

## **TUESDAY 18 JUNE 2019**

### **ICE-BREAKER RECEPTION**

UBC Room CEME 1203 (16:30-18:00)

[http://www.maps.ubc.ca/PROD/index\\_detail.php?showMapCampus=y&locat1=306](http://www.maps.ubc.ca/PROD/index_detail.php?showMapCampus=y&locat1=306)

## **WEDNESDAY 19 JUNE 2019**

### **CASE STUDIES**

UBC Room CEME 1203 (08:45-11:50)

	<b>WELCOME ADDRESS</b>	<b>08:45-09:00</b>
	<i>R. Schubak, BC Hydro</i>	
	<b>EWG-IE OPENING COMMENTS</b>	<b>09:00-09:15</b>
	<i>S. Bonelli, EWG-IE Chair</i>	
EWG-1	<b>Applying New and Old Knowledge to Explain Internal Erosion Events</b>	09:15-09:30
	<i>R. Bridle</i>	
EWG-2	<b>The Failure of the Hubalov Weir Due to Piping</b>	09:35-09:50
	<i>J. Riha</i>	
EWG-3	<b>Assessment of Internal Erosion of Zoned Embankment Dams with Widely Graded Materials</b>	09:55-10:10
	<i>L. Yan, M. Li, and C. Anderlini</i>	
	<b>COFFEE BREAK</b>	<b>10:15-10:45</b>
EWG-4	<b>The Suffusion Defect at the Surface Asphaltic Lining</b>	10:45-11:00
	<i>M. Rudolfová, J. Řiha, and M. Špano</i>	
EWG-5	<b>Cleveland Dam: Terzaghi's 1961 Recommendations on Seepage Control and Mitigation of Internal Erosion</b>	11:05-11:20
	<i>J. Fannin</i>	
	<b><u>DISCUSSION SESSION #1: INSIGHTS ON INTERNAL EROSION</u></b>	<b>11:25-11:50</b>
	<b>LUNCH BREAK</b>	<b>11:50-12:40</b>

## **FIELD TRIP**

THE CLEVELAND DAM, VANCOUVER (12:45-17:30)

## THURSDAY 20 JUNE 2019

### **BACKWARD EROSION PIPING AND CONCENTRATED LEAK EROSION**

UBC Room CEME 1203 (08:30-16:30)

EWG-6	<b>Centrifuge Modeling for Visualization of Backward Erosion Piping Progression</b> <i>K.Horikoshi, S. Noda, A. Takizawa, and A. Takahashi</i>	08:30-08:45
EWG-7	<b>A New Design and Testing of A Small-Scale Experimental Device of Backward Erosion Piping</b> <i>J. Riha and L. Petrula</i>	08:50-09:05
EWG-8	<b>Large-Scale Test of a Coarse Sand Barrier as a Measure Against Backward Erosion Piping</b> <i>E. Rosenbrand, V. van Beek, U. Förster, B. van der Kolk, A. Wiersma, J. Terwindt, D. Peters, S. Akrami, A. Koelewijn, K. van Gerven, L. Voogt, and Adam Bezuijen</i>	09:10-09:25
EWG-9	<b>Hydraulic Losses through Sand Boils: Measurements and Theory</b> <i>B. Robbins, I. Stephens, V. van Beek, A. Koelewijn, and A. Bezuijen</i>	09:30-09:45
	<b>COFFEE BREAK</b>	<b>09:50-10:20</b>
EWG-10	<b>Analysis of Pipe Progression during Backward Erosion Piping in the Presence of a Coarse Sand Barrier</b> <i>S. Akrami, A. Bezuijen, V. van Beek, E. Rosenbrand, U. Förster, and A. Koelewijn</i>	10:20-10:35
EWG-11	<b>3D Numerical Simulation of Backward Erosion Piping Tube Experiments</b> <i>V. M. van Beek, A. Noordman, B. A. Robbins, and D. V. Griffiths</i>	10:40-10:55
EWG-12	<b>Application of the Random Finite Element Method to Backward Erosion Piping</b> <i>B.A. Robbins, D.V. Griffiths, and G.A. Fenton</i>	11:00-11:15
	<b><u>DISCUSSION SESSION #2: BACKWARD EROSION PIPING</u></b>	<b>11:20-11:50</b>
	<b>LUNCH BREAK &amp; TOUR OF UBC LABORATORY TESTING FACILITIES</b>	<b>11:50-14:00</b>
EWG-13	<b>The Hole Erosion Test: State of the Art, State of Practice and Open Questions</b> <i>S. Bonelli</i>	14:00-14:15
EWG-14	<b>A New CSD-Based Filter Retention Criterion</b> <i>F. Seblany, E. Vincens, and C. Picault</i>	14:20-14:35
	<b>COFFEE BREAK</b>	<b>14:40-15:10</b>
EWG-15	<b>Creation of a Flow Barrier <i>In-Situ</i> by Shear-Controlled Direct Aluminum-Organic Matter Floc Injection</b> <i>J. Zhou, T. J. Heimovaara, and S. Laumann</i>	15:10-15:25
EWG-16	<b>Enzyme Treatment of Soil for Erosion Control</b> <i>A. Shidlovskaya, I. Shafii, and J. Briaud</i>	15:30-15:45
EWG-17	<b>Monitoring Seepage-Induced Internal Erosion Using Acoustic Emission</b> <i>T. Biller, A. Smith, and N. Dixon</i>	15:45-16:00
	<b><u>DISCUSSION SESSION #3: CONCENTRATED LEAKAGE &amp; EROSION CONTROL</u></b>	<b>16:05-16:30</b>

