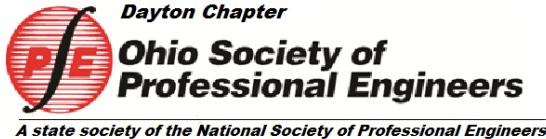


DAYTON SOCIETY OF PROFESSIONAL ENGINEERS

THE DAYTON ENGINEER

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DSPE BOARD OF DIRECTORS MEETINGS—13 JAN AND 10 FEB 2015

The next DSPE Board meetings will be on 13 January and 10 February 2015 DSPE Board Meeting from 5:15 to 6:30 PM at the Wright State University Engineering and Computer Science Dean's office conference room. There will be no board meeting in December.

JANUARY DSPE MEETING—8 JANUARY 2015



The next DSPE Chapter meeting will be on 8 January 2015 from 12:00 noon to 1:30 PM at the Engineers Club of Dayton, 114 Monument Ave, Dayton, OH 45402. This month's topic will be, "New ACI Code 330 – Concrete Parking Lots". Mr. Mark Pardi, P.E., Ohio Concrete Association, will walk us through the new ACI Code 330 for the design and construction of concrete parking lots. A buffet lunch will be served. The cost is \$20 for members, \$30 for nonmembers and \$10 for students. Attendees will receive one (1.0) Professional Development Hours (PDH). The Engineer's Club of Dayton is located at 110 East Monument Ave, Dayton, OH. Those wishing to attend should make your reservations no later than Tuesday, 6 January 2015 with Ed Schlaack by email at SchlaackE@mcohio.org or by phone at (937) 781-2632 (office) or (937) 885-9633 (home).

FEBRUARY DSPE MEETING—12 FEBRUARY 2015

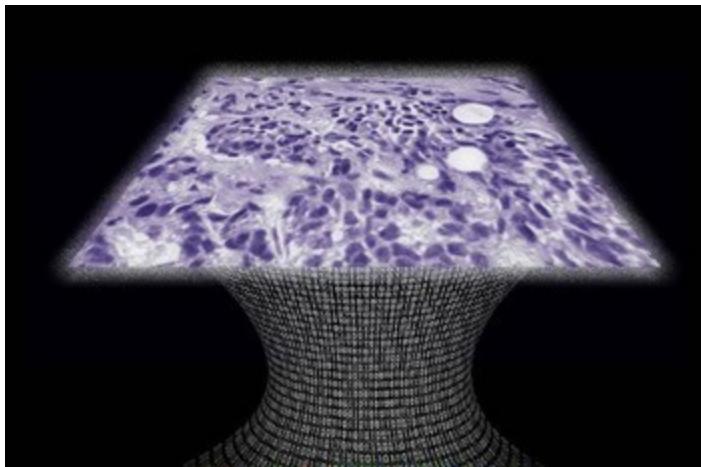
The February 2015 DSPE Chapter meeting will be on 12 February 2015 from 12:00 noon to 1:30 PM at the Engineers Club of Dayton, 114 Monument Ave, Dayton, OH 45402. The February activity will consist of a panel discussion on surface water quality, concentrating on pollution to our major bodies of water. Ms. Aurea Rivera, P.E., and Mr. Terry Dalrymple, P.E., P.S., and we anticipate someone from Ohio's legislative branch will be on the panel. Attendees will receive one (1) CPD for full attendance. A buffet will be served at noon with the panel discussion to follow. Please send your RSVP no later than Tuesday, 6 January 2015 to Ed Schlaack by email at SchlaackE@mcohio.org or by phone at (937) 781-2632 (office) or (937) 885-9633 (home).

MATHCOUNTS 2015



The 2015 MATHCOUNTS competition will be held at the University of Dayton on Saturday, February 21, 2015. This is a great event hosted by the Dayton Chapter of OSPE to encourage local 6th, 7th and 8th grade students to engage in mathematics. We are looking for volunteers to help with the competition. Anyone can volunteer, including spouses and co-workers. For more information or to sign up to help, please contact Mr. Chris Brown, P.E., LEED AP BD+C, at 937.428.5234 or email chris.brown@bwsc.net.

ENGINEERING IN THE FIGHT AGAINST CANCER



Tissue sample image created by a new lens-free microscope developed in the UCLA laboratory of Aydogan Ozcan.

[Courtesy: R&D Magazine]. Aydogan Ozcan, the Chancellor's Professor of Electrical Engineering and Bioengineering at UCLA's Henry Samueli School of Engineering and Applied Science, has developed a lens-free microscope that may be useful in cell-level abnormalities, such as cancer, with similar accuracy as larger optical microscopes. It is also the first lens-free microscope that can be used for high-throughput 3-D tissue imaging, which is critical in the study of disease. "The device works by using a laser or light-emitting-diode to illuminate a tissue or blood sample that has been placed on a slide and inserted into the device. A sensor array on a microchip—the same type of chip that is used in digital cameras, including cell phone cameras—captures and records the pattern of shadows created by the sample. The device processes these patterns as a series of holograms, forming 3-D images of the specimen and

giving medical personnel a virtual depth-of-field view. An algorithm color codes the reconstructed images, making the contrasts in the samples more apparent than they would be in the holograms and making any abnormalities easier to detect." Benefits from this new device are that pathologist diagnoses are 99% accurate and process times are much quicker because the images produced are larger than those captured by conventional bright-field microscopes, several hundred times larger, in fact.

