



MEETING AGENDA

Unsaturated Soils Committee

Wednesday, November 4th, 2020

12:30 pm – 1:30 pm (Eastern Time)

Room: Virtual Meeting

Zoom Link: <https://unh.zoom.us/j/4513720907>

1. Welcome/Introductions (McCartney)
2. Review of Minutes from 2020 in-person meeting– Appendix (McCartney)
3. Updates on Recent Conferences
 - 4th European Conference on Unsaturated Soils, Lisbon, Portugal, October 19-21, 2020 (online).
 - Principles of Unsaturated Soil Mechanics and Its Application in Geotechnical and Pavement Engineering Workshop, 2020 National Road Research Alliance (NRRRA) Pavement Workshop, May 19, 2020 (William Likos, John Siekmeier, Raul Velasquez, Bora Cetin).
4. Updates on Upcoming Conferences
 - 2nd International Conf. on Energy Geotechnics, La Jolla, CA (Chaired by John McCartney and Ingrid Tomac)
 - i. Postponed until April 10-13, 2022 due to the pandemic.
 - ii. Proceedings will be published in Fall 2020, with several contributions on unsaturated soil mechanics.
 - iii. More information at www.icegt-2020.org
 - IFCEE 2021, Dallas, Texas, May 10-14, 2021.
 - i. One session proposal has been submitted by Omid Ghasemi-Fare on “Foundations for Renewable Energy” which can involve a collaboration with our committee.
 - ii. Other sessions on unsaturated soils
 - 3rd Pan-American Conference on Unsaturated Soils, Rio de Janeiro, Brazil, July 25-28, 2021. (Online) Papers due: Oct, 31, 2020.
 - Geo-Extreme 2021 Specialty Conference, Savannah, Georgia, August, 15-18, 2021.
 - ISSMGE 2021, Sydney, Australia, September 12-17, 2021. Papers due: Dec, 6, 2020.
 - UNSAT 2022 Conference, Greece, 2022. Papers due TBD.
5. Reports from Liaison Organization Contacts
 - G-I Geoenvironmental (McCartney)
 - G-I Geology and Site Characterization (Puppala)
 - G-I Shallow Foundations (Zhang)
 - G-I Soil Dynamics Committee (Ghayoomi)
 - G-I Soil Properties and Modeling (Muraleetharan/Hoyos)
 - ISSMGE TC 106 Unsaturated Soils (Zhang/Hoyos)
 - ISSMGE TC 308 Energy Geotechnics (Sanchez)
 - TRB AFP60 Engineering Behavior of Unsaturated Soils (Zapata)
 - ASTM D18.04 Hydrologic Properties and Hydraulic Barriers (New liaison needed)
6. Awards (McCartney)
 - G-I Nominations/Deadlines
 - i. The awards committee nominated John McCartney and Wenying Rong for the Norman medal.

- ii. The awards committee will submit a nomination for the Middlebrooks award.
 - iii. Majid Ghayoomi nominated Ning Lu and Chao Zhang for the Norman medal on behalf of the committee.
 - iv. The committee co-sponsored the nominations of Guiseppe Buscarnera and Farshid Vahedifard for the Huber research prize.
- Award nomination procedures (Peric)
- TC106 Nominations/Deadlines
 - i. Nomination for Bob Lytton for the Blight Lecture was not successful.
 - ii. Muralee Muraleetharan was nominated for TC106 International Award for Innovation
- 7. Progress on Webinar Series (Zhang)
 - Recent webinars (2019 – 2020)
 - i. None
 - Future webinars
 - i. Proposal submitted to ASCE (pending): Multiphysics in Unsaturated Soils: Computer Simulation Beyond Stress and Strain Analysis (Zhen Liu).
 - ii. Proposal submitted to ASCE (accepted): Strain Localization in Unsaturated Soils Triggered by Multi-physical Processes: Modeling & Practical Implications (Xiaoyu Song).
 - iii. Proposal suggested: Slope Stability and Impacts of Climate Change (Murray Fredlund).
 - iv. Other proposals welcome. (ASCE grants a \$500 honorarium per webinar.)
- 8. Progress on Special Journal Issues
 - Special issue of *Geotechnical Testing Journal* (ASTM International) on “Advances in Laboratory Experimentation for Unsaturated Soils,” Guest Editors: Oliver-Denzil Taylor, Laureano Hoyos, John McCartney & William Likos.
- 9. Update on Special Projects (McCartney)
 - Only one external presentation occurred in 2019-2020 before the pandemic (Xiong Zhang at GeoOmaha)
 - Outreach presentations on key topics in unsaturated soils
 - i. Developed by teams, recorded and converted into a video file
 - ii. Archived on our committee website (not webinars)
 - GI Initiatives
 - i. GeoTechTools
 - ii. DIGGS
 - Other
- 10. Website Update (McCartney)
 - Need to identify committed website coordinator who will take initiative.
- 11. Other Business
- 12. Adjourn



