



ADDITIONAL SEPTEMBER MEETING INFORMATION

Dr. Tikalsky assumed the role of CEAT Dean on July 1, 2012. He will also hold a tenured appointment as Professor in the Department of Civil and Environmental Engineering and an adjunct appointment in the School of Materials Science and Engineering at OSU.

Dr. Tikalsky is highly accomplished in his field of expertise, and will bring a fresh vision to the College of Engineering, Architecture and Technology at OSU.

He received his B.S. in Civil and Environmental Engineering from the University of Wisconsin, and both his M.S. and Ph.D. in Structural Engineering from the University of Texas at Austin. Prior to his position at the University of Utah, Dr. Tikalsky served as a professor of Civil and Environmental Engineering at Penn State University for more than a decade, and was professor of Civil Engineering at Santa Clara University from 1989-1995.

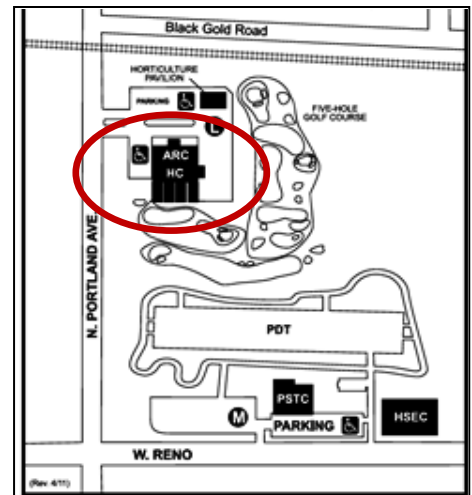
“My background in civil and environmental engineering, as well as my work in structural materials and industrial byproduct utilization, is highly interdisciplinary in nature,” said Dr. Tikalsky. “As we develop OSU-CEAT in the coming years, these collaborative skills will serve to guide me in helping others to see the power of solving large problems that improve our world and drive the Oklahoma economy.”

Dr. Tikalsky has been a Senior Research Fellow with the Czech National Academy of Sciences and the US Army Corp of Engineers. He is a registered professional engineer in the State of California and a Fellow of the American Concrete Institute and the American Society of Civil Engineers.

Dr. Tikalsky has received numerous awards including Utah Engineering Educator of the year, is a trained ABET Program Evaluator, and was recognized for Best Paper/Presentation at the 2011 International Conference on Durability of Building Materials and Components in Porto, Portugal.

He and his wife, Julie, have two sons; Peter age 11, and Daniel age 10.

At right is a map to the OSU-OKC Agricultural Research Center. The ARC is located west of the Fairgrounds on N. Portland Avenue, just north of W. Reno Avenue. This map is accessible at:
<http://www.osuokc.edu/map/pdf/campusmap.pdf>



Engineering Educators and Students Note: FE Exam Procedures are Changing!

The Fundamentals of Engineering (FE) exam is very important in the growth and development of future engineers. Engineering students are encouraged to take and pass this exam as a first step in their professional careers.

At right is an image from the NCEES website noting how FE exam testing is moving to a computer-based (CBT) system. See <http://cbt.ncees.org/free-engineering-educator-webinar/> for more information.

The free NCEES Engineering Educator webinar will be held Tuesday, October 1, 2013 2:00PM–3:00PM EDT.

CBT testing will commence with the January 2014 FE exam. See <http://cbt.ncees.org/cbt-faq/> for a number of frequently asked questions concerning this change.

NCEES
 advancing licensure for
 engineers and surveyors

Home About CBT exams FAQ News Contact

Engineering educator webinar

How will the new FE exams affect your program? Have you considered how year-round testing will affect your current review course schedule? Or when your students should register for the exam if it's a requirement for graduation? We'll talk about these things and much more in a free webinar for engineering educators on October 1 at 2:00 p.m. EDT.

