



ST. LOUIS ENGINEER

**Missouri Society of Professional Engineers (MSPE)
and American Society of Civil Engineers (ASCE)
May Joint Luncheon**

Morals, Ethics, and Integrity – Know Your Line in the Sand

Abstract: In this presentation the speaker explores definitions of terms related to ethics in professional practice, presents current examples of ethically questionable situations, and discusses ways to recognize a slippery slope early in the process. Ethics is not just a list of rules – right and wrong are not always easy to discern. How do ethics and legality interplay in decision making? Cognitive dissonance is discussed in the context of making ethical decisions amid conflicting values and beliefs. When repeated, ethical decision-making becomes habitual and leads to a more reflexive process for our future decisions.

About the Presenter: DALE SMITH, P.E., F.ASCE, holds a bachelor’s degree in Geological Engineering from the Missouri University of Science and Technology and a master’s degree in Civil Engineering from the University of California, Berkeley. Smith is Geotechnology’s south region geotechnical manager with 16 professional staff, currently located in their Memphis, Tennessee office. He worked for the U.S. Navy and three engineering firms before moving back to St. Louis for a position with Geotechnology where he has been employed since the summer of 1995. In his time with Geotechnology he has managed a wide array of projects and worn many hats, including managing the Illinois office for 9 years and project managing jobs ranging up to the recent MSD River Des Peres combined sewer overflow tunnel exploration. Currently he is managing projects for Tennessee and Arkansas DOTs. He was awarded the Geotechnology Ronald M. Eckelkamp Leadership Award in 2017.

Thursday, May 21st , 2020, 11:30am to 1:00pm

The Engineering Center of St. Louis
4359 Lindell Blvd. – St. Louis Missouri, MO 63108

Registration starts at 11:30am and lunch is served at 11:45am. The program will begin promptly at 12:00pm. One (1) PDH is available.

Please Register at: <https://mspe.org/event-3788081>. Please register and pay online for reservations by 5:00pm, Thursday, May 14th.

May Joint Luncheon

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P R E S I D E N T ' S M E S S A G E

MSPE St. Louis Chapter – September 2019 President's Report



Hopefully you were able to enjoy EWeek (February 16–22, 2020), personally I was lucky enough to enjoy several EWeek events. First, was our Section's Annual Award Dinner held at the Engineering Center on February 7th. Next, I joined several other MSPE members at the St. Louis MATHCOUTNS competition. Finally, I joined in the SciFest Celebration of National Engineers Week at the St. Louis Science Center. All of these events left me excited about the profession and grateful for the many members that helped arrange and manage the events, including Ms. *Kathy French, P.E.*, Mr. *Bently Green, P.E.*, Ms. *Erin Jearls, P.E.* and Mr. *Eric Stauffer, P.E.*

In case you missed the annual Dinner I note we took the time to recognize several individuals including Mr. Denis Fessler who was previously inducted into the MSPE Hall of Fame. Denis Fessler, P.E., F.NSPE, had an accident that left him paralyzed from the shoulders down. Denis's engineering background allowed him to be both independent and productive. His electric wheelchair, controlled by a joystick a specially equipped van allowed him to be mobile, and actively participate in a number of volunteer organizations like MSPE, the Boy Scouts, and church groups. He also designed a table that attached to his wheelchair which held an array of remote controls, a telephony, and a 16" long "stick" to operate the remotes, page through a book, or type on his computer. A special computer program allowed him to dictate text through a microphone for writing assignments and e-mail. His engineering background helped him perceive what might be possible and acquire the means to do it. He was very proud of the initials after his name: P.E.

