



Columbus Engineer

Franklin County Chapter

A chapter chartered by the Ohio Society of Professional Engineers.

P.O. Box 69

Reynoldsburg, OH 43068-0069

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President's Message

Baba Yahaya, P.E.
– FCC President

FCC-OSPE is taking nomination of officer and trustee candidates

this February for elections in March. The elected officers and trustee will begin service on July 1, 2022 for the 2022-2023 administrative year. Please contact me at Baba.yahaya2@terracon.com to find out how you can serve or nominate someone.

Our continuing professional development (CPD) hour program in January featured Peter Corwin, PhD Candidate at the Colorado School of Mines, presenting on the topic "Space Resources and Additive Manufacturing: A Flexible Solution for Future Long-Duration Space Exploration". I would like to thank Peter for taking the time to introduce these concepts with us. Refer to the 2021-2022 Calendar page of this publication for our program schedule. Our chapter programs are free to members of NSPE and OSPE/FCC.

The 2022 Central Ohio Engineers Week Luncheon is schedule to take place on February 24, 2022 at the Bridgewater Conference Center in Powell, Ohio. I encourage you to register for the event. Refer to the Engineers Week Luncheon announcement included in this publication for more information.



Franklin County Chapter is participating in the 2022 CENTRAL OHIO ENGINEERS WEEK LUNCHEON at 11:00 AM on February 24th at Bridgewater Banquet & Conference Center, 10561 Sawmill Pkwy Powell, OH 43065. Below is the Speaker information.

[See the Flyer to Register](#)

2022 CENTRAL OHIO ENGINEERS WEEK LUNCHEON

Greetings! Please join us for our 2022 Columbus Engineer's Week Lunch. Story Musgrave will be presenting his life story. **Farm Kid to Trauma Surgeon to Rocketman and Way Beyond: Excellence, Exploration and Evolution.**

This presentation will focus on the lessons learned over the course of his life as a farm kid, marine, trauma surgeon, engineer, astronaut and beyond. How these lessons make you a better persona and a better engineer.



Story Musgrave was born in 1935 on a dairy farm in Stockbridge, MA. He explored the forests by himself at 3 and by 5 floated his homebuilt rafts on the rivers.



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HAPPY
Valentine's Day

Luncheon, continued -

He rode combines at 7, drove trucks and tractors at 10 and when alone in remote fields, repaired them at the age of 13. Also, at the age of 13 he solo-piloted an aircraft and over the next 71 years, flew 18,000 hours including 7000 in supersonic aircraft while earning his wings from the U.S. Air Force and NASA. Story also established and operated the Berkshire Maple Syrup Company on his own at the age of 14.

Story never finished school, he instead ran off to join the U. S. Marines at 17 where he was an aircraft engine mechanic, crew chief and plane captain at Marine Airbase K-6, Korea and on the aircraft carrier USS Wasp. During college he drove and repaired M47 and M48 tanks with the Marine Corps Active Reserve. He is a parachutist with over 800 jumps including 100 experimental freefalls involving the first study of the aerodynamics of the free flying human body.

Story has 6 graduate degrees in math, computers, chemistry, medicine, biological physics, and literature and has been awarded 22 honorary doctorates. He was a part-time trauma surgeon at the University of Colorado Medical Center for the duration of his astronaut career.

Story was a NASA Astronaut for over 30 years, flying on six spaceflights. He performed the first shuttle spacewalk during Challenger's first flight, was a pilot on an astronomy mission, conducted two classified DOD missions, was the lead spacewalker on the first Hubble Space Telescope repair mission and operated an electronic chip manufacturing satellite on



Columbia. He was the lead communicator in the NASA Mission Control Center for 25 other missions.

Today, Story is a producer/director of multimedia, a landscape architect, a heavy equipment operator, an artist/designer/engineer with Applied Minds LLC, a Professor of Design at Art Center College of Design in Pasadena, CA. and is a consultant and speaker on topics such as design driven innovation, problem solving, personal and professional development, operational excellence, human performance, reliability, quality, and safety.

He has 7 beautiful children: Lorelei, Scott, Holly, Todd, Jeff, Lane and "little" Story, ranging from ages 61 to 14 years, 3 beautiful grandchildren, and a beautiful wife, Amanda.