[Continue reading](#)

The FE and FS exams are moving to computer-based testing (CBT)

Why transition to CBT?
 CBT stands for computer-based testing. In 2014, the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams will be offered solely on computer. [Read More >](#)

Which exams are transitioning?
 As of now, the transition to CBT in 2014 involves only the Fundamentals of Engineering (FE) and Fundamentals of Surveying (FS) exams. The FE exam is designed for college. [Read More >](#)

Where will I take my exam?
 NCEES has partnered with Pearson VUE, a global leader in electronic testing, to provide computer-based delivery of the FE and FS exams. NCEES plans to... [Read More >](#)

NEWS ITEMS OF INTEREST

Oklahoma Considering High-Speed Rail Between Oklahoma City & Tulsa

(courtesy NSPE's *Daily Designs* publication, August 16, 2013)

The **Norman (OK) Transcript** (8/16, Parker) reports that the Oklahoma Department of Transportation has been holding hearings on "the \$3 million Federal Railroad Administration grant funding the study of a possible Tulsa-Oklahoma City corridor." The Transcript notes that the analysis will not be complete until 2015 and "will answer specific questions and allow ODOT to make a recommendation to the state based on cost and cultural and environmental impacts"

Urban Power

(courtesy NSPE's *Engineering Press Review* publication, August 19, 2013)

Net Zero Buildings (07/01/2013, Vol. 2, No. 2, C. Ross) While solar power has taken the lead in onsite power generation in suburban and rural settings, a new certification program may revitalize wind power. Sales for wind energy products have distinctly declined in the last few years. Prior to this, many new designs were created that moved beyond the traditional pole-mounted turbine and towards integrated or mounted wind products. However, poor performance from the new designs led to poor sales, severely damaging the industry. The American Wind Energy Association began to test and certify wind turbines in 2010 to combat the poor sales. Architects such as Rand Elliott of Oklahoma City continue to design non-traditional building-scale wind turbines. While Oklahoma City has ample wind, the natural wind resources of other areas must be taken into consideration when designing projects for those areas. In part, a lack of wind itself is to blame for the earlier wind project's inability to produce up to specification. Wind power is expected to grow globally through 2018, primarily in Asia and Europe. In the U.S., wind may be most used in remote, off-grid settings such as in telecommunications and defense applications. However, this predicted growth does not account for building-mounted wind projects, which involve many unknowns.

Here's A Concrete Plan for Wind Towers

(courtesy NSPE's *Engineering Press Review* publication, August 26, 2013)

Earthtechling (08/06/13., P. Danko) Wood is increasingly being used as an environmentally friendly alternative to steel for the large towers that hold power generating wind turbines high off the ground, but now concrete is being used as a tower candidate. The idea behind new research into concrete is being driven by the goal of placing wind turbines higher, where winds are stronger and less susceptible to turbulence. Currently, land-based wind towers generally top out at 80 meters high, and Iowa State engineers say that steel is not suitable to reaching 100 meters. "We have definitely reached the limits of steel towers," says Sri Sritharan, Iowa State's Wilson Engineering Professor and leader of the College of Engineering's Wind Energy Initiative. "Increasing the steel tower by 20 meters will require significant cost increases and thus the wind energy industry is starting to say, 'Why don't we go to concrete?'" The Iowa State researchers say they developed three techniques for assembling concrete turbines from hexagon shaped segments, with six panels connected to six columns. Connecting techniques were varied in three ways, and in simulations the researchers found the towers were capable of withstanding loads beyond what they could expect at the 100 meter height. In addition to being able to reach 100 meters, the researchers say concrete also offers a longer lifespan than steel, easier transportation because pieces are small enough for standard trucking, and wide availability of precast concrete across the country, among other benefits.

Study Finds Fracking Likely To Blame For Local Texas Tremors

(courtesy NSPE's *Daily Designs* publication, August 28, 2013)

The **Wall Street Journal** (8/28, Fowler, Subscription Publication) reports that a new study that appears in the online edition of the journal of *Earth and Planetary Science Letters* says that so much oil and water is being taken from South Texas' Eagle Ford Shale that it is probably responsible for the recent wave of small earthquakes as rock settles. However, the quakes are likely too minor to be felt on the surface.

A report appearing in **Bloomberg News** (8/27, Efstathiou) details a study whose results are scheduled to come out this week in the *Earth and Planetary Science Letters* journal finding that "clusters of small-magnitude seismic events

between November 2009 and September 2011” in the area around the Texas Eagle Ford formation “were ‘often associated with fluid extraction,’” and, “probably the result of extracting oil and in some cases water used for hydraulic fracturing.” A co-author of the study Cliff Frohlich commented in an interview, “You remove stuff, and stuff adjusts or slumps around and either above or below the area where you remove it,” but having said that, Frohlich continued to note, “We don’t see any evidence that injection in the Eagle Ford appears to routinely cause earthquakes.” The article also writes that the study justifies researchers worries about “the long-term risks the thousands of wells pose,” as well as how there is “a need for better monitoring and government oversight.”