MEETING MINUTES
Unsaturated Soils Committee
Wednesday, February 26th, 2020
1:30 pm – 3:30 pm (Central Time)
Hyatt Regency Minneapolis, Room: Mirage

1. Welcome/Introductions (McCartney)
 - Meeting commenced at 1:30 pm Central Time
 - Attendees: John McCartney, Majid Ghayoomi, Prabir Kolay, Zhen (Leo) Lin, Ujwal Kumar Pahl, Soonkie Nam, Farshid Vahedifard, MD. Jobain Alam, Beshoy Riad, Iraj Noorany, Marcelo Sanchez, Leon van Passen, Jack Cadigan, Navid Jafari, Brian Harris, James Tinjum, N. Ravichandaran, Jongwan Eun, Xiong Zhang, Sandra Houston, Austin Olaiz, Anand Puppala, Claudia Zapata, Xinbao Yu, Sara Fayek, Masoud Mousavi, Corrie Walton-Macaulay, Omid Ghasemi-Fare, Idil Akin, Murray Fredlund, Tugce Baser, Gizem Bozkurt.
 - New Members: Beshoy Riad (Missouri S+T), Raul Velasquez (MinDOT).
 - The committee now has 83 members. Please keep your contact information up to date by contacting the secretary. Guests at this meeting are welcome to apply.
2. Appreciation for the leadership of Laureano Hoyos (McCartney)
 - McCartney thanked Prof. Laureano Hoyos for his 6 years of service as chair of the committee, preceded by 6 years as vice-chair. He led the committee to the 2019 Committee of the Year and was the co-chair of the Pan-American Unsaturated Soils conference in 2017 hosted by the committee. His service is gratefully appreciated.
3. Review of Minutes from 2019 Fall Teleconference – Appendix (McCartney)
 - Ravichandaran moved, Zapata second, all approved.
4. Updates on Recent Conferences
 - XVI Pan American Conference on Soil Mechanics and Geotech. Eng., Cancun, Mexico, November 17-20, 2019
 - i. Session on Unsaturated Soil Mechanics (Alfredo Zepeda, Eduardo Rojas, John McCartney, Laureano Hoyos). A podium session with 9 presentations, plus one keynote lecture in a separate session by Eduardo Rojas.
 - ii. Workshop on Energy Geotechnics in the morning and afternoon session presentations including unsaturated soils related topics (Marcelo Sanchez). A keynote by Lyesse Laloui followed by 3 podium sessions with 13 presentations, including several on unsaturated soils.
 - Geo-Congress 2020, Minneapolis, Minnesota, February 25-28, 2020
 - i. Session on unsaturated soils (Majid Ghayoomi, Idil Akin, Xiong Zhang): 16 papers accepted; 6 for podium presentation in this session, 2 for podium presentation in the special session, 7 posters, and 1 withdrawn.
 - ii. Special Session Special Session: Multiphysics and Multiphase Flow in Porous Media (Omid Ghasemi-Fare and Marcelo Sanchez): 1 invited and 5 other podium presentations.
 - iii. Short Course: Design of Structural Compacted Fills for Better Performance (Iraj Noorany). Well attended.