**Mentors Wanted for OSPE-FCC
Mentorship Program**

Are you an experienced engineer who wants to help the next generation? Or someone in the middle, with an interest in peer-to-peer connections? Then we want YOU (yes you!) to join the OSPE-FCC Mentorship Program! At this time, we are seeking individuals interested in serving as one-on-one virtual mentors to other OSPE-FCC members, including our student chapter. The expected time commitment is 1-2 hours per month, with recommended topics provided. The program will kick off later this month, running through May 2022. Contact Young Engineer Trustee Colleen Konsavage at ckonsav1@gmail.com to join the program as a mentor or learn more by 02/19/2022. We will be creating a mentor database, and then issuing a call for mentees in the coming weeks (and you can participate as both a mentor and mentee!). Join us as we leverage one of our strongest assets in OSPE—the experience of our members.

To Register:

<http://events.constantcontact.com/register/event?llr=mhvegidab&oeidk=a07eiyojgx8b5a6378>

DISCOVER
ENGINEERS WEEK

FEBRUARY 20-26, 2022



2022 CENTRAL OHIO ENGINEERS WEEK LUNCHEON



Farm Kid to Trauma Surgeon to Rocketman
and Way Beyond:
Excellence, Exploration, and Evolution

presented by:

Dr. Story Musgrave

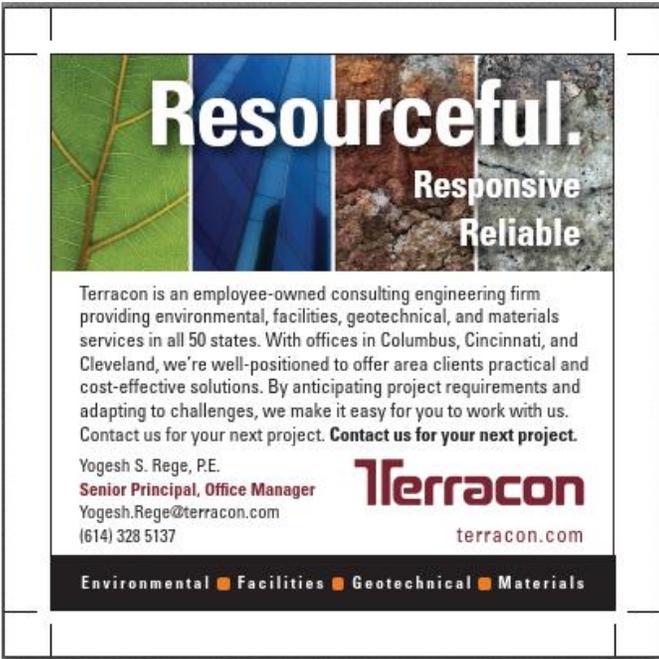
US Space Shuttle and Hubble Telescope Repair Astronaut

Thursday, February 24, 2022

Registration Begins 11:00am

Program: 12-1:30pm

Bridgewater Banquet and Conference Center
10561 Sawmill Pkwy, Powell, OH 43065



10 Core Leadership Principles For A New Year



As we set off on a new year of developing the best organization possible, it's a good time to get a refresh on some core leadership principles. These practices are what successful organizations commit to and leaders regularly practice. One of my favorite questions when working with leadership teams is to ask them the true measurement of leadership success. Some of the answers include increasing the bottom line, creating a new customers/client base or, lately, securing a more reliable supply chain. Very simply, the true measurement of leadership success is how engaged, satisfied and productive your workforce is.

When you have an engaged workforce, they will help find supply chain solutions. When employees are satisfied, they are inspired and motivated. When the workforce is productive, they are ensuring an excellent client/customer experience. You want to increase your client base? Treat your workforce like they are your clients and watch how they treat your clients and customers. Focusing on your workforce, inspiring them, helping them grow to their next level and keeping them motivated is paramount to the

organization's success and what leaders need to make a daily priority.

Here are 10 core philosophies that can catapult leadership and organizational success in 2022:

1. Work backward through the sales process. Start with focusing on the customer first, then work backward through the sales process. Making the client the priority changes the culture and sets a strong focus for the organization.

2. Create ownership. When I say this, it always raises an eyebrow with leaders. There is no one job in an organization that is more important than the other. We have a vision, goals to reach the vision and plans to reach the goals. Everyone has a responsibility to do their part in order to achieve the vision. The director of the department has different responsibilities than the co-worker in the warehouse but their position is not any less important to the success of the organization.

3. Set and expect high standards. What does excellence look like? As leaders, we parcel out work assignments, give empowerment and share authority, but are we describing what an excellent outcome looks like? Setting and then expecting high standards should be on every leader's radar to achieve.