We also recognized Mr. Thomas Ratzki, P.E., as PE of the Year. A graduate of Oklahoma State University with a BS in Civil Engineering he also received a master's degree in Civil Engineering from Mizzou. Over his 38 -year career Tom has been very active with both the American Water Works Association and Water Environment Federation, serving on numerous committees, and leading the Missouri Environment Federation as President in 2014, and serves as a contributing author to the AWWA Manual M47 Capital Projects Delivery. He originally joined NSPE as a student at Oklahoma State University, where he took the oath of the Order of the Engineer, before graduation. He was active in the Western Section of MSPE while initially employed by Black & Veatch in Kansas City. When he returned to Missouri in 2000, he reengaged with MSPE attending various St Louis Chapter MSPE meetings, assisting in and organizing Engineers Week events and ultimately becoming an officer and State Director for the St Louis Chapter.

I am often asked to speak to students at various functions. Personally I have found that stories of outstanding engineers, James Eads of course being one of my favorites, are well received and according to feedback from the students a welcome change from the normal, "Are you good at math?" However when looking for inspiration after a week like this I need only to our MSPE roster!

So hopefully you had a wonderful EWeek and can emerge with renewed excitement. If you have any questions about anything related to EWeek or wish to become more active in MSPE please call or email me, Michael T. Buechter at 314-768-2772 or mtbuec@stlmsd.com.

Happy Belated EWeek!
Michael T. Buechter, PE, D.WRE, F.EWRI

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Kathy French, P.E.

Missouri Society of Professional Engineers - St. Louis Chapter
2020-2021 Calendar

Apr-20						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May-20						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Jun-20						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

- Kickoff Meeting Chapter/Foundation Board Meeting
- Chapter/Foundation Board Meeting
- Newsletter Deadline for Article Submittals, President's Message, Program Information, Etc.
- Tentative Program Dates
- Missouri Engineer Article Deadline Dates

Potential Programs, potential 3rd Thursday of the month:

- April: Canceled due to COVID-19
- May: Moral, Ethical, and Integrity - Know Your Line in the Sand (Smith)
- June: Greg Kuntz Poplar Street Bridge Relocation, Officer Installation (Buechter)



COVID-19 Event Cancellation and Announcement

Given the situation with COVID-19 the April 16th Chapter Event for the Ameren Solar Facilities has been canceled.

Cancelled

Addressing COVID-19

MSPE Members,

MSPE recognizes the growing concern associated with the impact of COVID-19 (coronavirus) as federal, state and local governments work to minimize risk and prevent its spread. We are closely following the guidelines set by the Centers for Disease Control and Prevention and our public health officials.

To that end, we urge our society chapters to follow CDC recommendations regarding upcoming meetings this spring. No changes have been determined for future MSPE state events at this time.

MSPE staff remains committed to maintain membership services without interruption. We are equipped with technology services and solutions that allow us to continue serving you from our Jefferson City office or in the event staff must work from home.

MSPE has a dedicated conference call line available for committees and chapters to continue necessary business while avoiding in-person meetings. For assistance in this area, please contact our office at 573-636-4861 or [in-fo@mspe.org](mailto:info@mspe.org).

We will keep our membership abreast of updates as soon as it becomes available. We urge our members to use caution and stay safe during the following weeks.

Kind regards,
MSPE Staff

Link to CDC: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>

June Chapter Event

Missouri Society of Professional Engineers (MSPE) June Luncheon

Thursday, June 18th, 2020

Sliding the Poplar Street Bridge

Abstract: *The Poplar Street Bridge is a 50 year old five span (300'-500'-600'-500'-265') 2165' long structure which carries I-64 & I-55 over the Mississippi River in downtown St. Louis and connects Missouri and Illinois. The bridge has twin Eastbound and Westbound superstructures consisting of two variable depth steel box girders (25' max. depth) with an orthotropic steel deck on a shared substructure.*

The Missouri Department of Transportation hired HDR to provide the following improvements to the Poplar Street Bridge:

1) Increase lane capacity of the EB Bridge from 4 to 5 lanes in conjunction with improving interchange ramp structures on the Missouri side, 2) provide a new and improved riding surface and 3) Rehabilitate the structure.