**CULTURAL VISIT AND EVENING BUFFET (18:00-22:00)**

## FRIDAY 21 JUNE 2019

### SUFFUSION & SUFFOSION

UBC Room CEME 1203 (08:30-15:00)

EWG-18	<b>On Specimen Reconstitution and Commissioning a Triaxial Permeameter</b> <i>V. McClelland and J. Fannin</i>	08:30-08:45
EWG-19	<b>Influence of Flow Direction on Suffusion Development</b> <i>D. Marot, D. M. Tran, F. Bendahmane</i>	08:50-09:05
EWG-20	<b>Numerical and Experimental Investigations of the Mechanical Contribution of Fine Particles in Soils in Relation with Suffusion</b> <i>A. Wautier, T. K. Nguyen, R. A. Hosn, C. D. Nguyen, N. Benahmed, S. Bonelli, F. Nicot, and P. Philippe</i>	09:10-09:25
EWG-21	<b>Internal Instability Testing of Widely-Graded Materials with Oversize Particles</b> <i>V. Ganapathiraman and J. Fannin</i>	09:30-09:45
	<b>COFFEE BREAK</b>	<b>09:50-10:20</b>
EWG-22	<b>Hydro-Mechanical Commissioning of a Novel Large-Scale Triaxial Permeameter (TX-P) for Testing of Widely-Graded Embankment Soils</b> <i>K.A. Crawford-Flett, M.E. Stringer, and S.D. Rees</i>	10:20-10:55
EWG-23	<b>Inflow Boundary Conditions in Triaxial Permeameter Testing</b> <i>S. Ataii and J. Fannin</i>	11:00-11:15
EWG-24	<b>Experimental Development for Multi-Plane Access to Investigate Local Suffusion within Internally Erodible Granular Media</b> <i>E. T. Bowman, N. Sanvitale, and J. A. Black</i>	11:20-11:35
EWG-25	<b>Grain Size and Shape in the Glacial Moraine Borrow Source for the Bennett Dam</b> <i>A. Antunes and J. Fannin</i>	11:40-11:55
	<b>LUNCH BREAK</b>	<b>12:00-13:00</b>
EWG-26	<b>Factors that Determine Fluid Particle Interaction Forces in Dams and Flood Embankments</b> <i>C. Knight, C. O'Sullivan, D. Dini, and B. van Wachem</i>	13:00-13:15
EWG-27	<b>A Description of Suffusion Kinetics Inspired from Experimental Data</b> <i>R. Gelet, K. Alaa, D. Marot, N. Nguyen, and A. Fino</i>	13:20-13:35
EWG-28	<b>Description of the Pore Network in Granular Media Using the Delaunay Triangulation</b> <i>N. Nguyen, H. Taha, D. Marot, A. Hijazi, and K. Abou-Saleh</i>	13:40-13:55
EWG-29	<b>Application of Pore Network Models to Investigate Internal Erosion in Gap-Graded Soils</b> <i>A. Sufian, C. Knight, C. O'Sullivan, B. van Wachem, and D. Dini</i>	14:00-14:15
	<b><u>DISCUSSION SESSION #4: SUFFUSION &amp; SUFFOSION</u></b>	<b>14:20-14:45</b>

**27th EWG-IE MEETING CLOSURE (14:50-15:00)**