

President's Message

By Benjamin Brown, P.E. – FCC President



I would like to begin by thanking Professor Nate Ames for speaking about Additive manufacturing or 3-D Printing and how it impacts engineers at the October program luncheon. 3-D printing is

becoming one of the most ubiquitous technologies on the planet, and has been used for medical implants all the way to producing complex parts from jet engines to ultrasound machines.

At the 2017 Ohio Transportation Engineering Conference (OTEC) last month, the main theme of the conference was Advancing Mobility in the Connected World. Learning about the Society of Automotive Engineers (SAE) International levels of automation was particularly interesting, especially since Honda and Tesla autonomous vehicles are currently operating in same levels (2/3). With \$50 million for Smart Columbus and \$45 million additional funding at ODOT's Transportation Research Center (TRC), Central Ohio has a unique opportunity to become a world-class logistic leader with the reinvention of mobility. Coordination between Federal, State, Local governments along with the Educational Research centers has begun, but it is my understanding that legislation and regulation could not be more vital to ensure success of this new technology.

Currently ODOT is completing the US-33 Smart Mobility Corridor that will install conduit with fiber optics and provide 87 overlapping devices over 35 miles of roadway. For the first time in the US, this corridor will allow for instantaneous control of vehicle testing and will provide great opportunities for Central Ohio to lead the nation in this new technology. With TRC, Smart Mobility Advanced Research and Test (SMART) Center along this corridor, research and testing will provide vital information for the future development of this technology. On November 16, 2017 at LaScala our program luncheon will feature Justin Robbin and Jason Sudy of OHM Advisors and they will be speaking more about the autonomous vehicles. Please join us and learn more about the development of the autonomous vehicle.

Our Franklin County Chapter is excited to continue to grow the OSU student chapter. We will be having a breakfast meeting to review ways to increase membership and planning events at OSU for the future. OSPE Student membership is free and other membership discounts are available to new college graduates. Also our chapter is also beginning the kick-off the Imagine Engineering Coloring Contest, where last year we visited 20 schools with 1,432 2nd graders participated. If you would like to volunteer and get active in our chapter, I can be reached by email at ben.brown@ibigroup.com.



OSPE-FCC November Luncheon Program

Date: Thursday, November 16, 2017

Place: La Scala Restaurant
4199 W. Dublin Granville Rd.,
Dublin, OH

Time: Registration: 11:30 am
Lunch: 11:50 am
Speaker: 12:00 pm
Closing Remarks: 1:00 pm

Cost: Members: \$20.00 & Non-Members: \$30.00.

Registration: Visit fccospe.org. Pay at door or online at (www.fccospe.org). No access to computer, contact Jim Arnold, 614-299-2133, to help with registration.

Title: “Our Driverless Future: How autonomous technology will fundamentally reshape our cities”

Synopsis: Autonomous vehicles are coming. At the start of 2016, typical predictions for implementation ranged from 15 to 20 years. Much has changed in a year. The pace of implementation has rapidly increased and driverless cars – Uber, Tesla and others - are now on the roads in locations throughout the country. It is technology that will fundamentally change much of what we know about personal transportation – changing our habits, our

preferences, and our opportunities, and nothing will be more impacted by these changes than our cities.

As city planners and leaders, we must be on the forefront of understanding this technology and how we can prepare

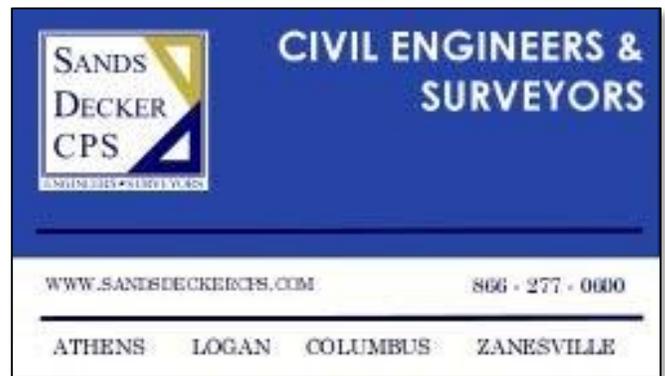
for the potential impacts. Our research team will present findings on a regional and local scale, in order to outline

the immediate and near-term steps needed to prepare your city for this inevitable change.

