



MEETING MINUTES

Unsaturated Soils Committee

Tuesday, February 16, 2016, 8:00 pm – 11:00 pm

Sheraton Phoenix Downtown Hotel, Room: South Mountain

G-I/SEI Congress 2016

Members Attending (18):

John McCartney, Marcelo Sanchez, Bill Likos, Ning Lu, Xinbao Yu, Gerald Miller, KK Muraleetharan, Laureano Hoyos, Majid Ghayoomi, Ravi Ravichandran, Geoff Chao, Claudia Zapata, Zhen Liu, Soonkie Nam, Dak Murthy, Sandra Houston, Anand Puppala, Jorge Zornberg

Guests Attending (5):

Aravind Pedarla, Navid Jafari, Ali Khosravi, Bo Zhang, Armando de la Rocha

1. Introductions/Welcome (Hoyos)
 - Laureano called the meeting to order at 8:15 pm.
 - Laureano introduced new committee members: Dak Murthy, Xin Kang (not present), Mahendra Shewalla (not present).
2. Review of Minutes from 2015 Fall Teleconference (McCartney) – Houston moved to accept, Likos seconded, motion to accept minutes passed unanimously
3. Updates on Recent/Upcoming Conference Sessions
 - IFCEE 2015, San Antonio, TX, March 18-21, 2015, San Antonio, Texas:
 - “Unsaturated Soil Mechanics in Geotechnical Design” (Vanapalli/Hoyos) – podium session (5 papers), poster session (5 papers).
 - “Thermally-Active Foundation Systems” (McCartney/Suleiman/Olgun) – podium session (10 papers), poster session (4 papers).
 - Symposium on Energy Geotechnics, Barcelona, Spain, June 2-4, 2015
 - Marcelo Sanchez and John McCartney attended and gave presentations.
 - XVI European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh, Scotland, September 13-17, 2015
 - Marcelo Sanchez attended and gave a presentation in a session focused on Energy Geotechnics.
 - 2nd International Workshop on Geomechanics and Energy, Celle, Germany, October 13-15, 2015
 - 6th Asia-Pacific Conference on Unsaturated Soils, Guilin, China, Oct 23-26, 2015
 - Ning Lu gave a keynote lecture, and Jerry Miller gave a semi-plenary lecture. Muralee and Xiong Zhang also attended.
 - 15th Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Buenos Aires, Argentina, November 15-18, 2015
 - “Unsaturated Soils” (Marinho/Hoyos) – podium/poster sessions (40+). Laureano also participated on a state-of-the-art panel discussion.
 - “Transportation Geotechnics” (Zapata/Marinho/Caicedo) – podium/poster sessions (30+).

- “Geo-Engineering for Energy and Sustainability” (Sanchez/Oldecop) – podium/poster sessions (40+).
- 1st International Conference on Geo-Energy and Geo-Environment, Hong-Kong, December 4-5, 2015
 - Marcelo Sanchez and John McCartney attended and gave presentations.
- 2016 Geotechnical & Structural Engineering Congress (GeoStructures 2016), First Joint GI/SEI Annual Congress, Phoenix, Arizona, February 14-17, 2016
 - “Soil-structure Interaction in Unsaturated Soils” (Ghayoomi/Ravichandran) – 5 papers presented.
 - “Performance of Foundations on Expansive Clays” (Houston/Chao/Zapata) – 5 papers accepted; 3 cancelled, 2 presented.
 - “Impact of Desiccation Cracking on Geo-Structures” (Sanchez/Miller) – 5 papers accepted, 1 cancelled, 4 presented.
 - “Energy Geo-Structures” (Abdelaziz/Sanchez/Olgun) – 5 papers accepted, 1 cancelled, 5 presented.
 - Possible GSP for sessions sponsored by our committee (Chao/Ghayoomi) – Geoff and Majid will make a decision by March 1, 2016, on whether or not to move forward with the GSP. (Other GI technical committees have declined to pursue this.)
- GeoAmericas 2016, Miami, Florida, April 10-13, 2016
- 2016 Geoenvironment & Sustainability Specialty Conference (GeoChicago 2016): Chicago, Illinois, August 14-18, 2016
 - “Thermal Geotechnics” (Bill Yu/McCartney) – 10 papers.
 - “Energy Geotechnics” (Sanchez/Xinbao Yu) – 10 papers.
 - “Laboratory Characterization of Soils” (Ghayoomi) – 15 papers.
 - “Mechanical and Chemical Properties of Soils” (Ghayoomi) – 10 papers.
- InterPore 2016 Conference, Cincinnati, Ohio, May 9-12, 2016
 - A mini-symposium on “Mechanics of unsaturated porous media: the interplay of phases and interfaces in various phenomena” is being organized by McCartney, Buscarera, Likos, and others.
- 1st International Conference on Energy Geotechnics, Kiel, Germany, August 29-31, 2016
- 3rd International Conference on Transportation Geotechnics (ICTG), Guimarães, Portugal, September 4-7, 2016
- 3rd European Conference on Unsaturated Soils (E-UNSAT 2016), Paris, France, September 12-14, 2016
- Geotechnical Frontiers 2017, Joint GI-IFAI Conference, Orlando, FL, March 12-15, 2017
 - “Microstructural Investigation of Unsaturated Granular Soil Behavior” (Manahiloh/Meehan).
 - Geoff Chao and John Nelson are planning to offer a short course on “Foundations in Expansive Soils.”
- ICSMGE 2017, September 17-22, 2017, Seoul, Korea
- IFCEE 2018, TBD, Orlando, FL
- UNSAT 2018, August 2018, Hong Kong

