

Human and Climate Series 1: Dynamic Hydrology from Land to Sea

Clayton Hall, September 28th, 2018



8:00 AM	Registration and Breakfast
9:00 AM	Keynote Speaker Robert Twilley , <i>Ecosystem design approaches in a highly engineered landscape of the Mississippi River Delta</i>
10:00 AM	Coffee Break
<u>Session 1: Coastal Processes</u>	
10:30 AM	Coastal Processes Speaker Christian Hauser , <i>Design and Performance of a Living Shoreline to Reduce Erosion in a Dynamic Estuarine Environment</i>
10:50 AM	Student Presentations: Branko Trifunovic, Zhongyuan Xu, Lingyi Wu, Maggie Capoooci and Mary Hingst
<u>Session 2: Environmental Networks and Monitoring Session</u>	
11:15 AM	Environmental Networks and Monitoring Speaker Jeffrey L Payne , <i>Environmental Networks and Monitoring to Improve Coastal Management</i>
11:45 AM	Student Presentations: Chunlei Wang, Samuel Villareal, Ricardo Llamas and Abby Evans
12:00 PM	Lunch/Career Panel
<u>Session 3: Social Dynamics and Water Management Session</u>	
1:00 PM	Social Dynamics and Water Management Speaker Matthew Miller , <i>Protecting and Providing Earth's Most Essential Resource: A Utility Perspective</i>
1:20 PM	Student Presentations: Rubait Rahman, Sean Ellis, Christie Chapman, Aaron Russell, Kelly Slabicki
<u>Session 4: Watershed Processes and Management Session</u>	
1:50 PM	Watershed Processes and Management Speaker William Ball , <i>Saving the Chesapeake Bay: A (Very) Brief Historical Perspective of the CRC, the CBP and Nutrient Loads from the Watershed</i>

Future Symposia: Human and Climate Series II: Water for Food and Energy (March 22nd, 2019 at the Stroud Water Resources Center) and Human and Climate Series III: Science, Management and Policy for Water (June 7th, 2019 at the St. Jones Reserve DNERR). For information on our upcoming symposia <http://www.denin.udel.edu/symposium-series/>

2:10 PM	Student Presentations: Alyssa Lutgen, Katie Mattern, Nate Sienkiewicz, Grant Jiang, Shane Franklin, Muhammad Abdul Qadir Khan, Jillian Young
2:55 PM	Student Poster Session / Afternoon Snack
3:30 PM	Adjourn

This event was organized and executed by the Water Sustainability Challenges Symposia Student Committee: Margaret Capocci, Julia Guimond, Alma Vázquez-Lule, Jillian Young, Lauren Mosesso, Chunlei Wang and Shanru Tian.

Thank you to our Water Sustainability Challenges Symposia Steering Committee: Jeanette Miller, Holly Michael, Shree Inamdar, Todd Keyser, Scott Ensign, Yo Chin and Dave Arscott.

Speaker Bios:

Keynote Speaker: Robert Twilley is executive director of Louisiana Sea Grant College Program and professor in the Department of Oceanography and Coastal Science at LSU. Presently, Dr. Twilley serves as past president of the Coastal and Estuarine Research Federation. He has been a Distinguished Professor at both LSU and UL Lafayette. He is founder of the LSU Coastal Sustainability Studio and developed the UL Lafayette Center for Ecology and Environmental Technology. Most of Dr. Twilley's research has focused on coastal systems ecology in the Gulf of Mexico, throughout Latin America, and in the Pacific Islands. He continues to update global estimates of blue carbon storage in mangrove ecosystems. More recently, Dr. Twilley has been involved in developing ecosystem models coupled with engineering and landscape designs to formulate adaptation strategies for coastal communities, known as ecosystem design. He received his BS and MS from East Carolina University, PhD from University of Florida, and post-doctoral studies at University of Maryland Center for Environmental Studies.

Coastal Processes Session Speaker: Christian Hauser is the associate director of Delaware Sea Grant. His professional expertise is in restoration ecology. Mr. Hauser was a senior scientist with AECOM, an international consulting firm, and the global co-lead of the AECOM Contaminated Sediment and Waterway Restoration Technical Practice Group. He managed projects in freshwater, estuarine, and marine environments. He has designed and implemented science-based environmental assessment and restoration programs in conjunction with federal, state, and local governments, academic partners, industry, and nongovernmental organizations. Projects have included coastal stabilization, including "living shorelines," dam removal, tidal and nontidal wetland mitigation, and stream restoration. He has performed independent research focused on improving the design and construction of coastal green infrastructure. His research specifically investigated feedback mechanisms that may influence project success, including bathymetric response, substrate tensile strength, and wave attenuation. Mr. Hauser has a BS from Cornell University and MS from the Virginia Institute of Marine Science, College of William and Mary.

Environmental Networks and Monitoring Session Speaker: Jeffrey L Payne is the senior executive service director for the Office of Coastal Management at NOAA, where he coordinates the nation's coastal management activities. He served as the deputy director of NOAA's Coastal Services Center. He was deputy director of NOAA's Office of Policy and Strategic Planning in Washington, D.C., and served in the Office of Management and Budget in the Executive Office of the President as the budget examiner for NOAA and the Marine Mammal Commission. He served a year in the U.S. House of Representatives as the American Geophysical Union Congressional Science and Engineering Fellow. Dr. Payne serves as a subject matter expert on natural resource, community resilience, and climate adaptation issues. His current interagency appointments include the Federal Floodplain Management Task Force, Recovery Support Function Leadership Group, Mitigation Framework Leadership Group, Subcommittee on Ocean Science and Technology, and U.S.-Mexico Good Neighbor Environmental Board. Dr. Payne received his PhD in geophysical oceanography from Texas A&M University and his bachelor's degree in geology from West Virginia University.

Social Dynamics and Water Management Session Speaker: Matthew Miller is a treatment director for Aqua America, the second-largest investor owned water/wastewater utility in the country. He is responsible for the treatment of drinking water and/or wastewater treatment for 1.5 million customers in Pennsylvania. Prior to Aqua, Mr. Miller spent 16 years with the city of Wilmington's Public Works Department serving a variety of roles, the most recent of which was assistant director of the Water Division. He received both his BS in environmental and hazardous materials management and his MS in environmental safety and health management from the University of Findlay in Findlay, Ohio. He is currently a graduate student at Wilmington University pursuing an MBA in organizational leadership.

Watershed Processes and Management Session Speaker: William Ball is the current director of the Chesapeake Research Consortium (CRC) at the Johns Hopkins University, where he was a full professor and now holds a position as

research professor. He serves as the lead PI on a multi-university project under NSF's Water, Sustainability and Climate program that focuses on linking climate change and changing agricultural practices to water quality impacts on the Chesapeake Bay. With a BS in civil engineering from the University of Virginia and MS and PhD degrees in environmental engineering and science from Stanford University, Dr. Ball has over 30 years of experience investigating physical-chemical processes controlling water quality and treatment, with applications to both natural aquatic systems and engineered processes, and has overseen over 50 major research projects since his first academic position, at Duke University, in 1989. In his position with the CRC, Dr. Ball fosters collaborative research and facilitates the application of science to management through cooperative programs and projects in collaboration with many of the government agencies, academic institutions, and nongovernmental organizations involved in the Chesapeake Bay Program partnership.