

The Department of Civil and Environmental Engineering at the University of Houston presents...

CIVE 6111 Graduate Seminar

Reducing Climate Change Uncertainties to Improve Water Resources Management



Dr. Tushar Sinha

Assistant Professor

Department of Environmental Engineering

Texas A&M University – Kingsville (TAMUK)

Friday, October 11, 2019

2:45pm-3:45pm

Classroom Business Building (CBB) – Room 118

Abstract

Freshwater sustainability in arid and semi-arid regions is highly uncertain, particularly under climate change. The uncertainties in the hydrological variables arises in part due to inability of the General Circulation Models (GCMs) in explaining changes in hydroclimatic variables as well errors in hydrologic models such as model parameterization and model input data. Given the complexity of the climate system that involves nonlinear coupling of the atmosphere and ocean, there will always be uncertainties in assessment of impacts due to climate change. Hence, it is important to incorporate uncertainties into water resources management to enhance reliability and resiliency of water systems. Thus, this talk will discuss challenges and opportunities to improve water management under climate change. A framework to incorporate uncertainties in water resources management will be discussed to enhance resiliency under droughts and floods.

Bio

Dr. Sinha is working as an Assistant Professor in the Department of Environmental Engineering at Texas A&M University – Kingsville (TAMUK) since September 2014. Prior to joining TAMUK, he has worked as a Research Assistant Professor at North Carolina State University (NCSU) for over 1.5 years and as a Postdoctoral Scientist for about 4 years at NSCU and Arizona State University combined. He received his B.S. in Agricultural Engineering and MS in Civil Engineering from India and Ph.D. in Agriculture and Biological Engineering from Purdue University in 2008. He has worked in hydrologic modelling, climate change impacts on hydrology; water resources management; surface water - groundwater interactions; and geospatial analysis. He has published over 20 journal articles including several high impact journals such as PNAS, Earth's Future and Journal of Geophysical Research. Dr. Sinha has received funding of about 8.5 Million Dollars as PI and Co-PI from multiple federal and state agencies. Dr. Sinha has also served as chair of technical sessions at national and international conferences. He has been a recipient of TAMU-K's College of Engineering Excellence in Research Award in 2018.