



**2011 AEES Distinguished Lecturer:**  
**Benito J. Mariñas, Ph.D.**

**Ivan Racheff Professor of Environmental Engineering**  
**Department of Civil and Environmental Engineering**  
**University of Illinois at Urbana-Champaign**

**Science and Technology Advances for Sustainable Safe Global Water**

The Millennium Development Goal Target of reducing by half the portion of people without sustainable access to safe water supply and effective sanitation by 2015 will not be achieved at the current rate of progress. More than 800 million people will not have access to “improved” water supply, and 2.4 billion people will lack adequate sanitation. Lack of access to “safe” water is a global challenge requiring the development of revolutionary technologies, and the creation of human resources capacity to scale-up and operate the technologies sustainably. This challenge can be addressed with revolutionary advances in water quality technology and related fundamental science, and the development of sustainable, systems capable of producing affordable, robust and reliable supply of safe drinking water to impoverished people worldwide. Such systems could integrate novel sensors that detect infective pathogens, robust treatment processes that destruct and/or remove these contaminants without producing toxic by-products. These developments should be paralleled by building the capacity of human resources, developing microeconomic infrastructure, and facilitating acceptance by society.

**BIOSKETCH**

Dr. Mariñas is Ivan Racheff Professor of Environmental Engineering and past Chair of the Environmental Engineering and Science Program, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign (UIUC). He is also Acting Director of the NSF Science and Technology Center of Advanced Materials for the Purification of Water with Systems (WaterCAMPWS). Dr. Mariñas has taught graduate and undergraduate courses covering fundamental, laboratory experimentation, and design aspects of environmental engineering and science. His research explores mechanistic aspects of chemical and ultraviolet light disinfection processes, chemistry of nitrogenous disinfection by-product formation and control, and membrane technologies for controlling water-borne pathogens and chemical contaminants. Dr. Mariñas holds a B.S. in civil engineering from the Universidad Politecnica de Madrid, Spain (1982); and M.S. (1985) and Ph.D. (1989) degrees in sanitary and environmental engineering from the University of California at Berkeley. From 1989 until 1995, he was a faculty member at the School of Civil Engineering of Purdue University, West Lafayette, Ind. Dr. Mariñas was the recipient of the Arthur and Virginia Nauman Faculty Scholar award (1998-2005) at the Department of Civil and Environmental Engineering of UIUC. His other honors include the Harold Munson Outstanding Teacher Award (1992), and Ross Judson Buck '07 Outstanding Counselor Award (1992) from the School of Civil Engineering at Purdue University, and making the University of Illinois Incomplete List of Outstanding Instructors six times.

*Wednesday November 9<sup>th</sup>, 2011*

*3:00 pm in ES&T Room L1255*

*Reception in 3<sup>rd</sup> Floor Atrium at 4:00 pm*

