



## “大师面对面” 学术报告

【报告人】：美国威斯康星大学土木与环境工程系 William Likos 教授

【时 间】：2016 年 10 月 19 日上午 9:30

【地 点】：隧道中心楼 206 会议室

### Seminar 1——Clay Characterization by Water Vapor Sorption

**Abstract:** This seminar summarizes the presenter's recent research related to geotechnical characterization of clays and clayey soils using measurements of water vapor sorption behavior. Testing equipment for determining water vapor sorption isotherms is described and evaluated. Applications of sorption measurements toward understanding interlayer swelling behavior, classifying expansive clays, estimating fundamental surface properties such as specific surface area (SSA), and characterizing suction stress in the high suction range are illustrated. Sorption-based soil characterization is advocated as an alternative to conventional clay characterization approaches such as Atterberg's limits.

### Seminar 2—— Emerging Materials in Geoenvironmental Engineering: Polymer-Modified Bentonite

**Abstract:** Polymer-modified bentonites containing sodium bentonite clay and various polymers have been introduced in recent years to improve the chemical compatibility and hydraulic performance of geosynthetic clay liners (GCLs) for waste containment involving aggressive liquids. This seminar presents an overview of the presenter's recent research efforts toward understanding performance of polymer-bentonite GCLs for coal combustion leachates, the effects of polymer elution, alternative index tests, and interface shear strength.

**【Speaker】:** Bill Likos is Professor in the Department of Civil and Environmental Engineering and Director of the Geological Engineering Program at the University of Wisconsin-Madison. He received a Ph.D. in Engineering Systems from the Colorado School of Mines in 2000. Bill's research interests are in basic and applied unsaturated soil mechanics, including expansive clay behavior, capillary-induced stress and strain, and fluid and heat transport in near-surface geotechnical applications. He has been actively involved in hydraulic performance of clay barrier systems, geothermal heat exchange systems, and beneficial use of recycled materials and industrial byproducts. He is co-author of the textbook *Unsaturated Soil Mechanics* published by Wiley in 2004. Bill currently serves as **Co-Editor of the ASTM Geotechnical Testing Journal** and as **Associate Editor of the ASCE Journal of Geotechnical and Geoenvironmental Engineering**. He has received numerous awards for his research, including the ASCE Casagrande Award (2005), the ASCE Walter L. Huber Civil Engineering Research Prize (2014), and the ASCE Norman Medal in both 2007 and 2014.



## “非饱和土力学及其工程应用”系列学术报告

【报告人】：美国威斯康星大学土木与环境工程系 William Likos 教授

【时 间】：2016年10月19日—2016年10月22日；

【地 点】：北京交通大学隧道中心楼206会议室

【日程安排】：

10月19日 (星期三)	9:30-11:30	Presentation on research (Seminar 1 & 2)
	14:30-17:00	Unsaturated soils mechanics: Intro to Unsaturated Soil Mechanics (Chap 1-3)
10月20日 (星期四)	9:00-11:30	Unsaturated soils mechanics: Suction Measurement I (Chap 10)
	14:30-17:00	Unsaturated soils mechanics: Suction Measurement II (Chap 10)
10月21日 (星期五)	9:00-11:30	Unsaturated soils mechanics: Fluid and Heat Flow (Chap 8, 9, 11)
	14:30-17:00	Unsaturated soils mechanics: Modeling the SWCC and HCF (Chap 12)
10月22日 (星期六)	9:00-11:00	Applications of Unsaturated Soil Mechanics