Using a robust modeling approach, we will explain the likely pace and location of adoption. We will also show the places most impacted by this technology both on at city-wide and site-specific scale. The impacts of shared-driver and owner-based models will be presented, along with the economic impacts on cities that embrace the technology early. The presentation will include:

- Policy and planning approaches
- Potential impacts on land use, land values and development - and what we should be doing to prepare
- Potential impacts on infrastructure needs and investment
- Potential economic impacts on cities, based on their ability to adapt to the new technology

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Luncheon Program –

Continued from page 2

Learning results for attendees:

- A snapshot of the technology to date, and likely coming phases of implementation.
- Introduction to the emerging thinking regarding how this technology will affect everything from city form to economics to land use.
- A call to action and framework of how to begin planning for AV technology in our communities now.

PRESENTER: Jason Sudy, AICP

Jason is a Principal at OHM Advisors, a community advancement firm of planners, architects and engineers. Jason co-founded the Urban Mobility Research Center, an organization promoting the understanding and analysis of transformative transportation technology.

Over 19 years of professional practice, Jason has pursued a specific interest in the relationship between our transportation choices and the resulting impacts on our infrastructure and the evolution of our cities. Jason is an 11-year auxiliary faculty member at the Knowlton School of Architecture at the Ohio State University. Jason teaches the graduate-level Transportation Studio, including classes focused around autonomous vehicles and driverless technology.

PRESENTER: Rick Stein, AICP

Rick Stein is a co-founder of the Urban Mobility Research Center, and the Principal and Owner of Urban Decision Group – an urban planning and professional services firm that specializes in spatial and non-spatial information analysis. Mr. Stein is a certified Urban Planner, with a specialty in the utilization of technology to aid in the planning process. Mr. Stein has worked in a variety of



IBI GROUP
635 Brooksedge Boulevard
Westerville OH 43081 USA
tel 614 818 4900 fax 614 818 4901
ibigroup.com

industries including architecture, planning, education, insurance and banking, utilities, telecommunications, and real estate market analysis.

He has a passion for data and technology and is a proud tech geek.

PRESENTER: Justin Robbins, AICP

Justin is a Senior Planner / Project Manager at OHM Advisors, and a co-founder of the Urban Mobility Research Center. Experience in community planning, urban design, and architecture have given Justin an understanding of the physical, spatial, and policy aspects needed to create successful places. Justin’s interests have focused on the connection between transportation and the built environment, with a strong emphasis on minimizing the impacts of cars on our urban places. Justin is an adjunct faculty member at The Ohio State University, teaching graduate level urban design.

A certificate for 1 hour of Professional Development for attending the program will be presented at the luncheon.

PROUDLY DISPLAY YOU ARE A PROFESSIONAL ENGINEER

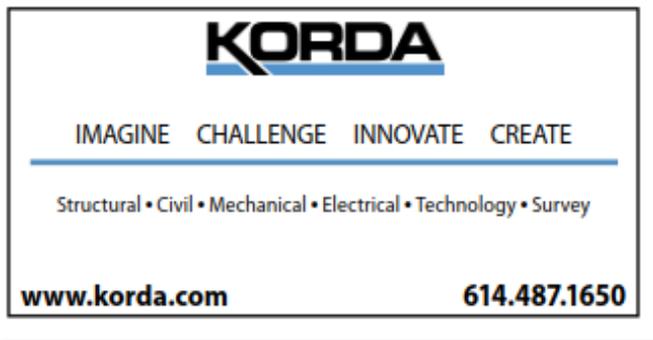
Frame your license plate with a black frame and raised white letters. The frames are ideal gift for newly licensed Professional Engineers, or for a spouse, an associate, friend, son or daughter who is a Professional Engineer. This is also a great way to recognize the new Professional Engineer in your organization by presenting them with a Professional Engineer License Plate Frame.