ENGINEERS LEADERSHIP INSTITUTE: THE ENGINEER AS LEADER



**ENGINEERS
FOUNDATION OF OHIO**
Advancing Engineering Education in Ohio

[Courtesy: EFO] EFO will host the annual Engineers Leadership Institute: The Engineer as Leader on 6-7 February, 2015, at the Columbus Airport Marriott, located at 1375 North Cassady Avenue, Columbus, OH 43219. Mr. James G. Dalton will give engineers essential business skills to motivate and lead people. He will also share the latest proprietary research on executive

-level leadership. Free OSPE membership will be included in the regular (nonmember) registration fee. Attendees can earn up to 10.5 CPD hours for full participation. Go to: [ELI: The Engineer as Leader Registration](#) to register or see more information.

IMAGINE ENGINEERING 2ND GRADE COLORING CONTEST

Spend one hour with a 2nd grade class, read a story: "Not All Engineers Drive Trains", answer questions, discuss your career, and answer engineering questions. The second graders will receive materials to complete a coloring contest that their teacher will submit at a later date. *Imagine Engineering* 2nd Grade Coloring Contest is one of our flagship programs each year to reach out to K-12 students and engage them to think about engineering careers. We are setting up appointments now. If you would like to participate, please contact Vanessa Glotfelter at vanessa.glotfelter@bwsc.net or phone (937) 428-5248.



FOCUS ON THE AIR FORCE INSTITUTE OF TECHNOLOGY (AFIT)



[Courtesy: AFIT.edu] In this issue, we highlight the accomplishments of Captain Justin Delorit, USAF, who is on the Engineering Management faculty of the Civil Engineer School, and is the recipient of the 2015 NSPE Federal Engineer of the Year Award for the Air Education and Training Command (AETC).

Captain Delorit is a registered professional engineer in Ohio and a member of DSPE. His B.S. is in Civil Engineering from Michigan Technological University and his M.S. is in Engineering Management from AFIT. He has published several peer-reviewed articles and book chapters in water quality, land use optimization, and construction safety. Captain Delorit will leave AFIT in the summer of 2015 to attend the University of Wisconsin-Madison to earn a PhD in Civil



Engineering with a focus on Water Resources Engineering and Science, and then return to AFIT to fulfill a professorship upon completion. He is also a member of the Society of American Military Engineers (SAME), the Water Quality Federation (WEF), the National Registry of Environmental Professionals (NREP), the Air University Faculty Senate, and the AFIT Civil Engineer School Faculty Council. Of note, he was recognized by the Air Force's top civil engineering officer for lead authorship of the Deployed Environmental Management course with Joint and Coalition support. The course is now used to satisfy Air Force Civil Engineer deployment tasking requirements. He also led the authoring and instruction of AFIT's first-ever Professional Engineer Review Course and OSHA-authorized 30-hour Construction Safety Standards Course. During his first year as an instructor, he also excelled as the school's subject matter expert in water and wastewater engineering and management, construction safety and professional credentials, directing 17 courses and teaching over 1,338 airmen in 30 courses, including one graduate course.

AFIT is the Air Force's graduate school of engineering and management as well as its institution for technical professional continuing education. A component of Air University and Air Education and Training Command, AFIT is committed to providing defense-focused graduate and professional continuing education and research to sustain the technological supremacy of America's air and space forces. AFIT accomplishes this mission through three resident schools: the Graduate School of Engineering and Management, the School of Systems and Logistics, and the Civil Engineer School. Through its Civilian Institution Programs, AFIT also manages the educational programs of officers enrolled in civilian universities, research centers, hospitals, and industrial organizations. Since resident degrees were first granted in 1956, more than 17,500 graduate and 600 doctor of philosophy degrees have been awarded. In addition, Air Force students attending civilian institutions have earned more than 12,000 undergraduate and graduate degrees in the past twenty years. In the coming issues, we hope to focus on some of the accomplishments of some of AFIT's graduate students in the School of Engineering and Management.

**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 Area. DSPE aspires to conduct a monthly chapter luncheon meeting that will serve our membership 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.

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. But they do not happen on their own. 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.

ON THE CALENDAR: DSPE, EFO AND OSPE

January 2014

8 Jan DSPE Chapter Meeting, Dayton Engineers Club

February 2015

6-7 Feb EFO ELI: The Engineer as Leader, Columbus

12 Feb DSPE Chapter Meeting, Dayton Engineers Club

14 Feb *ImagineEngineering* entries are due to OSPE

21 Feb Dayton Area MATHCOUNTS Competition, University of Dayton

March 2015

12 Mar DSPE Chapter Meeting, Dayton Engineers Club

14 Mar Ohio MATHCOUNTS competition, Columbus State Community College

21 Mar Ohio Engineers and Surveyors Certificate Ceremony, Fawcett Ctr, Columbus