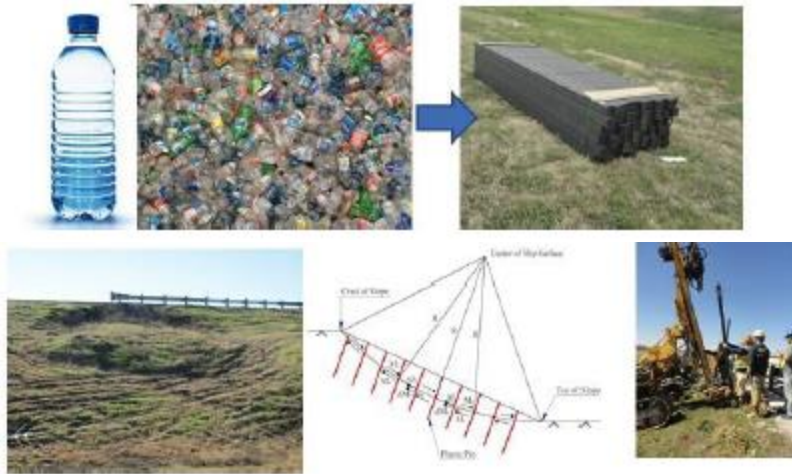


SEPTEMBER 9, 2020

Wednesday, September 9, 2020
5:00 PM (1.0 PDH)



PRESENTATION

5:00 PM (1.0 PDH)

Title : **Sustainable Highway Slope Stabilization Using Recycled Plastic Pin (RPP)**

Speaker : [Dr. Sahadat Hossain, P.E.](#) w/ [University of Texas at Arlington](#)

Dr. Sahadat Hossain is a Professor of Civil Engineering Department at the University of Texas at Arlington. Since 2015, Dr. Hossain is the founding director of Organized Research Center of Excellence (ORCE) Solid Waste Institute for Sustainability (SWIS). The mission of SWIS is to work on developing clean and healthy urban cities through sustainable waste management. Dr. Hossain has more than 20 (twenty) years of professional and research experience in geotechnical and geo-environmental engineering. He had worked on more than 150 (One Hundred and Fifty) geotechnical design and construction projects in Bangladesh, Singapore, Hong Kong, Malaysia, Thailand and USA. Dr. Hossain is extensively working on reusing recycling materials for other engineering applications, as part of his commitment towards circular economy. One of his major projects was with Texas Department of Transportation on using Recycled Plastic Pins (RPP) for slope stabilization in Texas, a very cost effective, sustainable and green solutions and was adopted by TxDOT. Dr. Hossain was interviewed by local TV (ABC News, CBS News, Fox News) and national newspaper Atlantic Cities on the utilization recycled plastic pins for slope stabilization. Right now, Dr Hossain is working on Plastic Road, reusing recycled plastics for asphalt pavement road. Dr. Hossain was interviewed by NPR (National Public Radio) few times different topics including sustainable waste management and recycling. Dr. Hossain presented on Garbage: Asset or Liability as a TED Talk speaker in April 2016. Dr. Hossain was invited as a keynote speakers, panelist or technical experts in many countries, including Ethiopia, Tanzania, Nigeria, Kenya, Brazil, Colombia, Austria, Finland, Belgium, Serbia, India, Bangladesh, and Thailand. Dr. Hossain has completed his B.S. degree (1994) in Civil Engineering from the Indian Institute of Technology (IIT), Bombay, India, Master of Engineering (1997) in Geotechnical Engineering from Asian Institute of Technology (AIT), Bangkok, Thailand, and Ph.D. (2002) from North Carolina State University (NCSU) at Raleigh, NC, USA.

ABSTRACT : Shallow slope failures are common for highway embankments in the north Texas region and pose significant maintenance problems for the Texas Department of Transportation (TxDOT). As a cost-effective alternative, recycled plastic pins (RPPs) has been utilized to repair failed slopes for TxDOT. Recycled Plastic Pin (RPP) is lightweight material made from recycled plastics and waste materials (i.e., polymer, sawdust, fly ash etc.) and is less susceptible to chemical and biological degradation. The presentation will focus on the performance evaluations of highway slopes repaired with RPP in North Texas mainly for TxDOT's Dallas and Fort Worth Districts.