4. Continue learning and teaching. Your personal and professional development needs to be a continual journey. When you gain more knowledge, skills and abilities, it is a core responsibility to teach those in your line of responsibility.

5. Develop the best employee. When we hire employees they come to us with knowledge, a set of skills and abilities. The bottom line is we are not hiring for what the employee has done in the past, but



- Continued, Page 5

Core Leadership Principals, continued -

what they are going to do for the organization in the future. If we are not developing our co-workers to enhance their knowledge, skills and abilities, we are only getting from them what they have already given a past employer. We must be proactive in growing the workforce because when the workforce grows, the organization grows. As their leader, always remember you are their role model and mentor; they want to learn from you. Teaching and growing the workforce is a great way to inspire and engage the workforce.

6. Aim high. Les Brown is often credited with saying, “Most people fail in life not because they aim too high and miss, but because they aim too low and hit.” It makes no difference if it is the organization or the individual, when we think small, we get small. It is vital to create a bold vision that inspires results.

7. Earn trust. When there is a lack of trust in an organization it can lead to a toxic work environment. Trust is a fundamental need for the success of the leader. Leadership is all about the ability to influence others. If you cannot influence people, you will never be able to lead them. Trust is that necessary component for you to influence. The best way to earn trust is to be an active listener, speak honestly and treat others with respect and positive regard.

8. Provide outcomes. Our job as leaders is to get work done through other people, and then we must ensure we are getting the very best work from those people. It is your responsibility as their leader to deliver positive results and outcomes based on the vision and goals set forth by the organization. Never settle for being average, employees want to be part of a world-class organization. Leaders make that happen by reaching goals regardless of setbacks.

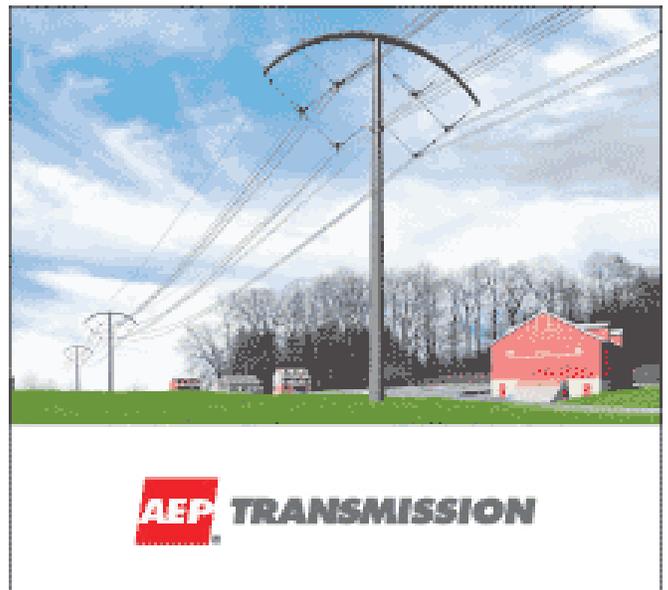
9. Challenge decisions and disagree. It is our role as leaders to ensure we stretch the minds of those we

lead. Sometimes we must challenge and disagree with decisions. One of my favorite sayings when I disagree with an idea or process change is, “I am not so sure about this. Convince me this is the right decision.” There must be a pretty good discussion to change my mind, as leaders are ultimately responsible for outcomes. Never be a "yes" person as a leader and never compromise for the sake of going along with the team. Earlier we talked about earning trust — nothing breaks trust quicker than compromising your integrity.

10. Lead with humility. The workforce does not work for you. You work for the workforce. This whole article has been based around the concept of the true measurement of leadership success. You need your workforce more than they need you. Especially in the days of the pandemic where more and more organizations are having challenges with recruiting and retaining.

Leadership is both an art and science. You must be able to know and understand the science before you can paint the portrait of organizational success. Focusing on the core principles is a great way of setting a positive foundation for organizational and individual success.

(Excerpted from NSPE DAILY DESIGNS, January 31, 2022)





USDOT announces availability of \$1.5B in RAISE grant funding

The U.S. Department of Transportation announced it is making available \$1.5 billion in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant funds.

The RAISE program helps communities across the country with infrastructure projects that have significant local or regional impacts. Recently funded projects include dedicated bus lanes in Baltimore, Md., highway and bridge repair in New Mexico, dock replacements in Alaska, and a rail-to-trail project in Arkansas.

