

DAYTON SOCIETY OF PROFESSIONAL ENGINEERS

DEDICATED TO THE PROMOTION OF THE PROFESSION OF ENGINEERING

THE DAYTON ENGINEER

VOLUME 7, ISSUE 12

DECEMBER 2016

Read a New Book Month
Pearl Harbor Day—7th
Bill of Rights Day—15th



Dayton Chapter
**Ohio Society of
Professional Engineers**
A state society of the National Society of Professional Engineers

Christmas Day—25th
Bacon Day—30th
Make Up Your Mind Day—31st

INTERESTING FISH STORY FROM TED.COM

I love TED.com. It holds fascinating talks about a myriad of topics. One I found fascinating from an environmental perspective: https://www.ted.com/talks/dan_barber_how_i_fell_in_love_with_a_fish. Chef Dan Barber was talking about a particular fish he sampled and described an environmental victory in Spain involving a fish farm called Veta La Palma at the tip of the Guadalquivir River. Until the 1980s, the area was a cattle farm built using a series of canals to drain the wetlands. It was an ecological disaster. In 1982 a Spanish company “with an environmental conscience” took ownership and reversed the water flow, pulling it back in and flooding the area, creating a 27,000 acre fish farm for mullet, bass, shrimp, and eel and essentially reversed the ecological destruction. What Chef Barber found wasn’t just a fish farm, but a thriving ecological system with Black-shouldered Kite, phytoplankton, exotic animals, rare birds, algae, exotic aquatic plants, etc. What astonished Chef Barber was that the biologist overseeing the farm knew nothing about fish, but was rather a self-proclaimed relationship expert. As a matter of fact, the system is so healthy, it is self-renewing; there is no need to feed the fish. The overseer measures success of the system by the health of the huge flock of flamingos, which feasts on the shrimp. Every day the flamingos fly 150 miles one way to the farm and back to their nesting areas. The incoming river carries all of the contaminants one would expect in a modern day river. So to top it all off, the fish farm’s effluent, which feeds into the Atlantic, is cleaner than when it entered, cleansed by the system itself. No need for mechanical filters, flocculants, chemicals, or anything...just the natural ecosystem tuned perfectly. Great video.

—Jon Wheeler, P.E., Chapter Vice President

In This Issue:

- **Upcoming Chapter Meetings**
- **Christmas Party!!**
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We are expanding our distribution list, so if you are receiving this newsletter for the first time, welcome to our DSPE digital family! We hope you enjoy the newsletter and hope that you will communicate with us to let us know how we can make it better serve your needs. Are there timely items we should emphasize within our mission? Is there a particular topic area that we can pursue for your interest? Maybe some investigative cubby reporting? Licensure questions we can pursue with our State Board? Most importantly, please see pages two and three of this newsletter for information on DSPE’s upcoming Chapter Meetings and Annual Christmas Party. The Christmas Party is just days away and RSVPs are still being accepted!

UPCOMING CHAPTER MEETINGS

DECEMBER DSPE MEETING—8 DECEMBER 2016

The December 2016 DSPE Chapter meeting will be on 8 December from 12:00 noon to 1:30 PM at the Engineers Club of Dayton, 110 Monument Ave, Dayton OH 45402. Three Graduate Students from the Air Force Institute of Technology, Mr. Brian Allen and Captain Shandon James will present a

discussion about their thesis topics. A buffet lunch will be served. The cost is \$20 for members, \$30 for nonmembers and \$10 for students. Attendees will receive one (1) Professional Development Hour (PDH). Those wishing to attend should make your reservations no later than Tuesday, 6 December 2016 with

Ed Schlaack by email at SchlaackE@mcOhio.org or by phone at (937) 781-2632 (office).



JANUARY DSPE MEETING—12 JANUARY 2017

The January 2017 DSPE Chapter meeting will be on 12 January from 12:00 noon to 1:30 PM at the Engineers Club of Dayton, 110 Monument Ave, Dayton OH 45402. Ms. Aimee Pergalsky, National Business Development Manager with Euclid Chemical, will present a discussion on **concrete admixtures**. A buffet

lunch will be served. The cost is \$20 for members, \$30 for nonmembers and \$10 for students. Attendees will receive one (1) Professional Development Hour (PDH). Those wishing to attend should make your reservations no later than Tuesday, 10 January 2016 with Ed Schlaack by email at SchlaackE@mcOhio.org or by

phone at (937) 781-2632 (office).



