

Clifford W. Randall Distinguished Lecture

by
Dr. David Dzombak

Dr. Dzombak is the Hamerschlag University Professor and Head of the Department of Civil and Environmental Engineering at Carnegie Mellon. The emphasis of his research and teaching is on water quality engineering, environmental restoration, and energy/environment issues. Dr. Dzombak received his Ph.D. in Civil Engineering from the Massachusetts Institute of Technology in 1986. He also holds both B.S. and M.S. in Civil Engineering from Carnegie Mellon, and a B.A. in Mathematics from Saint Vincent College. Dr. Dzombak's research and professional interests include: aquatic chemistry; fate and transport of chemicals in water, soil, and sediment; water and wastewater treatment; abandoned mine drainage remediation; climate change adaptation for infrastructure; water resource sustainability; energy and environment; population and environment; and public communication of environmental engineering and science. Dr. Dzombak was elected to the National Academy of Engineering in 2008. Other recognitions include election as Fellow of AEESP (2013), the Water Environment Federation (2012), and the American Society of Civil Engineers (2002). In 2011 he received the Distinguished Lecturer Award (2011) from AEESP and in 2014 the Simon W. Freese Environmental Engineering Award.



“Climate Change Adaptation for Infrastructure: A Grand Challenge for Civil and Environmental Engineering”

The climate is changing globally and across the U.S., with different types and extent of change in different regions. Observed changes include sustained deviation from long-term trends in atmospheric temperatures, water temperatures, precipitation amounts, drought duration, storm frequency, wind velocities, snow melt timing, flood frequency and characteristics, permafrost melting, and other phenomena. These changes are affecting civil and environmental infrastructure and leading to demand for infrastructure modification. The capacity for existing infrastructure to accommodate expected climate change is not well understood. Also not well understood are the types of alterations needed in current design guidelines and codes for new infrastructure to account for climate change impacts. Climate change adaptation for infrastructure is critical for civil and environmental engineering, and for sustainable communities, in the 21st Century. Climate change adaptation is an area of significant focus in the earth science and climate science academic communities. However, there has been limited engagement by engineers in climate change adaptation, mostly in relation to coastal issues. Much more engagement and leadership of civil and environmental engineers is needed across the broad spectrum of relevant infrastructure issues. Civil and environmental engineers need to be prepared to lead in answering questions about risks of and sustainable responses to climate change.

Friday, October 6, 2017 in Hyatt Place at 3:00 pm

Reception to follow at 4:00 pm

The Clifford W. Randall Lecture Series has been established to honor the long and dedicated career of service of Dr. Randall to the Environmental and Water Resources Engineering Program in the Department of Civil and Environmental Engineering – Virginia Tech and to the environmental engineering profession overall.