4. Update on PanAm-UNSAT 2017: Second Pan-American Conference on Unsaturated Soils, Dallas, TX, November 12-15, 2017 (Hoyos/McCartney)
 - The conference committee met during the GI-SEI conference in Phoenix earlier in the day before the GI Unsaturated Soils committee meeting. The conference planning is going well.
 - The main announcement is that the date has been set for November 12-15, 2017.
 - The conference venue is still being determined. (Two major hotel bids currently being considered by ASCE.)
5. Reports from Liaison Organization Contacts
 - Technical Committee Chairs Workshop (Hoyos/Puppala)
 - New policies being considered regarding duration of committee appointments (3 years with limitless renewal).
 - Procedures established to remove non-active committee members.
 - Elected vice chair is expected to become chair of the committee.
 - Travel support to attend annual committee meetings no longer available.
 - Our request for a special outreach project was approved by the GI Technical Coordinating Council. (Refer to item 9 below.)
 - Our committee received an “**Excellent**” rating by the TCC, based on the FY 2015 Annual Report submitted by Laureano, John and Bill.
 - GI Geoenvironmental (Bate/McCartney)
 - Hosting the GeoChicago 2016 Conference in August 2016.
 - Their special project is to develop a manual of practice.
 - GI Shallow Foundations (Zhang)
 - No update; however, the committee discussed that it may be good to develop a better connection with this committee: Daniel Rich is current chair.
 - GI Soil Properties and Modeling (Muraleetharan/Hoyos)
 - Planning a specialty conference in 2019.
 - GI Geology and Site Characterization (Puppala)
 - GI Earthquake Engineering and Soil Dynamics Committee (Ghayoomi)
 - Awarded “Committee of the Year” for 2015.
 - ISSMGE Technical Committee on Unsaturated Soils (TC 106) (Miller)
 - Jerry Miller will check to see if it’s possible to nominate and name the “First Pan American Distinguished Lecture on Unsaturated Soils,” to be given at the PanAm-UNSAT 2017 Conference, Dallas, Texas.
 - ISSMGE Technical Committee of Energy Geotechnics (TC 308) (Sanchez)
 - Planning the 1st International Conference on Energy Geotechnics, Kiel, Germany, August 29-31, 2016. Paper submission deadline for accepted abstracts has been extended to March 10, 2016.
 - TRB AFP60 Engineering Behavior of Unsaturated Geomaterials (Zapata)
 - The committee recently changed its name (above), including 31 members, and about 70 friends.
 - ASTM D18.04 Hydrologic Properties and Hydraulic Barriers (McCartney)
 - Next committee meeting is in Chicago in the last week of June 2016.
 - Ning Lu and Alexandra Wayllace are developing a new standard on the TRIM method to characterize the SWRC and HCF.

