Purdue Geotechnical Society Workshop Program
Friday April 21, 2017
East Faculty Lounge, Purdue Memorial Union, State Street, Purdue University, West Lafayette, IN

Climate Change and Geotechnical Engineering

7:30 a.m.  Breakfast: coffee, juice, rolls, fruits, etc.
8:00 a.m.  Opening of Workshop - Philippe Bourdeau, Purdue University
            Welcome – Rao S. Govindaraju, Bowen Engineering Head of Civil Engineering and Christopher B. and
            Susan S. Burke Professor of Civil Engineering

MORNING SESSION
Moderator: James Lambrechts, Wentworth Inst. of Tech.; Coordinators: Ganesh Vairavan & Anahita Modiriasari, Purdue

8:15 a.m.  Keynote Lecture:
            CLIMATE CHANGE: MECHANISMS AND FUTURE IMPLICATIONS IN THE MIDWEST AND BEYOND
            Jeffrey S. Dukes, Purdue Climate Change Research Center
9:00 a.m.  IMPACT OF CLIMATE CHANGE ON COASTAL PROTECTION AND RESILIENCE
            Timothy D. Stark & Jiaauri Chen, University of Illinois at Urbana Champaign, Navid H. Jafari & Brian
            Harris, Louisiana State University
9:20 a.m.  PERFORMANCE OF GEOTECHNICAL STRUCTURES UNDER A CHANGING CLIMATE: QUANTITATIVE
            ASSESSMENT FOR EXTREME PRECIPITATION EVENTS
            Farshid Vahedifard, Mississippi State University
9:40 a.m.  DISPLACEMENT ANALYSIS OF WORLD ISLANDS’ BREAKWATER
            Yazen Khasawneh, Geosyntec Consultants
10:00 a.m. BREAK
10:30 a.m. POTENTIAL IMPACT OF CLIMATE CHANGE ON THE ESTIMATION OF RISK OF DAMS AND LEVEES
            Terry M. Sullivan, U.S. Army Corps of Engineers
10:50 a.m. CHARACTERIZATION AND MODELING OF THE CHEMO-MECHANICS OF GEOMATERIALS ACROSS SCALES
            Mehmet Cil, Northwestern University
11:10 a.m. ACUDE de NACAO DAM FAILURE: INSIGHTS AND PROSPECTS ON RESILIENT STRUCTURE DESIGN
            Rodrigo Borela, Georgia Institute of Technology & Danielli de Melo, Purdue University
11:40 a.m. GROUP PHOTO ON PMU STEPS
11:50 a.m. LUNCH – PMU 118, Purdue Memorial Union

AFTERNOON SESSION
Moderator: Michael Wigger, Earth Exploration, Inc.; Coordinators: Amy Getchell & Sudeep Roy, Purdue University

1:00 p.m.  Keynote Lecture:
            CLIMATE CHANGE AND THE PUBLIC FORUM: COMMUNICATING GEOTECHNICAL ENGINEERING
            CONCEPTS IN A WORLD OF SUSPICION AND MISTRUST
            John A. Mundell, Mundell & Associates, Inc.
1:45 p.m.  APPLICATION OF LIFE CYCLE ASSESSMENT TO GEOTECHNICAL AND GEOENVIRONMENTAL PROJECTS
            Krishna Reddy, University of Illinois at Chicago
2:05 p.m.  LANDFILL EMISSION CHARACTERISTICS OF HIGH GLOBAL WARMING POTENTIAL F-GASES
            Nazli Yesiller, California Polytechnic State University
2:25 p.m.  BREAK
2:55 p.m.  BRINGING THE ENGINEERS BACK INTO THE BOARDROOMS: CONNECTING CLIMATE RISK TO FINANCIAL
            PERFORMANCE
            David Espinoza, Geosyntec CAT
3:15 p.m.  GEOMECHANICAL RISKS ASSOCIATED WITH DEEP CO₂ STORAGE
            Roman Makhnenko – University of Illinois at Urbana Champaign
3:35 p.m.  THE EFFECTS OF CLIMATE CHANGE ON GREAT SALT LAKE RAILROAD EMBANKMENT STABILITY
            James Lambrechts, Wentworth Institute of Technology
3:55 p.m.  WORKSHOP CLOSURE