A unique aspect of the project was the sliding of the existing bridge. In lieu of a traditional widening, the eastbound superstructure was successfully slid 9' to the south onto widened piers on March 31, 2018 over the course of 2.5 hours and was widely reported as the 2nd longest bridge slide ever in the United States by length. The eastbound and westbound superstructures were then connected together using a concrete deck on a stringer-floor-beam type cross frame system which added redundancy and improved the performance of the structure.

Greg Kuntz is Bridge Section Manager in HDR's St. Louis office. He is a graduate of the University of Missouri-Rolla and the University of Kansas. He has nearly 20 years of experience in the management, design and construction of highway bridge projects, primarily for the Missouri Department of Transportation. His projects include numerous major river crossings and complex rehabilitations

Time, Date, Location

11:30am to 1:00pm, Thursday, June 18th, 2020, at the Engineering Center, 4359 Lindell, St. Louis 63018. Registration starts at 11:30am and lunch is served at 11:45am. The program will begin promptly at 12:00pm. One (1) PDH is available.

Cost: \$20/person

Registration : <https://mspe.org/event-3735052>

2020 Annual MATHCOUNTS Competition

On February 15th, MSPE St. Louis Chapter hosted the annual MATHCOUNTS St. Louis Chapter Competition at St. Louis Community College in Florissant Valley. As always this event was well staffed and well attended. Nearly 20 schools attended the competition with over 100 students coming to compete. We had around 20 volunteers to help grade nearly 10,000 questions (every question must be graded twice). Thank you to all who volunteered as clearly there is no way to do it without you. I kept time during the Countdown Round this year and the average time to answer a question we can barely read was roughly 3 seconds. If you have never seen these students complete such complicated questions in such a short amount of time, we highly recommend you volunteer at this event in the future. Our local middle school students truly are amazing.



Not Shown: Linda Moen, George Tomazi, Anne Marie Mosher, and Rick Armstrong

2020 National Engineers Week Celebration at the Saint Louis Science Center

The **Missouri Society of Professional Engineers (MSPE)** St. Louis Chapter cohosted the **SciFest Engineering Expo** held Saturday, February 22, 2020 from 9:30 a.m. to 4:30 p.m. at the Saint Louis Science Center in celebration of National Engineers Week (**EWeek**). A variety of engineering fields were represented by organizations, government agencies, companies, and colleges.

Engineering societies present during the **EWeek** event in addition to MSPE included the **American Society of Civil Engineers (ASCE)** with their pipe cleaner structures and cable-stayed bridge. **Gateway Biomedical Society (GBS)** had medical equipment and a hands-on squash dissection using a surgical scope. **National Society of Black Engineers (NSBE)** had snap circuit demonstrations. The **Society of American Military Engineers (SAME)** Saint Louis & Scott Field Post demonstrated a catapult and guided robots.

ASCE:



GBS:



NSBE:



SAME:



Boeing brought a variety of hands-on activities including a miniature flight simulator, completing the circuit, and cup bowling robot. **Geotechnology** displayed their interactive ground penetrating radar. **IMEG** showcased an **Occulus Quest VR** head set for visitors to use to explore the International Space Station and the **United States Army Corps of Engineers** brought several hands-on models including their water sediment transport model and levee protection model in addition to making life preservers.

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2020 National Engineers Week Celebration at the Saint Louis Science Center

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Boeing:



Geotechnology:



IMEG

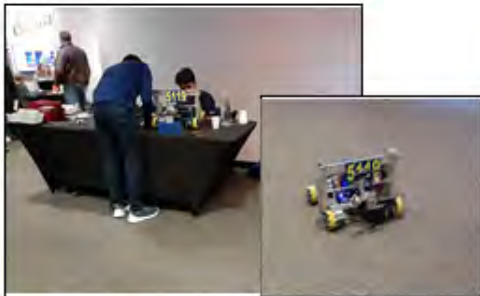


U.S. Army Corps of Engineers:



The **Baryons 5119 FIRST Robotics Team** had this year's competition robot doing tricks. **Greater St Louis Flight Instructors Association (GSLFIA)** displayed photos and videos of various aircrafts. **St. Louis Space Frontier** demonstrated photobioreactors and centrifugal forces. The **Saint Louis Zoo** displayed the engineering they do for their animals.