“The RAISE program helps communities large and small fix and modernize their infrastructure,” said Transportation Secretary Pete Buttigieg. “This year, thanks to the President’s Bipartisan Infrastructure Law, we can support more projects than ever and

help make our transportation system safer, more accessible, and more sustainable for people across the country.”

RAISE discretionary grants were originally created under the American Recovery and Reinvestment Act as TIGER grants. The USDOT has thus far awarded \$9.9 billion in RAISE grants to fund more than 700 projects.

The funding available through the RAISE program in 2022 represents a 50 percent increase in funds compared to 2021 – where the program funded 90 projects in 47 states, the District of Columbia, and Guam. Last year, the department said, applicants requested \$10 in funding for every \$1 available.

The deadline for application is 5 p.m. EST, April 14, 2022. Projects will be evaluated on statutory criteria of safety, environmental sustainability, quality of life, economic competitiveness and opportunity, state of good repair, partnership, and innovation. As part of the Bipartisan Infrastructure Law, 2022 RAISE applications will also be judged on mobility and community connectivity.

Selections will be announced by Aug. 12, 2022.
(Excerpted from NSPE DAILY DESIGNS, February 2, 2022)



Intel Announcement to Build in Central Ohio



by Tim McCarthy, PEHE

On January 21, 2022 INTEL held an event in Newark, Ohio announcing their intention to build two semi-conductor factories in northwest Licking County, Ohio. These semi-conductor fabrication facilities (or fabs) are to be constructed on a 1,000 acre site in a 5-yr building plan with a \$20 billion investment. Construction will start no later than the end of 2022. The potential investment over the next 10 years is \$100 billion with eight factories. This manufacturing mega-site will incorporate green building, renewable energy, zero waste to landfill and meet INTEL sustainability goals. This is INTEL's first new greenfield manufacturing site in over forty years.

OSU president Kristina Johnson was part of the group that was on stage for this announcement. This group included Pat Gelsinger, CEO of INTEL, Keyvan Esfarjani, Sr. VP leading INTEL's global manufacturing, supply chain and operations, Ohio Governor Michael DeWine, Lt.-Governor Jon Husted, and U.S. Secretary of Commerce Gina Raimondo.

Kristina Johnson was representing Ohio's educational sector. She discussed the need for education and the need to connect 2-year and 4-year research institutions. She stressed the need to emphasize STEM education and faculty training and curriculum development to prepare the workforce to support the semi-conductor industry. OSU has launched a BS degree in engineering technology (BSET) with concentration in manufacturing at the regional campuses; this program is coming soon to Ohio State-Newark. Columbus State Community College is ready to teach technicians and operators for the INTEL campus while OSU will prepare

engineers, scientists, and business professionals needed. A panel discussion following the announcement pointed out the need for apprenticeship programs to support the development of employees.

This facility is to be located in what is to be known as the "Silicon Heartland". The state of Ohio was selected from among 40 states which competed to site these plants. These facilities will bring the manufacture of semi-conductor chips back to the U.S. to re-build the U.S. presence in this industry and restore U.S semi-conductor manufacturing leadership. INTEL emphasized the access to talent from the universities and community colleges in Ohio and projects 3,000 high-tech jobs including in-house design, manufacturing, shipping and marketing. Up to 7,000 construction jobs will be created for these two factories and over 10,000 local long-term jobs. The average job at INTEL has a \$135,000 annual salary. INTEL intends to invest an additional \$100 million to partner with Ohio and mid-west universities, community colleges and the National Science Foundation.

Virtually every aspect of modern life relies in part on silicon chips. These factories will have the most advanced manufacturing capabilities in the world to produce state-of-the-art semi-conductors. There are approximately 2,000 silicon chips in each electric vehicle. Jon Husted said there are 140 existing companies in Ohio to serve as suppliers and an expected 25 to 30 new companies that will call Ohio home.