FEBRUARY DSPE MEETING—9 FEBRUARY 2017

The February 2017 DSPE Chapter meeting will be on 9 February from 12:00 noon to 1:30 PM at the Engineers Club of Dayton, 110 Monument Ave, Dayton, OH 45402. USAF Captain Naseem Ghandour, AFIT Civil Engineer School, will present "OSHA Construction Safety for Supervisors". He will discuss the basics of OSHA and

the top 4 OSHA areas and how to develop a safety program at your workplace.

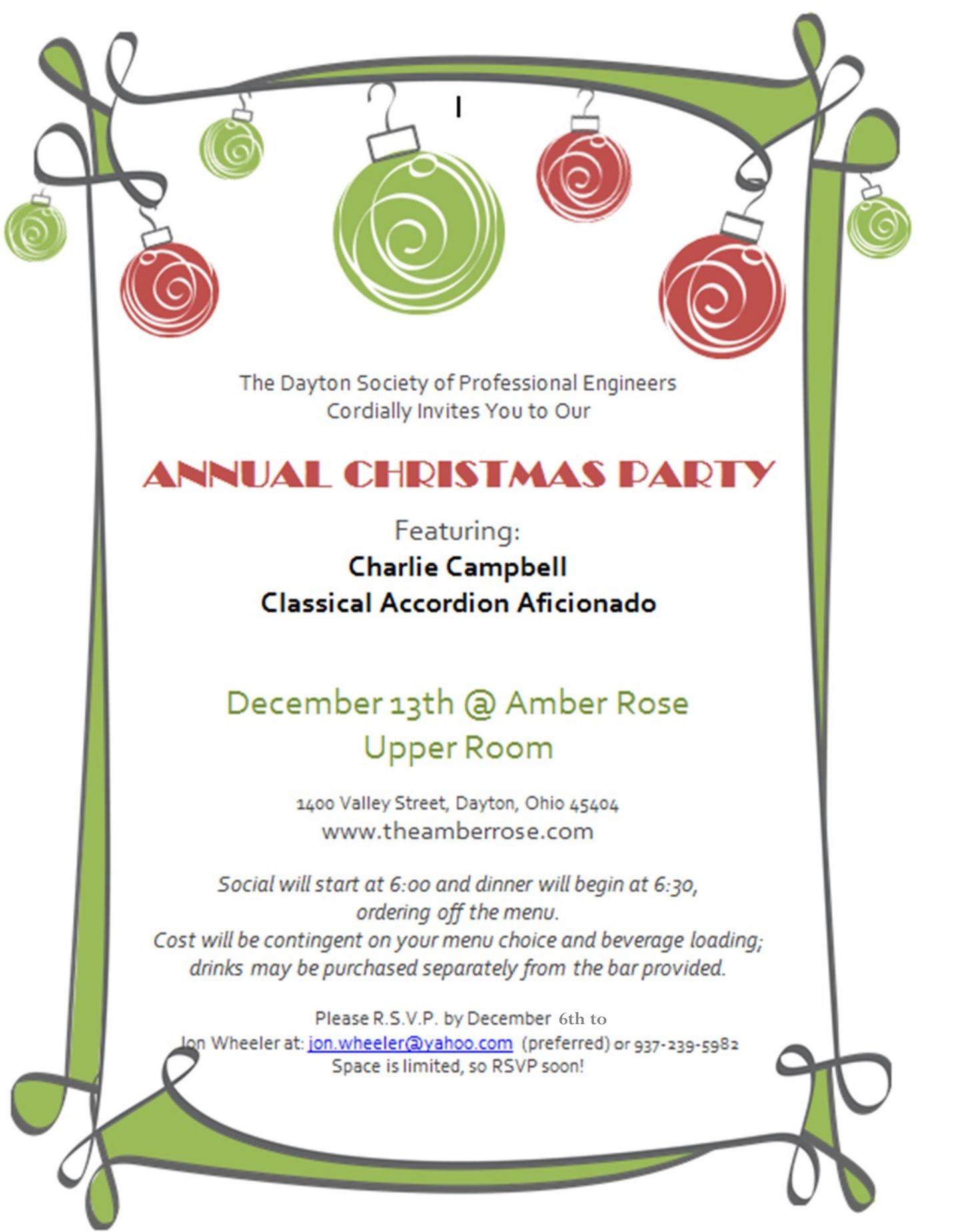
A buffet lunch will be served. The cost is \$20 for members, \$30 for nonmembers and \$10 for students. Attendees will receive one (1) Professional Development Hour (PDH). Those wishing to attend should make your reservations no

later than Tuesday, 7 February 2017 with Ed Schlaack by email at SchlaackE@mcOhio.org or by phone at (937) 781-2632 (office).



