets.

For any and all newsletter articles, additions, edits, corrections, and important dates contact:

Daniel Kvasnicka, EIT HDR, 6300 S. Old Village Place Suite 100 SIOUX FALLS, SD 57108-2102 605-977.7757 Daniel.kvasnicka@hdrinc.com

For all *State Society* membership information and other business, contact:

Gail Boddicker, Executive Director SDES Rapid City, SD 57709 605-394-6674 Gail.Boddicker@sdsmt.edu





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