2021-2022 CALENDAR

DATE	TIME	DESCRIPTION
Sept. 14	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Sept. 16	12:00 p.m.	Program: Strategies for Learning Through the Deployment of New Grid Technologies, with Presenters: James Wolf, Morgan Love - (Virtual)
Oct. 8	5:00 p.m.	Deadline for October Columbus Engineer
Oct. 12	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Oct. 21	12:00 p.m.	Program: Leveraging "Smart" Technology to Maximize Use of Public Parking in Historic District, with Presenters: Scott Tourville, Jennifer Alford - (Virtual)
Nov. 4-5		EFO Fall CPD Conference
Nov. 8	5:00 p.m.	Deadline for November Columbus Engineer
Nov. 9	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Nov. 18	12:00 p.m.	Program: Columbus Underground HPFF vs. XLPE Cables and Recent Applications, with Presenters: Brian Swain, Jared Jajack and Eric Hooper - (Virtual)
Dec. 6	5:00 p.m.	Deadline for December Columbus Engineer
Dec. 14	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Dec. 16	12:00 p.m.	Program: P&C Engineering 101: High Voltage Power Protection Basics, with Presenter: Colleen Konsavage
Jan. 10	5:00 p.m.	Deadline for January Columbus Engineer
Jan. 11	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Jan. 20	12:00 p.m.	Program: Space Resources and Additive Manufacturing: A Flexible Solution for Future Long-Duration Space Exploration, with Presenters: TBD - (Virtual)
Feb. TBD	8:00 a.m.	Regional MathCounts Competition @ CSCC
Feb. 14	5:00 p.m.	Deadline for February Columbus Engineer
Feb. 15	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Feb. 24	11:30 a.m.	Program: E-Week Luncheon
Feb. 23	8:00 a.m. – 3:00 p.m.	Engineer for a Day Program - Cancelled
Mar. 2	5:00 p.m.	Deadline for March Columbus Engineer
Mar. TBD	8:15 a.m. – 4:00 p.m.	Ohio MathCounts Competition (OSPE, see www.ohioengineer.com)
Mar. 8	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Mar. 17	12:00 p.m.	Program: TBD - (Virtual)
Mar. TBD		District Science Day @ CSCC
Apr. 7	5:00 p.m.	Deadline for April Columbus Engineer
Apr. 11	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
Apr. 21	12:00 p.m.	Program: The Grid of Tomorrow: IBRs and Microgrids for Power System Stability, with Presenters: TBD - (Possible Virtual)
May 5	12:00 p.m.	Deadline for May Columbus Engineer
May 10	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
May 19	6:30 p.m.	Chapter Officer Installation & Awards Dinner
May 30	12:00 p.m.	Deadline for June Columbus Engineer
June 14	12:00 p.m.	FCC Board Meeting @ CEC, Inc. and Virtual
June 16	12:00 p.m.	Program: TBD - (Possible Virtual)
Julv TBD	(TBA)	FCC Budget Meeting - Location to be announced



Civil & Environmental Consultants, Inc.
Address: 250 Old Wilson Bridge Road, Suite 250, Worthington, Ohio 43085

WHERE DO I GET MORE INFORMATION?

FCC-OSPE President E-mail & Phone:	baba.yahaya2@terracon.com	(614) 328-5209
FCC-OSPE WEBSITE:	www.fccospe.org	
OSPE WEBSITE:	www.ohioengineer.com	
NSPE WEBSITE:	www.nspe.org	
To volunteer to help with MATHCOUNTS:	benjamin_brown68@yahoo.com	(614) 519-8978
To volunteer to help with Science Day:	yogesh.rege@terracon.com	(614) 863-3113
To volunteer to help with OSU Student Chapter:	mccarthy.226@osu.edu	(614) 247-1561
To volunteer to help with Imagine Engineering:	devonseal1@gmail.com	(614) 208-6986
FCC Luncheons / Programs:	ddoherty@cecinc.com	(614) 359-6321
New Members / Membership Application	www.nspe.org or www.ohioengineer.com	(614) 223-1144



