The University of Kansas  
Department of Civil, Environmental and Architectural Engineering  
presents the  
Professional Development Series  
Spring 2016

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 1 through April 25, 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 1   Brian Lines   Best Value on Construction Project Delivery
Best value procurement methods are becoming increasingly common for construction projects. This presentation will cover leading practices that construction owners are using, as well as practical tips for professionals to better differentiate themselves from their competition during the bidding process. Implications and benefits of best value are discussed for design engineers, owners, and contractors.

February 8   Steve Schrock   Getting Ahead Without Taking Shortcuts: Engineering Ethics for the Modern World
An up-tempo talk about our obligation to protect the health, safety, and welfare of the public, with thought-provoking modern case studies, both large and small.

February 15  Tom Bowlin   Decision Analysis for Engineering Projects
Decision analysis is a high-potential, formal approach to evaluating complex decision alternatives in terms of value and uncertainty. This presentation is intended to acquaint participants with the discipline of decision analysis, particularly in relation to practical applications in engineering design and management, and reinforce basic decision analysis concepts and methods through engaging participants in a progressive series of decision-making scenarios.

February 22  Bob Parsons   Innovations in Bridge Abutments
For many years bridges have typically been supported by deep foundations. Recent advances in soil stabilization have led to an alternative method for bridge support that is faster and less expensive (25-60%) and requires less maintenance. Developed by the Federal Highway Administration, the Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS), has been used at dozens of sites in the United States. This presentation will include an introduction to GRS-IBS, a discussion of the benefits, and a walk-through of the design procedure.

February 29  Caroline Bennett   Introduction to Fracture Mechanics
A general introduction to fracture mechanics for structural and materials engineers. This presentation will focus on the traditional “K” method of analysis/design comparing driving force against fracture toughness. Topics will include effects of temperature, loading rate, and constraint. The extension of fracture mechanics to fatigue will also be discussed.

March 7     Alexandra Kondyli   The New Highway Capacity Manual: Overview and Changes
The session will review the contents of the new Highway Capacity Manual, with a focus on new additions and changes to existing methodologies. The session will also discuss specific example problems based on the new material of the Manual.
March 14    William Collins    Re-thinking Fracture Critical
Designation of bridge components as fracture critical comes with implications that reach far beyond the design and fabrication of a structure. How and why fracture-critical determinations are made can impact the life-cycle cost and safety of structures throughout their service lives. We will examine the past, present, and potential future of the fracture-critical designation, looking at both new and existing bridge structures.

March 21    John Bricklemyer    Achieving Success: Project Management Tools You Can Use
Many civil engineers, and many other types of engineers, lack formal project management training, yet many often manage projects on a regular basis. Over the best part of the past century project management, as a profession, has developed into a commonly-recognized discipline with many formal processes and corresponding tools to improve project success rates. This session will explore what characteristics typically lead to project success and the project management tools that engineers can utilize to improve the success of the projects that they manage.

April 4    David Darwin    Concrete Durability
When designing or evaluating concrete structures, engineers and inspectors often place major emphasis on concrete compressive strength, even though exceedingly few concrete structures fail due to low strength. Most failures, rather, occur due to a lack of durability, which is often manifested in the form of reduced service life. This presentation covers the basis for each of the principal causes of low durability and the methods that are available to the engineer to limit durability problems and design and build long-lasting structures.

April 11    Elaina Sutley    Preventing Natural Hazards from Becoming Natural Disasters
This presentation examines how engineers and communities can prevent natural hazards from becoming natural disasters. In the first half, we will discuss and demonstrate the state-of-the-art in characterizing and modeling environmental loadings (e.g., snow, straight-line wind, tornadic wind, earthquake, flood, storm surge and tsunami). In the second half, we will examine the concept of community resilience from a holistic perspective and how it can be achieved and used to minimize disasters through modeling social, economic and physical infrastructure systems.

April 18    John Shelley    Reservoir Sediment Management
Sediment accumulation in water-supply reservoirs is a growing problem that requires innovative solutions. Students will see examples of strategies that have been successfully applied at reservoirs around the world and learn methods for selecting from among potential strategies.

April 25    Heather McCain    Team Dynamics
This course offers a short overview of team dynamics and managing change. Topics include team initiation, stages, facilitation techniques, organizational roadblocks, negotiation and conflict resolution techniques, and motivation techniques.

Tickets
Tickets are $60 per session. To order tickets, contact Susan Scott at sbscott@ku.edu or 785-864-3826. Tickets will be picked up at each 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 or 9400 Ward Parkway Visitor’s Lot (see map below). There are doors to the Burns & McDonnell Auditorium at the top of the U-shaped drive. Enter through these doors.