5. Updates on Upcoming Conferences

- Principles of Unsaturated Soil Mechanics and its Application in Geotechnical and Pavement Engineering Workshop, 2020 National Road Research Alliance (NRRRA) Pavement Workshop, May 19, 2020 (William Likos, John Siekmeier, Raul Velasquez, Bora Cetin).
- 4th European Conference on Unsaturated Soils, Lisbon, Portugal, June 24-25, 2020
- 2nd International Conf. on Energy Geotechnics, La Jolla, CA, September 20-23, 2020 (Chaired by John McCartney)
 - i. Late papers can still be submitted, contact John McCartney
- IFCEE 2021, Dallas, Texas, May 10-14, 2021.
 - i. Proposals for sessions are requested; send ideas to McCartney and Ghayoomi. Should be submitted before the summer. These sessions may collect accepted abstracts on a given theme, or could be special sessions with invited speakers or panels.
 - ii. One session proposal has been submitted by Omid Ghasemi-Fare on “Foundations for Renewable Energy” which can involve a collaboration with our committee.
- 3rd Pan-American Conference on Unsaturated Soils, Rio de Janeiro, Brazil, July 25-28, 2021. Abstracts due March 31st 2020.
- Geo-Extreme 2021 Specialty Conference, Savannah, Georgia, August, 15-18, 2021.
- ICSMGE 2021, Sydney, Australia, September 12-17, 2021. Abstracts due April 30th 2020.
- UNSAT 2022 International Conference, Greece, 2022.

6. Reports from Liaison Organization Contacts

- Technical Committee Chairs Workshop (McCartney)
 - i. Geo-Congress 2020: approximately 160 podium and 230 poster presentations.
 - ii. IFCEE 2021 was discussed, and the conference is currently in the planning stage. Session proposals are encouraged before summer
 - iii. Geostrata: Special issues on different topics are solicited
 - iv. DIGGS: Special projects may be proposed to organize how data is collected for different geotechnical tests. Details can be found at: <https://www.geoinstitute.org/special-projects/diggs>
 - v. Geotech Tools: Initiative of FHWA, funded 4 special projects last year. Special projects may be proposed this year (Due October 1) with a higher budget (\$10k). Details can be found at: <https://www.fhwa.dot.gov/goshrp2/Solutions/All/R02/GeoTechTools>
- Technical Coordination Council (Puppala)
 - i. Gave an update on coordination with the TCC, focused on IFCEE special sessions.
- G-I Geoenvironmental (McCartney)
 - i. A manual of practice under preparation: the committee discussed the process and application of such manual. Iraj Noorany will send a message regarding his concerns about initiating and reviewing these manuals of practice.
- G-I Shallow Foundations (Zhang)

- i. Awarded committee of the year due to its re-invigoration and the development of the book on “So your house is built on expansive soils”.
 - G-I Soil Dynamics Committee (Ghayoomi)
 - i. Web-conference was held in December 2019 with 5 presentations.
 - G-I Soil Properties and Modeling (Muraleetharan/Hoyos)
 - i. No update.
 - G-I Geology and Site Characterization (Puppala)
 - i. Created list of ideas such as AI, big data, etc.
 - G-I Embankments, Dams, and Slopes (Jafari/Vahdeifard)
 - i. Web-conference will be held in three days.
 - ISSMGE TC 106 Unsaturated Soils (Zhang/Hoyos)
 - i. No meeting held this last year, so no update besides awards.
 - ISSMGE TC 308 Energy Geotechnics (Sanchez)
 - i. First distinguished lecture by Carlos Santamarina
 - ii. Spark Bright Lecture by Tugce Baser
 - TRB AFP60 Engineering Behavior of Unsaturated Soils (Zapata)
 - i. Four committees including AFP40, AFP50, AFP60 (Engineering Behavior of Unsaturated Geomaterials), and AFS60 to two tentative new committees including AKG30: Geo-Environmental (or Environmental) and Climatic Impacts on Processes Geomaterials and AKG40: Mechanics and Drainage Engineering Behavior of Saturated, Unsaturated, and Frozen Geomaterials
 - ASTM D18.04 Hydrologic Properties and Hydraulic Barriers (McCartney)
 - i. The committee members are encouraged to become a member of ASTM D18.04 to participate on standards development related to unsaturated soils.
7. Awards (McCartney)
- New awards sub-committee was formed (Dunja Peric, Tugce Baser, Jongwan Eun, Soonkie Nam, Xiong Zhang); the sub-committee is tasked to develop a process for soliciting and reviewing nominations for different awards. Most paper award nominations must be made between July 1st and October 1st. Other major awards have different deadlines.
 - G-I Nominations/Deadlines
 - i. Baser et al. (2018) was nominated for the Middlebrooks award.
 - ii. Anand Puppala received the 2020 Peck award.
 - TC106 Nominations/Deadlines
 - i. Nomination for Bob Lytton for the Blight Lecture was not successful.
 - ii. Muralee Muraleetharan was nominated for TC106 International Award for Innovation, no news yet on this nomination.
 - iii. Three awards from ISSMGE TC106: a) best paper by early career researcher, b) European distinguished lecture, and 3) innovation award.
8. Progress on Webinar Series (Zhang)
- Webinars offered (2010 – 2018)
 - ii. Introduction to unsaturated soils (Fredlund). January 2010.
 - iii. Laboratory methods for unsaturated soils (Likos/Padilla). April 2010.
 - iv. Collapsible soils (S. Houston/Miller). December 2010.
 - v. Design of stiffened slabs on grade on shrink-swell soils: A new approach (Briaud/King). April 2011.

