

## Geotechnical Seminar

Friday, February 14, 2020 | 11:00am, Newmark Lab 3310 | open to all CEE



### *Geotechnics in Offshore Engineering*

**Joe G. Tom, Jr., PhD**

Assistant Professor, University of Illinois at Urbana-Champaign

**Abstract:** For the most part, soil is soil. Under the ocean, soil mechanics is the same as on land. The differences lie in the design requirements, the types of foundation solutions and technologies utilized for developing offshore facilities. The broad scope of this presentation is to overview the offshore industry and identify key areas where geotechnical engineers are involved. Along the way, I will discuss some of the interesting design challenges and areas of recent or ongoing research in the field. Much of the historical developments will come from the oil and gas industry; but as we will see, most of these will have increasing application to offshore renewable energy systems (wind, wave or tidal) as well as other areas of ocean space utilization.

**Speaker Bio:** Joe Tom is an Assistant Professor in the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign, where he sits within the Geotechnical Engineering group. His current research interests including scour and stability of coastal/seabed infrastructure, the soils mechanics of soil strength changes due to whole-life cyclic loading and novel foundation and anchor concepts. Prior to joining Illinois in January 2020, he was a Research Fellow at the Centre for Offshore Foundation Systems at the University of Western Australia, where he received his PhD in 2018. Prior to this, he worked as a geotechnical engineer at Advanced Geomechanics (now Fugro) in Perth, Australia, following an MSc in Civil Engineering from the University of California, Davis and a BSc in Civil Engineering from Mississippi State University.