- There are opportunities to create new unsaturated soils standards.
- IBC Code Review (Arellano/Chao/Houston)
 - The code review is finished and should be wrapped up soon.
- 6. Awards (McCartney)
 - The committee nominated Ning Lu and Jonathan Godt for the Peck Award in May 2015.
 - John reviewed the ASCE awards deadlines, and encouraged members to propose nominations for awards, both for papers as well as for lecture awards and medals.
 - Deadlines for TC106 awards were also discussed. Nominations are to be sent to Sandy Houston and Jerry Miller (voting members from US).
 - Sandy and Jerry submitted successful nominations for the “Second Blight Lecture on Unsaturated soils” (Del Fredlund), and for the “2015 Asia-Pacific Distinguished Lecture on Unsaturated Soils” (Harianto Rahardjo).
- 7. Progress on Webinar Series (Zhang/Houston)
 - Xiong Zhang, our new webinar subcommittee chair, sent an email note that he would discuss with Sandy about the next steps in organizing future webinars.
 - John said that he would send the details to Geoff Chao and Dak Murthy to get started on scheduling a webinar, and would copy Xiong Zhang for future organizational efforts.
 - The goal in the future is to offer 2 webinars per year. Previously offered webinars may also be offered again, with priority on those that have not been recorded.
 - Webinars offered so far:
 - i. Introduction to Unsaturated Soils (Fredlund) – January 2010
 - ii. Laboratory Methods for Unsaturated Soils (Likos/Padilla) – April 2010
 - iii. Collapsible Soils (S. Houston/Miller) – December 2010
 - iv. Design of Stiffened Slabs on Grade on Shrink-Swell Soils: A New Approach (Briaud/King) – April 2011
 - v. Unsaturated Soil Applications to Pavements (Siekmeier/Zapata) – August 2011
 - vi. Constitutive Modeling of Unsaturated Soils (Hoyos/Zhang) – November 2011
 - vii. Estimating Unsaturated Soil Properties for Shear Strength and Volume Change (Vanapalli/W. Houston) – January 2012
 - viii. Design and Analysis of Water Balance Covers (Benson) – April 2012
 - ix. Field Measurements of Soil Suction for Geotechnical Engineering Applications (Puppala/Fredlund) – March 2013
 - x. Unsaturated Soil Mechanics in Slope Stability (Lu/Godt) – April 2013
 - xi. Slope Stability: Numerical Modeling and Impacts of Surface Flux Conditions (Rahadjo/M. Fredlund) – October 2013
 - xii. Thermal Behavior of Unsaturated Soils (McCartney) – March 2015
 - Suggested future webinars:
 - Climate-Suction Flux Boundary Conditions (D. Fredlund/Wilson).
 - Foundations on Expansive Soils (Chao/Murthy) – This webinar will be the main priority for 2016.
- 8. Progress on Special Issues in Journals
 - Special issue of *International Journal of Geomechanics* (ASCE) on “Experimental and Computational Geomechanics for Unsaturated Soils,” Guest Editors: Muraleetharan, Hoyos & Ge – 66 abstracts received, 37 papers invited, 27 papers

- submitted, 22 papers accepted, or currently under final revision, to be published over 2 issues.
- Special issue of *Indian Geotechnical Journal* (Springer) on “Application of Mechanics of Unsaturated Soils in Conventional Geotechnical Practice,” Guest Editors: Vanapalli & Hoyos – 15 abstracts received, 13 papers invited, most of them have gone through the initial review process.
 - Special issue of *Journal of Performance of Constructed Facilities* (ASCE) on “Unsaturated Soil Related Geo-Hazards,” Guest Editors: Zhang & Bate – 14 papers submitted, about half have completed their initial review. The editing duties are being handled by the editor in chief, Ken Carper, but with coordination on reviews by the guest editors.
 - Special issue of *Journal of Engineering Mechanics* (ASCE) on “Mechanics of Unsaturated Porous Media,” Guest Editors: Lu & Buscarnera – Call for paper submission is still open.
 - Majid and Laureano recently submitted a proposal to guest edit a special issue of *Soil Dynamics and Earthquake Engineering* (Elsevier) on “Unsaturated Soil Dynamics with Emphasis on Earthquake Engineering Applications.”
9. Update on Special Projects (Hoyos)
- Reaching out to local ASCE and/or GI chapters (funded: \$3,000).
 - In the first year, the project will focus on local ASCE and/or GI chapters in TX, OK, CA, CO, WI, and MN.
 - Laureano and John will reach out to committee members to identify and organize the logistics for these presentations.
 - Funding will be used to support air fare and 1-day per diem for volunteers to travel to local ASCE or GI chapters and deliver their presentations.
 - Special Issue of GEO-STRATA on “Energy Geotechnics” (Sanchez)
 - This effort is still in the planning stage, and may have been discussed by the editorial board during the GI-SEI conference.
 - ASCE’s On-Demand Webinar Series (Zhang/Houston)
 - Webinars recorded will be considered for ASCE’s on-demand series.
 - For those not yet recorded, a repeat will be considered so that a recording could be made. (Refer to item 7 above.)
10. Website Update (McCartney)
- The committee website is now partially housed on the new GI website: <http://unsaturatedsoils.geoinstitute.org/>
 - Problems have been encountered in uploading information, and with information accuracy. This is still being resolved by ASCE. A new staff member has been assigned to this duty.
11. Other Business
12. Adjourn