These frames are available through the Franklin County Chapter of the Ohio Society of Professional Engineers, web site: www.fccospe.org/store/. Each frame requires a \$5.00 donation plus Shipping and Handling.

**Welcome New FCC
Vice President
Tim McCarthy, PE**

At the last board meeting, Tim McCarthy, PE was elected Vice President replacing Yogesh Rege, PE who is unable to fill his position as Vice President, at this time. Tim serves as a Safety Engineer in the Facilities Operations Development Office of Environmental Health and Safety at OSU. Tim has previously held various positions in the chapter.



**FCC Auxiliary
November Meeting**

The Auxiliary to the Franklin Co. Chapter of OSPE will meet on the second Tuesday, November 14, 2017, at LaScala Restaurant, 4199 W. Dublin-Granville Road, Dublin, OH.

This is our PHILANTHROPIC luncheon event for the year to raise funds for our engineering scholarship fund. This event will directly benefit an OSU Engineering student.

A bake sale will begin at 11:00 A.M., with lunch to follow at Noon. Bring one or more beautifully wrapped gifts worth at least \$10 each for the raffle which will follow lunch. Auxiliary members and their guests are encouraged to attend. To make a reservation, please call Agnes Benedict at 614-262-7346.

**OUR 2017-2018 LUNCHEON
PROGRAMS –
Part Two
by Leon Winget, PhD, PE**

Our luncheon program year continued, with an outstanding presentation, by Nate Ames, Engineering Manager and Associate Director of the OSU Center for Design and Manufacturing Excellence and his associate Mr. Ed Herderick “3D Printing and How it Impacts Engineers” Nate gave a great presentation, an introduction to 3D Printing. 3D printing and additive manufacturing (AM), refers to processes used to create a three-dimensional object using layers of material, which are formed under computer control to create the object. Objects can be of almost any shape or geometry. The most common object created is the rook (as in Chess), and other miscellaneous items such as handles, knobs, etc. The most famous is the “GE LEAP Engine Fuel Nozzle”.

3D Printing has been around for a long time, it was invented by Chuck Hall in 1983. Additive manufacturing or 3D printing is rapidly becoming one of the most ubiquitous technologies around the globe. Ironically, it is simultaneously one of the least understood manufacturing processes and how it interacts and impacts manufactured systems is even more confused. AM and 3D printing have become the catch all phase for a wide breadth of processes, materials and systems. Hold any two variables constant and the remaining variable still creates a matrix of options that is too ominous to create and optimize design guidelines. Another name often appears Metamorphic Manufacturing Technology invoking a paradigm change that creates a non-reversible leap in manufacturing.

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Luncheon Programs

Part Two - Continued

An example of the immediate use of 3D printing is the Prosthetic hand, which prior cost roughly \$50k per hand. For growing children, a new hand would be needed every one or two years. Cost prohibiting! With 3D, a new hand could be generated, once the computer program has been established, for significantly less cost. The material would be \$20 to \$50 and the cost of the hand should be in the hundreds. Over 2000 prosthetic hands have been given to those in need (low income).