UPCOMING DSPE BOARD OF DIRECTORS MEETING

The next DSPE Board meeting will be on 10 January 2017 from 5:15 to 6:30 PM at the Wright State University Engineering Dean's office conference room. **No Board Meeting in December.**



The Dayton Society of Professional Engineers
Cordially Invites You to Our

ANNUAL CHRISTMAS PARTY

Featuring:
Charlie Campbell
Classical Accordion Aficionado

December 13th @ Amber Rose
Upper Room

1400 Valley Street, Dayton, Ohio 45404
www.theamberrose.com

*Social will start at 6:00 and dinner will begin at 6:30,
ordering off the menu.*

*Cost will be contingent on your menu choice and beverage loading;
drinks may be purchased separately from the bar provided.*

Please R.S.V.P. by December 6th to
Jon Wheeler at: jon.wheeler@yahoo.com (preferred) or 937-239-5982
Space is limited, so RSVP soon!

THANKS TO MR. LEE HITE, RETIRED P.E.

We wish to express our thanks to Mr. Lee Hite, retired P.E. and currently tour guide for the Cincinnati Triple Steam, for coming to our November 2016 chapter meeting to present “**Why Cincinnati Has the World’s Largest Water Pumping Steam Engine**”.

Mr. Hite described the Cincinnati Triple Steam project from initial construction to today’s environment.



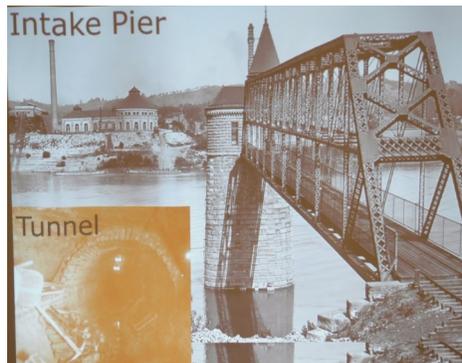
The facility went on line in 1906 and supplied water to the entire Cincinnati area at that time. The engines set on a floor that rests 85 feet below grade. The engines were in service from 1906 until 1963. The engine is 103 feet tall and weighs 1,400 tons. He also brought several demonstration items which were placed on a

table for our inspection.



Of interest were the Corliss Valve and the scale model of the base of the facility, shown in the photo with the cross-hatching.

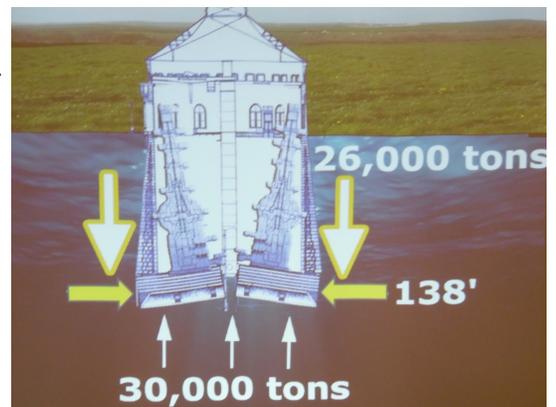
This base was actually built at grade level and workers went under the base to excavate the entire depth by hand; extracted material was



then lifted out by hoist.

Water was drawn from the river into the facility via a duct that ran completely underneath the river from the intake pier on the other side of the river, shown in the next photo.

Mr. Hite also illustrated a miscalculation of the weight required to be in the building to overcome the ground water effect.



The initial calculation was a weight of 26,000 tons, which was insufficient and the ground water lifted the center of the facility, splitting the foundation. The new requirement was then calculated to be 36,000 tons. It took 4 years to return to the original level flooring and set the facility correct in its orientation



Professional Engineers
Professional Surveyors

MATHCOUNTS BY CHRIS BROWN

Plans for the 2017 Dayton Chapter MATHCOUNTS competition are underway and it won't be long before mathletes from middle schools around the region will be squaring off to find out who receives top honors and advances to the state competition.

The 2016 Dayton Chapter MATHCOUNTS completion hosted seventeen area middle schools with 127 6th, 7th and 8th grade Mathletes competing for top individual and team honors. We hope to grow the competition this year with more schools participating and more mathletes exploring their love of mathematics!