Baryons 5119



GSLFIA



Space Frontier:



Zoo:



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2020 National Engineers Week Celebration at the Saint Louis Science Center

Continued from page 8.

Several universities participated this year at the Science Center. **Missouri University of Science and Technology (Missouri S&T)** had a variety of their Student Design Center teams and hands-on activities. **Southern Illinois University Edwardsville (SIUE)** displayed their Cougar Baja Car in which kids could climb into and pretend they were racing with the best, and their SIUE ASCE student chapter simulated earthquakes with their shake table. **Saint Louis University's (SLU) Parks College** showcased their drones. **Southwestern Illinois College (SWIC)** represented their aviation degree and credentials program. **Spectra** from **Washington University (Wash U)** demonstrated thermal imaging, **Lew Lab** painted with light using spectrophotometry and **Women in STEM** had playdough brain imaging. **Maryville Science and Robotics Program** displayed miniature robots created from their Science and Robotics Program.

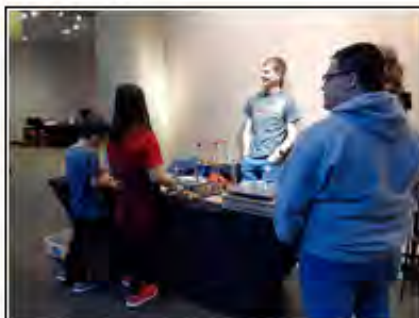
Missouri S&T:



SIUE:



SIUE-ASCE:



Maryville:



Wash U – Spectra:



Wash U – Lew Lab:



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2020 National Engineers Week Celebration at the Saint Louis Science Center

Continued from page 9.

Wash U – Women in STEM:



SLU Parks College:



SWIC:



The MSPE exhibit was located near the entrance of the Science Center next to the registration table and intrigued many throughout the event. It was comprised of a ramp, a ball at the top of the ramp, office supplies, and a Buzz Light-year figurine. The objective was to have participants build a structure out of the given supplies to protect Buzz Light-year, located at the bottom of the ramp, from being knocked over by the ball (a.k.a. the asteroid) that rolled down the ramp. The activity was popular with all age groups, and a variety of solutions were discovered.



MSPE:



A special thanks to these volunteers who made the MSPE exhibit a success: **Michael Buechter, Lisa Cheng, Dana Halladay, Haripriya Naidu, Kelly Sextro, & Kyle Williams.**

EWeek is nationally recognized and concluded in St. Louis, MO with the close of the Saint Louis Science Center (SLSC). Attendance was recorded Saturday with 4,175 people. Thanks to our Science Center contacts **Ruth Watt** for making the SciFest Engineering Expo at the SLSC in celebration of National EWeek a smooth and successful operation. We are looking forward to next year's National EWeek celebration at the SLSC scheduled for **February 27, 2021!**

- Erin Jearls, MSPE

69th National Engineers Week Reception and Awards

On February 7th, the St. Louis Chapter of MSPE gathered together at the Engineers' Club of St. Louis to honor six deserving members of the engineering profession and award a scholarship graduating high school senior, Wesley Caprio. A big "thank you" to everyone who work to make the evening an enjoyable time to gather for a meal and celebrate National Engineers Week.



From left to right: Mike Buechter, P.E. (President, St. Louis Chapter of MSPE), Edward Gerding, P.E. (Outstanding PE in Industry), Eric Hollman, P.E. (Young Engineer of the Year), Terri Fessler accepting for Denis Fessler, P.E. (MSPE Hall of Fame), Nicole Young, P.E. (Outstanding PE in Private Practice), Thomas Ratzki, P.E. (PE of the Year), Daniel Giammar, P.E., Ph.D. (Outstanding PE in Education), and Wesley Caprio (Scholarship).



Tom Lanzer (left) presents Eric Hollman with the award for Young Engineer of the Year.