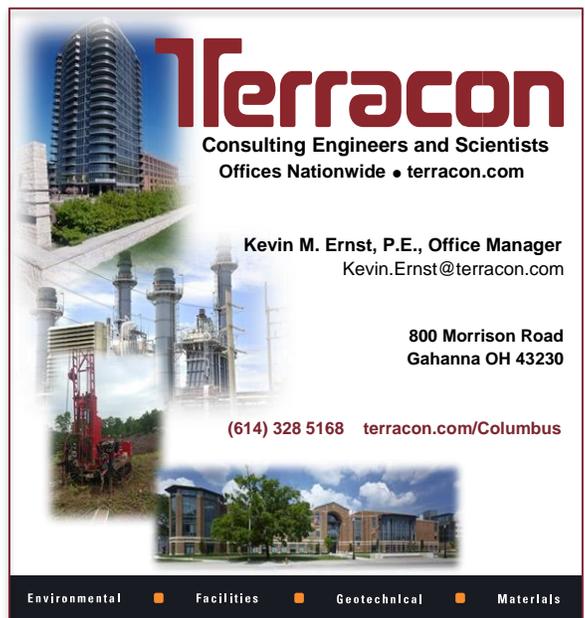
3D printing impacts the engineer as AM opens nearly unlimited doors for component and system design. Which means a PE's job is exponentially harder as he must qualify the following:

- Component and system design (3D thinking includes topology optimization, part consolidation, multi-material integration).
- Orientation which directly impacts properties.
- Material design, mixed powders offer unlimited composition/properties.
- Material certification by lot, chemistry, AM process, material production process.
- Additive process manufacturer, equipment manufacturer, equipment serial number.
- Heat treatment and post treatment.
- Mechanical microstructure manipulation, in forging, hot isostatic pressing, sintering, etc.
- Non-destructive testing process, topology optimization, x-ray, visual, ultrasound, etc.
- And more.

As mention earlier, our luncheon programs are ideal for informing our members of our ongoing activities and recent and new developments in engineering and science related to engineering principles.

Our programs are developed to credit one hour of CPD's, which are required to maintain the PE's license. The programs include the topics of technology, ethics/rules or management. Our programs have been established for this FY except April. Note, we have six luncheons each FY year.

Again this was an outstanding presentation, worth every minute of the one CPD that we can declare. Our next presentation will be self-driving autos, by Justin Robbins and Jason Study, OHM Advisors. If you miss October, I hope you make November. See you at the luncheon.



Present and Future plan for SPE @OSU

SPE @OSU is a student chapter of The Ohio State University Society of Professional Engineers. Our goal is to create an inclusive, cross-major organization dedicated to interests of licensed professional engineers. In order to facilitate the relationship with fellow engineering students, we organized an info session and meeting with the executive board and advisors of this chapter. As well as professional development events, we attended a panel event where Jamie Hyneman and Adam Savage from the show MythBusters spoke about their engineering and special effects experience.



We also held several social events like volleyball and a comedy show hosted by comedian Hasan Minhaj.

We were able to connect with over 120 engineering students at the involvement fair.

Moving forward, our main focus is to attract more general members to regularly attend and participate in organization events. We would be recruiting through additional information sessions, socials

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The photos are from events that SPEOSU have hosted so far, Harman Thind, President - Society of Professional Engineers at OSU





SPE @OSU Continued

as well as potentially partnering with other established engineering groups.

Additionally, our leadership team is planning a mentorship program with our members to implement as our flagship program next semester.

The current leadership team is:

- President: Harman Thind
- Vice President: William Wooil Jung
- Secretary: Liz Schnieder
- Treasurer: Alex Frank
- Director of Events: Madison Lubman
- Director of Membership: Jordan Page



Imagine Engineering Coloring Contest

We are kicking off our annual Imagine Engineering Second Grade Coloring Contest and we need your help to get the next generation excited about engineering. Join us this year and visit your local second grade class to help them imagine themselves as Professional Engineers. Most second graders have no idea what a Professional Engineer does or what Engineering means.

This program is a great opportunity to educate students about future career opportunities, get them excited about engineering, increase awareness about our profession, and elevate the perception of professional engineering in our community.

Volunteering only takes a few hours of your time and it is easy and fun. We have experienced presenters that would be happy to co-present with rookie volunteers and share some tricks of the trade. WE have a list of schools that have already signed-up to participate in the program, or if you are interested in presenting at your local school or to your child's second grade class, we can get your school signed-up for the program and provide you with materials for your presentation. Please contact me if you are interested at devon_seal@gspnet.com or 614-208-6989.