The **Atlantic** (8/27, Weissmann) adds, “Past research has connected earthquakes in seismically mellow states like Oklahoma and Ohio to the process companies use to dispose of the water and chemicals used in fracking.”

The **Dallas Business Journal** (8/27, Sakelaris, Subscription Publication) report attributes the study to work at the University of Texas at Austin, writing that “The study was conducted by the same geophysicists that analyzed seismic activity in the Barnett Shale in North Texas last year...That study linked earthquakes to wastewater disposal wells the industry uses to dump frack fluids and produced water from wells.”

In a **Reuters** (8/28, Kemp) opinion column, Reuters market analyst John Kemp writes on the polarized field of debate regarding policy on hydraulic fracturing. As for his opinion, though, even if Kemp admits that fracking is risky business, he says the inherent risks of the fracking process should not deter investment. He even cites a review of the risks by the National Research Council in a report from earlier this year. He also makes the point that far riskier activities exist, and yet these do not stop people from regulating them and participating in them. Instead of outright placing a hold on fracking operations, writes Kemp, states and countries should consider careful rules for the industry, including limiting large-scale drilling operations and drafting safety regulations.

New Federal Drilling Regulation Sets States, Industry Against Feds. The website for the **National Journal** (8/27, Harder, Subscription Publication) reports on Federal drilling regulations, writing that “The relationship among the federal government, energy companies, and state regulators is getting more tense as the combination of hydraulic fracturing and horizontal drilling unleashes one of the world’s biggest oil and natural gas booms—and all of the environmental questions that come with it.” In particular, Federal regulations being written to control oil and gas drilling are “drawing criticism from industry officials, and some in the states, who complain that too much red tape will constrain economic benefits.” The article states that as for the Bureau of Land Management, it “is not likely to withdraw” the new regulation, despite the opinions of the industry and state regulators. Interior Secretary Sally Jewell, after touring a Continental Resources drilling rig on the Bakken shale, stated, “I also know my job is overseeing the resources owned by the federal government. I have to develop these resources safely and responsibly in a way that also supports domestic energy production. It’s a tricky balance.”

USGS Examines Connection Between Earthquakes and Injection Wells

(courtesy NSPE’s *Engineering Press Review* publication, August 26, 2013)

Industrial WaterWorld (08/13, Vol. 13, No. 4, A. Haddaway) The U.S. Geological Survey (USGS) recently investigated whether industrial activity is the cause of increased U.S. seismic activity. In particular, oil and gas drilling could be causing earthquakes that are occurring in unusual places like the central and eastern U.S. Experts say these quakes could be the result of pressure changes caused by “impoundment of reservoirs, surface and underground mining, withdrawal of fluids and gas from the subsurface, and injection of fluids into underground formations.” However, fracking and wastewater injection of deep wells could be the primary cause of many of the earthquakes. The seismic activity can be reduced by adhering to the “traffic light” system, which involves setting up guidelines that ban or suspend injection activities based on monitoring for earthquake activity. This method will determine if a certain area has the potential for naturally occurring earthquakes. Oil and gas companies can also recycle liquids during production and improvements can be made about data collection at injection-induced sites. If regulatory agencies have better information they can more easily establish standards for areas where seismic activity is possible.

Chair's Corner

We are looking forward to another exciting program year with interesting programs & tours. One of our goals is to provide our Section membership with interesting & informative programs that will keep us up-to-date on the latest trends in Mechanical Engineering. We solicit your input/suggestions on any program topics or facility tours that would be of interest to our membership by contacting any of our executive committee members.

I sincerely hope that you will join us for this month's meeting on Thursday, September 26th to hear Dean Paul Tikalsky, OSU College of Engineering, Architecture, & Technology (CEAT).

Ed Reynolds
 Chair, ASME Central Oklahoma Section

Future ASME-Central Oklahoma Section Events

Date	Location	Program Topic and Speaker
Thursday Sept. 26, 2013	OSU/OKC Agricultural Research Ctr ARC Room 196 400 N Portland Ave, OKC	Speaker: OSU CEAT Dean, Dr. Paul Tikalsky

**Please visit our Section website <http://sections.asme.org/CentralOK/>
IT'S BEEN REVAMPED. Check event updates and other useful information!**