The competition consists of three official scoring rounds and the un-official Countdown Round. In the Sprint Round, students work individually to answer 30 questions in 40 minutes. In the Target Round, students work independently to answer four pairs of questions with only six minutes to answer each pair. The final competition is the Team Round where students work in teams of four to answer 10 questions in 20 minutes. The Countdown Round is a fast-paced round where the top twelve students face off head-to-head in a test of speed and accuracy. The Countdown Round is held for fun and does not determine the overall competition winner nor advancement to the State Competition.

The 2017 event will be held at the **University of Dayton** on **Saturday February 25th**. Volunteers are needed to help organize and prep the exam materials for the competition, helpers to administer the exams and scorers to grade. Volunteers don't need to be limited to DSPE members. Please share the call for volunteers with co-workers, friends, spouses or any of the local college engineering or math student organizations who may be interested in getting involved. It is a great way to support the DSPE chapter and help our future engineers and scientists develop their math skills.

We also need help getting the word out to the local middle schools about the MATHCOUNTS program. If you know a middle school (6th, 7th or 8th grade) math teacher or school administrator who may be interested in learning more about MATHCOUNTS, please point them to the DSPE Chapter MATHCOUNTS coordinator.

Finally, MATHCOUNTS can use your financial support. If you or your organization would like to make a donation to support MATHCOUNTS at either the state or local level, please contact the DSPE Coordinator. Your donation will go directly to support costs of the testing materials and other expenses such as lunch, student t-shirts and awards. All donors will be recognized at the MATHCOUNTS event.

For more information about MATHCOUNTS, to volunteer or donate, please contact the DSPE MATHCOUNTS coordinator, Chris Brown at chris.brown@bwsc.net or 937.428.5234. Also visit the MATHCOUNTS website at www.mathcounts.org

MATHCOUNTS®
FOUNDATION

DAYTON CHAPTER—OHIO
SOCIETY OF PROFESSIONAL
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WE'RE ON THE WEB!
WWW.DSPE.ORG



OSPE is dedicated to the advancement of professional engineers in Ohio and is the single most powerful voice representing all disciplines within the engineering profession. The Dayton Society of Professional Engineers, is a chapter of the OSPE serving the local Dayton Region. DSPE aspires to conduct a monthly chapter luncheon meeting that will serve our members by providing an opportunity to come together to share professional experiences, to network, and to gain continuing professional development through interesting presentations on a variety of technical, management, and ethics topics on all engineering disciplines. **Is there anything you would like to see in the Newsletter? Please let me know: jon.wheeler@yahoo.com.**

— Jon Wheeler, P.E., DSPE Vice President, Newsletter Editor

FINANCIAL CONTRIBUTIONS TO HELP MEET CHAPTER MISSION



Our chapter activities are focused on youth education and scholarships and include **2nd Grade Coloring Contest via ImagineEngineering**, and **Middle School MATHCOUNTS**. These are our Society's flagship events to bring to our youth an awareness of the value of science,

technology, and especially the engineering profession. It requires hands-on participation and financial contributions from our members, that's you and me. Your personal and corporate financial contributions are solicited through our Engineers Foundation of Ohio (EFO) to help us host these events on a local, state, and national level (except for the coloring contest). Please consider making a personal

contribution and soliciting from your company, if they have a community relations department. Contributions through EFO are fully tax-deductible. Please contact us for the tax ID number for your records. Even more important for the success of these events is your hands-on participation. Please contact a board member for opportunities.

DSPE/OSPE/EFO CALENDAR

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| 1 Dec | December CPD/PMP Seminar, Doubletree Cleveland-Independence |
| 2 Dec | December CPD/PMP Seminar, Hilton Garden Inn, Toledo-Perrysburg |
| 2 Dec | OSPE/EFO Board and Committee Meetings, Columbus |
| 5 Dec | December CPD/PMP Seminar, Four Points by Sheraton, Cincinnati North |
| 8 Dec | DSPE Chapter Meeting, Dayton Engineers Club |
| 13 Dec | DSPE Christmas Party, Amber Rose, 1400 Valley Street, Dayton |
| 12 Jan | DSPE Chapter Meeting, Dayton Engineers Club |
| 13 Jan | OSPE Membership and EFO Fundraising Committee Meetings |
| 3-4 Feb | Engineer Leadership Institute: <i>The Engineer as Leader</i> , Columbus Airport Marriott |
| 9 Feb | DSPE Chapter Meeting, Dayton Engineers Club |
| 19-25 Feb | Engineers Week |
| 25 Feb | Dayton MATHCOUNTS, University of Dayton; Volunteers Needed, See Chris Brown |