2017-2018 OFFICERS, TRUSTEES & COMMITTEE CHAIRS

	Name	Phone # (w) or (h)	Cell Phone #	E-mail Address
President	Ben Brown, PE	614-863-3113 (w)	614-203-1199 (c)	ben.brown@ibigroup.com
Chapter Secretary	Steve Wilson, PE	614-933-2246 (w)	614-832-5019 (c)	fwilson@aep.com
Treasurer	Steve Day, PE	614-876-7525 (w)	614-531-2858 (c)	lday1@columbus.rr.com
Past President	Kevin Ernst, PE	614-863-3113 (w)	614-203-1199 (c)	Kevin.Ernst@terracon.com
Administrative Assistant	Dawn Morrison	614-863-3113 (w)	614-313-3814 (c)	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	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
Charles Ohrstedt, PE	Vice-President	Charles Ohrstedt, PE	614-937-1512 (c)	mohrstedt@sbcglobal.net
	Programs/CPD/Activity	Leon Winget, PhD, PE	614-395-8249 (c)	lewinget@att.net
	Membership	Ron Eifert, PE	614-885-4138 (h) 614-315-9551 (c)	roneifert@aol.com
	Young Engineer Trustee	Vacant		
	Retired Engineers Trustee	Ron Eifert, PE	614-885-4138 (h) 614-315-9551 (c)	roneifert@aol.com
	PEHE Trustee	John Schrock		schrock.28@osu.edu
	Chapter Directory	Steve Wilson, PE	614-552-1714 (w) 614-832-5019 (c)	fwilson@aep.com
Ken Heigel, PE	Vice-President	Ken Heigel, PE	614-466-0257 (w)	kheigel@owda.org
	Science Day (District)	Yogesh Rege, PE	614-328-5137 (w) 304-951-7847 (c)	yogesh.rege@terracon.com
	Scholarship	Joe Sullivan, PE	614-486-4383 (w) 614-561-5447 (c)	joe.sullivan@stantec.com
	Columbus Engineer Editor	Howard Jones, PE	614-209-3289 (h) 614-209-3289 (c)	hrjones63@yahoo.com
	Engineers Week Luncheon	CR Weaver, PE	614-645-7100 (w) 614-946-2961 (h)	CRWeaver@columbus.gov
	Engineer For A Day	Charles Ohrstedt	614-937-1512 (c)	mohrstedt@sbcglobal.net
	PEG Trustee	CR Weaver, PE	614-645-7100 (w) 614-946-2961 (h)	CRWeaver@columbus.gov
Tim McCarthy, PE	Vice-President	Tim McCarthy, PE	614 247-1561 (w) 614 670-1175 (c)	mccarthy.226@osu.edu
	MATHCOUNTS Chair	Ben Brown, PE	614-818-4900 (b) 614-519-8978 (c)	ben.brown@ibigroup.com
	Awards/Citations	Tina Sutermeister, PE	740-964-0828 (h) 614-537-7660 (c)	tlsuterm@embarqmail.com
	Legislative	Steve Day, PE	614-876-7525 (w) 614-531-2858 (c)	lday1@columbus.rr.com
	PEI Trustee	Tina Sutermeister, PE	740-964-0828 (h) 614-573-7660 (c)	tlsuterm@embarqmail.com
	EFO Liaison	Steve Day, PE	614-876-7525 (w) 614-531-2858 (c)	lday1@columbus.rr.com
Kevin Monroe, EI	Vice-President	Kevin Monroe	614-493-5515 (w) 614-403-4485 (c)	krmonroe@HNTB.com
	Imagine Engineering Contest	Devon Seal, PE	614-221-0678 (b) 614-208-6986 (c)	devon_seal@gspnet.com
	Auxiliary Trustee	Barbara Fuller	614-880-9221 (h)	bfulle@columbus.rr.com
	OSPE Director	Kevin Ernst, PE	614-863-3113 (w) 614-203-1199 (c)	Kevin.Ernst@terracon.com
	Constitution & By-Laws	Devon Seal, PE	614-221-0678 (b) 614-208-6986 (c)	devon_seal@gspnet.com
	PEPP Trustee	Vacant		
	PEC Trustee	Yogesh Rege, PE	614-328-5137 (w) 304-951-7847 (c)	yogesh.rege@terracon.com

