LESSONS LEARNED IN PAVEMENT DESIGN, EVALUATION AND SUSTAINABILITY

Thursday, February 1, 2018
12:00 - 1:00 pm

College Avenue Commons (CAVC) Room 455 (Parking)

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About the Talk

Pavements have several unique characteristics that distinguish them from other civil engineering structures and make them hard to design, evaluate and maintain. Unlike other structures, a typical pavement has a relatively short service life, which requires the designer to incorporate "life" in the design process. Another unique property of a pavement is its unconventional definition and criteria of failure, such as 5% cracking, ½-inch rutting, certain level of roughness, etc. This means that if we are designing a pavement section to last for 15 years, we want to make sure that the pavement will reach failure condition (e.g., 170 roughness index) in 15 years. Compounding the problem is the fact that a pavement is a multilayered system that is subjected to dynamic loads with different load magnitudes, different vehicle axle configurations, and unpredictable traffic growth. Also, pavement materials are highly susceptible to environmental conditions such as temperature, rain, freeze and thaw, aging, etc. This seminar provides an overview of basic design principles of both flexible and rigid pavements, factors affecting pavement performance, pavement distresses, methods of pavement evaluation, and best practices of pavement preservation and sustainability.

About the Speaker

Dr. Mike Mamlouk is a Professor of Civil, Environmental and Sustainable Engineering at Arizona State University. Professor Mamlouk graduated from Purdue University and has many years of research and teaching experience in the field of pavement design, pavement evaluation, and material characterization. He has directed numerous research projects on sustainable pavement design, pavement evaluation, material testing, pavement preservation and nondestructive testing. Dr. Mamlouk has published over 100 technical papers and is the main author of the "Materials for Civil and Construction Engineers" textbook, published by Pearson Education Inc., which is used at more than 150 schools worldwide. He is a registered Professional Engineer in the state of Arizona. He is a fellow of ASCE and an active member of other professional societies including TRB, AAPT and ASTM.

Refreshments provided by Graduate & Professional Student Association (GPSA). Event is open to the public.