Eric Hollman, Young Engineer of the Year

Eric Hollmann is a graduated from Southern Illinois University-Carbondale in 2010 with a B.S in Civil Engineering & M.S in Civil Engineering in 2013 with an emphasis in structural engineering. He served as a materials testing instructor while at SIUC and was member of the concrete canoe design team.

Eric currently is currently a structural engineer at WSP where he has had the opportunity to work on a diverse range of projects. Notable projects include the San Diego Consolidated Rental Car facility, a four-story \$225 million-dollar structure featuring 3,200 parking spaces & the Fulton State Hospital, a 420,000 sq. ft Forensic Psychiatric Hospital, winner of the Mid-Missouri AIA Honor Award.

As a member of MSPE, Eric has helped facilitate and organize monthly lunch events, assist in events to promote MSPE membership, and teaches the structural portion of the MSPE P.E. prep course. In his free time, Eric enjoys chasing around his young twins, sleeping when said twins are not running around and watching and playing many of the sports St. Louis has to offer.

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69th National Engineers Week Reception and Awards

Continued from page 11.



Bently Green (left) presents Nicole Young with the award for Outstanding PE in Private Practice.

Nicole A. Young, Outstanding PE in Private Practice

Nicole A. Young, P.E. is the Principal Engineer and Owner of Lion CSG, a woman business enterprise focused on civil infrastructure and environmental engineering. For over 20-years, Ms. Young has successfully assisted organizations with program management, project management, planning, engineering, environmental and construction management.

She has been trained and certified as a Project Management Professional by the Project Management Institute. She has a Bachelor of Science in Civil Engineering from Purdue University, a Master of Science in Environmental Engineering from Washington University in St. Louis, and a Master of Business Administration from Pennsylvania State University.



Yinjie Cheng (left) presents Daniel Giammar with the award for Outstanding PE in Education.

Daniel Giammar, Outstanding PE in Education

Professor Giammar is the Walter E. Browne Professor of Environmental Engineering in the Department of Energy, Environmental and Chemical Engineering at Washington University in St. Louis. He enjoys teaching the first-year Introduction to Energy, Environmental and Chemical Engineering course as well as upper level courses on environmental chemistry, physical-chemical processes for water treatment, and environmental engineering laboratory methods.

Professor Giammar's research focuses on chemical reactions that affect the fate and transport of heavy metals, radionuclides, and other inorganic constituents in natural and engineered aquatic systems. His recent work has investigated the removal of arsenic and chromium from drinking water, control of the corrosion of lead pipes, geologic carbon sequestration, and biogeochemical processes for remediation of uranium-contaminated sites. His research has been sponsored by the National Science Foundation, Department of Energy, and Water Research Foundation. Professor Giammar is currently an Associate Editor of Environmental Science & Technology. Professor Giammar completed his B.S. at Carnegie Mellon University, M.S. and Ph.D. at Caltech, and postdoctoral training at Princeton University before joining Washington University in St. Louis in 2002. He is a registered professional engineer in the State of Missouri.

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69th National Engineers Week Reception and Awards

Continued from page 12.



Bob Becnel (right) presents Ed Gerding with the award for Outstanding PE in Industry.

Edward Gerding, Outstanding PE in Industry

Ed Gerding is the vice president and senior chief engineer of Boeing Defense, Space and Security (BDS) Engineering Structures and Mechanical Systems, where he is responsible for driving engineering excellence in BDS Systems and ensuring the technical integrity and success of BDS development and production programs. His focus is on proactive risk identification and mitigation, and rapid resolution of the top BDS structural/mechanical technical risk/issues/opportunities and key technical decisions through his personal engagement and that of Boeing's technical fellows and subject matter experts. Gerding also has the role of the BDS Structures and Build engineering capability leader, where he has assigned and/or enrolled responsibility for all Structures Engineers and Production Engineers across BDS.