- vi. Unsaturated soil applications to pavements (Siekmeier/Zapata). August 2011.
- vii. Constitutive behavior of unsaturated soils (Hoyos/Zhang). November 2011.
- viii. Estimating Unsaturated Soil Properties for Shear Strength and Volume Change (Vanapalli/W. Houston). January 2012.
- ix. Design and analysis of water balance covers (Benson). April 2012.
- x. Measurement of Soil Suction in the Field for Geotechnical Engineering Applications (Puppala/Fredlund). March 2013.
- xi. Unsaturated Soil Mechanics in Slope Stability (Lu/Godt). April 2013.
- xii. Thermal Behavior of Unsaturated Soils (McCartney). March 2015.
- xiii. Stiffened Slab on Grade on Shrink Swell Soils (Briaud). November 2016.
- xiv. Foundations on Expansive Soils (Chao/Murthy). March 2017.
- xv. Stiffened Slab on Grade on Shrink Swell Soils (Briaud). May 2017.
- xvi. Foundations on Expansive Soils (Chao/Murthy). March 2018.
- Future webinars
 - i. Proposal submitted to ASCE (pending): Multiphysics in Unsaturated Soils: Computer Simulation Beyond Stress and Strain Analysis (Zhen Liu).
 - ii. Proposal submitted to ASCE (accepted): Strain Localization in Unsaturated Soils Triggered by Multi-physical Processes: Modeling & Practical Implications (Xiaoyu Song).
 - iii. Proposal suggested: Slope Stability and Impacts of Climate Change (Murray Fredlund).
 - iv. Other proposals welcome. (ASCE grants a \$500 honorarium per webinar.): please contact Xiong Zhang if interested. A close coordination with ASCE is required.
- 9. Progress on Special Journal Issues
 - Special issue of *Geotechnical Testing Journal* (ASTM International) on “Advances in Laboratory Experimentation for Unsaturated Soils,” Guest Editors: Oliver-Denzil Taylor, Laureano Hoyos, John McCartney & William Likos.
 - i. 42 abstracts were submitted, 24 abstracts were accepted. The 24 papers are currently in different stages of review. Abstracts that were not accepted were encouraged to be submitted as regular journal papers to GTJ.
- 10. Update on Special Projects Funded by the TCC (McCartney)
 - Speaker Program to present at local ASCE/G-I chapters (FY2020 funding: \$5,000)
 - i. Each presenter granted up to \$750 to support airfare and 1-day per diem (\$135).
 - ii. Presenters needed as soon as possible, we have approximately 5 more special travel trips available. After coordinating preapproval with John McCartney, please organize and schedule a seminar with a local GI chapter as soon as possible. Travel must be before October 1st, 2020.
- 11. Future Special Projects (McCartney)
 - Involvement in GeoTech Tools; send your ideas to McCartney.
 - Possible Web Conference on Applied Unsaturated Soil Mechanics
 - i. The objective is to present geotechnical case studies related to unsaturated soils, with 4-6 presenters to be selected from experienced committee members; contact McCartney if you are interested to pursue this.

12. Website Update (McCartney)

- Zhen (Leo) Liu volunteered to be the new web coordinator. Kalehiwot Manahiloh volunteered during the last meeting and may be interested in collaborating.
- Need to move all old website material to the “new” GI website.

13. Other Business

- Sandy Houston is working with TC106 to make all ISSMGE-sponsored unsaturated soils conferences open access for all conferences, Sandy is looking into making the 2006 UNSAT conference open access and has been in discussions with Bill Nara in ASCE Marketing.
- The committee discussed the succession strategy for committee officers and election.

14. Adjourn

- Sandy Houston moved to adjourn; Idil Akin seconded; all agreed.
- The meeting adjourned at 3:15 PM.