The University of Kansas Department of Civil, Environmental and Architectural Engineering

presents the

Professional Development Series Spring 2014

The faculty of the KU Department of Civil, Environmental and Architectural Engineering will offer 12 two-hour presentations on topics of interest to practicing engineers. This series will be presented on Mondays 4-6 p.m., February 10 through April 28, at Burns & McDonnell World Headquarters, 9300 Ward Parkway in Kansas City. Participants will earn **2.0 hours of PDH credit** for each session attended.

February 10 JoAnn Browning Simplified Seismic Analysis for Buildings

For certain structures of regular mass and stiffness configuration, simplified methods for analyzing and proportioning concrete structures are extremely valuable tools. Simplified methods are included in code-based provisions as a popular alternative to detailed nonlinear analysis. With the continuing development of performance-based earthquake engineering, methods are needed to provide estimates of drift and deformation to compare with performance criteria. This seminar focuses on the development of several simplified methods to analyze and proportion reinforced concrete structures in regions of seismic activity.

February 17 Herb Tuttle Project Team Success

We will determine the inputs to ensure team and project success. We will identify team stumbling blocks to development. We will put together a plan to improve project team success.

February 24 Bob Parsons Soil Stabilization

Soil stabilization can greatly improve the strength and reduce the shrink/swell potential of soils beneath pavements and slabs. This presentation will cover the primary products used to stabilize soils, which product to use and the amount to specify, and how to successfully apply the product.

March 3 Dave Darwin Control of Cracking in Concrete

Cracks have been a problem for as long as concrete has been used as a construction material, but understanding the factors that lead to cracking allows structures to be designed and constructed with minimum cracking. The causes of settlement and plastic shrinkage cracking in plastic concrete and the role of drying shrinkage, thermal stresses, poor construction practices, and errors in detailing or design on cracking in hardened concrete are described. Steps to minimize cracking in buildings, bridges, and slabs-on-grade are covered along with approaches that will limit cracking in any structure.

March 10 Tom Mulinazzi Engineering Ethics: Why Bother?

You will be challenged more with ethical issues than technical issues during your professional career. How will you react to these ethical issues; how should you react to these issues? Ethical situations cover a very gray area and engineers usually think in a black and white world. Let's discuss how you would handle different ethical events.

March 17 Dan Tran Practical Engineering Risk Management

The construction industry is exposed more risk and uncertainty than other industries. Any possible combination of risk factors can significantly affect the success of a project's performance. This presentation will provide an overview of engineering risk management process and discuss how to apply this process to construction projects to better understand the impact of risk on project outcomes.

Mach 24 Jeff Frantzen Mistakes Design Engineers Make with Retaining Walls

This presentation will illustrate some of the unintended consequences of poorly thought out design details and design assumptions for conventional and mechanically stabilized earth walls. The presentation will conclude with a checklist intended to help prevent the problems illustrated by the talk.

March 31 Remy Lequesne Strut and Tie Models for Shear Design: AASHTO Specifications vs. ACI Code

Strut and tie models can be the best analysis tool for deep and oddly shaped reinforced concrete members. However, the method's versatility has been clouded by code language that is often inconsistent between the AASHTO Specifications and the ACI Code. This presentation is aimed at highlighting the essential benefits and limitations of the method as well as making some sense of the code provisions through examples.

April 7 Jian Li Bridge Inspection for the 21st Century

This session will introduce the application of sensors in civil engineering, with the goal of addressing the following questions: 1) what sensors are civil engineers interested in and how do they work; 2) what types of issues are of concern in measuring dynamic data from civil engineering structures; 3) what type of processing is done and what are the pitfalls for civil engineering applications.

April 14 Andres Lepage Limit Design of Masonry

The 2013 Building Code Requirements for Masonry Structures incorporates Limit Design as an alternative approach to the seismic design of irregular masonry walls. This presentation highlights the advantages and limitations of the method and explains the code provisions through design examples.

April 21 Tom Glavinich Analysis of Construction Changes and Disputes

Construction projects are becoming more complex and risky as owners are demanding shorter construction times, higher construction quality, and more competitive pricing. As a result, project managers are finding themselves increasingly involved in construction changes and disputes throughout construction projects. This presentation will help project managers identify and document construction changes and disputes as well as quantify their impact.

April 28 Bruce McEnroe Practical Hydrology for the Design Engineer

What a design engineer needs to know about hydrology – how to select and apply the most appropriate methods, locate data, and assess uncertainties in hydrologic estimates. Applications to stormwater systems, culverts, bridges and dams, with an update on recent calibrations of hydrologic methods for the Kansas City area.

Tickets

Tickets are \$50 per session. To order tickets, contact Susan Scott at sscott@ku.edu or

785-864-3826. Tickets will be stamped at the event to confirm attendance and verify the 2.0 PDH credit. Tickets are transferrable among participants and sessions; please inform Susan Scott of changes prior to the session.

Location

Classes will meet in the Burns & McDonnell Auditorium. Please park in the visitors' lot at 9300 Summit Street (see map below). If you have an accessible parking pass, you may park in front of the building. From the Summit Street lot, enter the building at the 9300 entrance on the parking level and take the elevator to the first floor. Turn left and go through the glass doors that lead down the hallway (not the glass doors that lead to more parking). Walk past the health and fitness centers to the first hallway on the left, which leads to the Burns & McDonnell Auditorium. You will sign in and receive a visitor's badge.