Prior to this position, Gerding was on special assignment to Boeing-South Carolina (BSC) as part of the enterprise Productivity Leadership Development Program (PLDP). As the BSC PLDP leader, he was responsible for identifying and executing affordability and flow reduction projects, safety initiatives and instilling Program Management best practices. Gerding began his career with McDonnell Douglas in 1984 as an associate structural design engineer on the AV-8B Harrier II program. He has worked a variety of other programs, including the C-17, F-15, F/A-18, A-10, and 787, as well as assignments on proprietary programs.

Gerding holds a Bachelor of Science degree in Mechanical Engineering from the University of Missouri-Rolla, a Master of Science degree in Mechanical Engineering from Washington University (St. Louis), and a master's degree in Business Administration from Maryville University.



Bently Green (left) presents Thomas Ratzki with the award for PE of the Year.

Thomas Ratzki, PE of the Year

Mr. Ratzki served as Black & Veatch's office manager and corporate executive in the St Louis Region for 17 years. He worked with all major water and wastewater utilities in the region plus the Great Rivers Greenway and East -West Gateway, Missouri Department of Natural Resources, USEPA and US Army Corps of Engineers.

A graduate of Oklahoma State University with a BS in Civil Engineering, he also received a master's degree in Civil Engineering from Mizzou. Over his 38-year career Tom has been very active with both the American Water Works Association and Water Environment Federation, serving on numerous committees, and leading the Missouri Environment Federation as President in 2014, and serves as a contributing author to the AWWA Manual M47 Capital Projects Delivery. He originally joined NSPE as a student at Oklahoma State University, where he took the oath of the Order of the Engineer, before graduation. He was active in the Western Section of MSPE while initially employed by Black & Veatch in Kansas City. When he returned to Missouri in 2000, he reengaged with MSPE attending various St Louis Chapter MSPE meetings, assisting in and organizing Engineers Week events and ultimately becoming an officer and State Director for the St Louis Chapter.

Since retirement, Tom has focused on "giving back" to the Engineering and Civil Engineering Education Community, including co-chairing the ASCE Report Card on Water Facilities for Missouri in 2018, and serving as Rate Commissioner for the Metropolitan St Louis Sewer District in 2018/2019, representing the Engineers Club of St Louis. He also continued his commitment developing the next generation of engineers through his commitment to students at his alma mater and local universities. He was selected to chair the Advisory Boards for both the School of Civil Engineering at St Louis University and his alma mater Oklahoma State University. He also is member of the Academy of Distinguished Civil Engineering Alumni at the University of Missouri which provides industry guidance to their Civil Engineering program. *Continued on page 14.*

69th National Engineers Week Reception and Awards

Denis Fessler, MSPE Hall of Fame

Denis Fessler, P.E., and fellow member for MSPE for 40 years, had an accident in 1993 that left him completely paralyzed from the shoulders down. Having an extremely positive approach to life.

Denis's engineering background allowed him to make many modifications to his wheelchair that allowed him to be both independent and productive. His electric wheelchair, controlled by a joystick he operates with his chin and a specially equipped van allowed him to be mobile, and actively participate in a number of volunteer organizations like MSPE, the Boy Scouts, and church groups. He designed a table that attached to his wheelchair which held an array of remote controls, a telephony, and a 16" long "stick" he held in his mouth to operate the remotes, page through a stack of papers or pages in a book, or type on his computer. A special computer program allowed him to dictate text through a microphone for writing assignments and e-mail. Without his engineering background to perceive what might be possible and acquire the means to do it, he definitely would not be as well off.

Having served as St. Louis Chapter President from 1990-1991 and chaired numerous committees at the Chapter, State, and National levels, Denis remained active with the MSPE and St. Louis Chapter activities throughout his life. He was very proud of the initials after his name: P.E.

For his lifetime of service to professional engineering, we hereby induct Denis Fessler into the MSPE Hall of Fame.



Denis Fessler, MSPE Hall of Fame



Ron Black (left) presents Terri Fessler with Denis' induction to the MSPE Hall of Fame.