Revised: 10/30/2017

Aug. 29	10:00 a.m.	Deadline for September <i>Columbus Engineer</i>
Sept. 12	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Sept. 21	11:30 a.m.	Program: Grid Assurance- Jeffery Fleeman, PE
Sept. 25	5:00 p.m.	Deadline for October <i>Columbus Engineer</i>
Oct. 10	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Oct. 16	5:00 p.m.	Deadline for November <i>Columbus Engineer</i>
Oct. 19	11:30a.m.	Program: 3D Printing and How it Impacts Engineers- Nate Ames
Nov. 14	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Nov. 15	5:00 p.m.	Deadline for December <i>Columbus Engineer</i>
Nov. 16	11:30 a.m.	Program: Auto Cars-Justin Robbins/Jason Study; OHM Advisors
Dec. 12	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Dec. 18	5:00 p.m.	Deadline for January <i>Columbus Engineer</i>
Jan. 9	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Jan. 15	5:00 p.m.	Deadline for February <i>Columbus Engineer</i>
Jan. 18	11:30a.m.	Program: ODOT I-71 & 36/37 Interchange – Steve Fellenger
Feb. 13	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Feb. 15	5:00 p.m.	Deadline for March <i>Columbus Engineer</i>
Feb. 11	8:00 a.m.	Regional MathCounts Competition @ CSCC
Feb. 19-25		National Engineers Week (see www.eweek.org)
Feb. 22	8:00 a.m. – 3:00 p.m.	Engineer for a Day Program
Feb. 23	11:30 a.m.	Program: E-Week Luncheon
Mar. 10	8:15 a.m. – 4:00 p.m.	Ohio Mathcounts Competition (OSPE, see www.ohioengineer.com)
Mar. 13	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Mar. 15	5:00 p.m.	Deadline for April <i>Columbus Engineer</i>
Mar. 15	11:30a.m.	Program: Smart Cities – Carla Bailo, OSU
Mar. 17		District Science Day @ CSCC
Apr. 10	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
Apr. 15	5:00 p.m.	Deadline for May <i>Columbus Engineer</i>
Apr. 19	11:30a.m.	Program: TBA
May 8	5:30 p.m.	FCC Board Meeting @ Korda/Nemeth
May 16	5:00 p.m.	Deadline for June <i>Columbus Engineer</i>
May 18	11:30 a.m.	Chapter Officer Installation/ Awards Luncheon
July	(TBA)	FCC Budget Meeting - Location to be announced

Korda/Nemeth Address: 1650 Watermark Drive #2 Columbus OH 43215

WHERE DO I GET MORE INFORMATION?

FCC-OSPE President E-mail & Phone:	ben.brown@ibigroup.com	(614) 519-8978
OSPE-FCC WEBSITE:	www.fccospe.org	
OSPE WEBSITE:	www.ohioengineer.com	
NSPE WEBSITE:	www.nspe.org	
To volunteer to help with <i>MATHCOUNTS</i> :	benjamin_brown68@yahoo.com	(614) 519-8978
To volunteer to help with <i>Science Day</i> :	yogesh.rege@terracon.com	(614) 328-5137
To volunteer to help with <i>OSU Student Chapter</i> :	krmonroe@HNTB.com	(614) 493-5515
To volunteer to help with <i>Imagine Engineering</i> :	devon_seal@gspnet.com	(614) 221-0678
FCC Luncheons / Programs:	lewinget@att.net	(614) 395-8249
New Members / Membership Application	www.nspe.org or www.ohioengineer.com	(614) 223-1144

FIRST CLASS

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