	Name	Phone # (w) or (h)	Cell Phone #	E-mail Address
President	Baba Yahaya, PE	614-328-5209 (w)	614-517-7864 (cell)	Baba.Yahaya2@terracon.com
Vice President	Mehrdad Rowhani, PE	614-328-1197 (w)	773-517-1036 (cell)	Mehrdad.Rowhani@terracon.com
Chapter Secretary	Nathan Abele, PE	614-793-2226 (w)	614-746-7243 (cell)	Nabele@smeinc.com
Treasurer	Steve Day, PE	614-876-7525 (w)	614-531-2858 (cell)	lday1@columbus.rr.com
Past President	Dustin Doherty, PE, CPESC	614-310-2075 (w)	614-359-9321 (cell)	ddoherty@cecinc.com
Administrative Assistant	Dawn Morrison	614-328-5148 (w)	614-313-3814 (cell)	dawn.morrison@terracon.com
	NEW FCC-OSPE Website			www.fccospe.org
OSPE Executive Director	Tim Schaffer	614-223-1144 (w)		exec@ohioengineer.com
OSPE/EFO Staff	Pam McClure (ret., part-time)	614-223-1144 (w-OSPE)		admin@ohioengineer.com
	Holly Ross	614-223-1177 (w-EFO)		pr@ohioengineer.com
VICE-PRESIDENT	TRUSTEE/COMMITTEE	CHAIRPERSON	TELEPHONE	E-MAIL
Mehrdad Rowhani, PE	Vice-President	Mehrdad Rowhani, PE	614-328-1197 (w) 773-517-1036 (cell)	Mehrdad.Rowhani@terracon.com
	Programs/CPD/Activity	Dustin Doherty, PE, CPESC	614-310-2075 (w) 614-359-6321 (cell)	ddoherty@cecinc.com
	Membership	Dustin Doherty, PE, CPESC	614-310-2075 (w) 614-359-6321 (cell)	ddoherty@cecinc.com
	Young Engineer Trustee	Colleen Konsavage, PE	614-758-3048 (cell)	Ckonsav1@gmail.com
	Retired Engineers Trustee	Steve Smith, PE	614-328-1192 (w) 740-683-2180	Steve.Smith2@terracon.com
	PEHE Trustee	Tim McCarthy, PE	614-670-1175 (cell)	mccarthy.226@osu.edu
	OSU - Student Chapter Liason	Tim McCarthy, PE	614-670-1175 (cell)	mccarthy.226@osu.edu
Yogesh Rege, PE	Vice-President	Yogesh Rege, PE	614-328-5137 (w) 304-951-7874 (cell)	yogesh.rege@terracon.com
	Science Day (District)	Yogesh Rege, PE	614-328-5137 (w) 304-951-7874 (cell)	yogesh.rege@terracon.com
	Scholarship	Joe Sullivan, PE	614-486-4383 (w) 614-561-5447 (cell)	joe.sullivan@stantec.com
	Columbus Engineer - Editor	Howard Jones, PE	614-209-3289 (cell)	hrjones63@yahoo.com
	Engineers Week	CR Weaver, PE	614-645-7100 (w)	CRWeaver@columbus.gov
	Engineer For A Day	Charles Ohrstedt, PE	614-937-1512 (cell)	mohrstedt@sbcglobal.net
	PEG Trustee	CR Weaver, PE	614-645-7100 (w)	CRWeaver@columbus.gov
S. Rao Chitikela, PE	Vice-President	S. Rao Chitikela, PE	412-310-9452 (cell)	srao.chitikela@gmail.com
	MATHCOUNTS Chair	Ben Brown, PE	614-818-4900 (w) 614-519-8978 (cell)	ben.brown@ibigroup.com
	Awards/Citations	Tina Sutermeister, PE	614-537-7660 (cell)	tsuterm@embarqmail.com
	Legislative	Steve Day, PE	614-876-7525 (w) 614-531-2858 (cell)	lday1@columbus.rr.com
	PEI Trustee	Richard Smelker, PE	614-933-2236 (w)	rdsmelker@aep.com
	EFO Liaison	Steve Day, PE	614-876-7525 (w) 614-531-2858 (cell)	lday1@columbus.rr.com
	Chapter Directory	Baba Yahaya, PE	614-328-5209 (w) 614-517-7864 (cell)	Baba.Yahaya2@terracon.com
Colleen Konsavage, PE	Vice-President	Colleen Konsavage, PE	614-758-3048 (cell)	Ckonsav1@gmail.com
	Imagine Engineering Contest	Devon Seal, PE	614-208-6986 (cell)	devonseal1@gmail.com
	Auxiliary Trustee	Barbara Fuller	614-880-9221 (h)	bfuller@columbus.rr.com
	OSPE Director	Tina Sutermeister, PE	740-964-0828 (h) 614-537-7660 (cell)	tsuterm@embarqmail.com
	Constitution & By-Laws	Devon Seal, PE	614-208-6986 (cell)	devonseal1@gmail.com
	PEPP Trustee	Greg Nortz, PE	614-790-0029 (cell)	gregnortz@otisengineering.com
	PEPP Trustee	Nathan Abele, PE	614-793-2226 (w) 614-746-7243 (cell)	Nabele@smeinc.com
	PEC Trustee	Ken Goodson, PE	614-443-1178 (w)	kengoodson@hotmail.com

FIRST CLASS



OHIO SOCIETY OF
PROFESSIONAL ENGINEERS
Franklin County Chapter
P. O. Box 69
Reynoldsburg, Ohio 43068



We are engineers. We are scientists.
We are designers. S&ME has the versatility
you need and the experience that matters.

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