

Join us for the next Baker Center Energy and Environment Forum, which will take place on Thursday, Feb. 15 at 1:00 pm in the Toyota Auditorium in the Baker Center.

Desiree Tullos, from Oregon State, will give a 45 minute presentation and then lead a discussion with participants. Her talk is titled:

Dam Removal and Reoperation in an Age of Complex Hydro Systems

Abstract: Dams are critical, interdependent elements of society's water infrastructure. As that infrastructure ages and environmental values and laws change, the management and operations of dams and reservoirs are also changing. These changes pose new challenges in, and highlights interactions between, the engineering, ecology, law, and socio-economics of dams. This seminar will emphasize the uncertain, but critical interactions that make dams an archetype of complex systems. First, current research on the science, management and community of dam removal will be introduced, with emphasis on how science is informing management, policy and engineering design. Next, research on the reoperation of reservoirs under climate change will be presented, including the application and limitation of models and decision frameworks. The seminar will close with motivations for teaching and research on the engineering of complex hydro systems.

BIO: Desiree Tullos, PhD, PE, D.WRE is a Professor in the Biological and Ecological Engineering Department at Oregon State University. She earned her bachelor's and master's in Civil Engineering and her PhD in Biological Engineering. Her research team investigates the interactions between river engineering and the physical and biological processes of rivers. Projects focus on questions that range from the particle to basin scale, with the emphasis on the sustainable management of water resources. Example projects include: a) Physical and biological responses to river engineering, including dam removal and reintroducing large wood; b) analysis of reservoir operations under climate and land use change and associated impacts on flood risk reduction, water supply, hydropower generation, environmental flows, and sediment transport; c) Analysis of uncertainty in water resources, d) Turbulence and habitat of flow around vegetation and wood in rivers, and e) Sustainable flood risk management and infrastructure. In addition, she currently serve on the Independent Scientific Review Panel for Bonneville Power Administration's Northwest Power and Conservation Council and the board of directors for the Natural Heritage Institute. She has also served on two National Research Council committees, including one on Sustainable Water and Environmental Management in the California Bay-Delta. Her teaching emphasizes design-based learning in her primary classes: River Engineering, Ecohydraulic Engineering, and Ecological Engineering – Systems Analysis.

The Baker Center Energy and Environment Forum is an opportunity for academics to share their research findings with a broad set of academics, researchers, and students from outside their own discipline but who have a common interest in environment and energy issues. For more information about the Baker Center Energy and Environment Forum visit the forum's website: <http://bakercenter.utk.edu/energy-environment/>. Many faculty have expressed interest in offering extra credit to students who attend the Forum. Please contact Elizabeth Woody (ewoody2@utk.edu) if you would like us to document student attendance at the Forum.

Please join us for what promises to be a very interesting discussion and presentation.

Paul Armsworth, College of Arts and Sciences

Charles Sims, Haslam College of Business

Becky Jacobs, College of Law

Don Hodges, College of Agricultural Sciences and Natural Resources