

99th Annual Meeting – Transportation Research Board

"A Century of Progress: Foundation for the Future."

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Engineering Geology Committee (AFP10)

When: Tuesday, January 14, 2020 – 1:30 pm to 5:30 pm

Where: Marquis Salon 4 (M2) / Marriott Marquis

SCOPE OF COMMITTEE

This committee is concerned with the application of geologic sciences and engineering principles to the identification, characterization, assessment, and management of earth materials; and the mitigation of natural and human-induced geologic hazards affecting transportation systems.

Engineering Geology Committee (AFP10) Meetings:

- **Rockfall Management Subcommittee, AFP10(1)** – Sunday, January 12 | 7:30pm to 10:00pm | Dogwood (Mezz), Marriott Marquis
- **A Forum on Advances in Multidimensional Geologic Modeling** – Tuesday, January 14 | 10:15am to 12:00 pm | Marquis Salon 4 (M2), Marriott Marquis
- **A Forum on Advances in Slope Characterization and Stability Design** – Wednesday, January 15 | 8:00am to 9:45am | Gallaudet University (M1), Marriott Marquis
- **Advances in Landslides, Analysis, and Control Subcommittee, AFP10(2)** – Wednesday, January 15 | 10:15am to 12:00pm | Gallaudet University (M1), Marriott Marquis

Related Meetings and Sponsored Events

- **Enhancing Resiliency by Better Moisture Measurement Near Pavements and Structures** – Sunday, January 12 | 9:00am to 12:00pm | 204A, Convention Center | **Workshop 1025**
- **Impact of Mischaracterization of Rock on Construction Projects** – Sunday, January 12 | 1:30pm to 4:30pm | 201, Convention Center | **Workshop 1069**
- **Geophysics Subcommittee, AFP20(1)** – Monday, January 13 | 8:00am to 9:45am | Tulip (Mezz), Marriott Marquis | **Meeting**
- **Cone Penetration Methods in Geotechnical and Geohazard State of Practice** – Monday, January 13 | 10:15am to 12:00pm | 209A, Convention Center | **Lectern Session 1178**
- **Geotechnical and Geohazard State of Practice: Analysis, Mitigation, and Management** – Monday, January 13 | 1:30pm to 3:15pm | Hall A, Convention Center | **Poster Session 1282**
- **Geotechnical Asset Management of AFP00 and AFS00** – Monday, January 13 | 6:00pm to 9:30pm | University of DC (M1), Marriott Marquis | **Meeting**

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- **Geotechnical Site Characterization Committee, AFP20** – Tuesday, January 14 | 8:00am to 12:00pm | Cherry Blossom (Mezz), Marriott Marquis | **Meeting**
- **Integration of Remote Sensing Techniques and Classical Instrumentation** – Tuesday, January 14 | 8:00am to 9:45am | 209B, Convention Center | **Lectern Session 1384**

Meeting Agenda

- 1) **Introduction and agenda changes** (Ty Ortiz)
- 2) **Approve 2018 meeting minutes** (Ty Ortiz)
- 3) **Summary of 2019 Activities**
 - 2019 Highway Geology Symposium (HGS), Portland, Oregon (Tim Shevlin, Darren Beckstrand)
 - 2019 Mid-year TRB Session at HGS (Peter Ingraham)
 - NCHRP Project 24-46: “An implementation Manual for Geotechnical Asset Management for Transportation Agencies” – (Mark Vessely, Scott Anderson)
 - NCHRP Synthesis 50-60: “Recent Advances in Unstable Slope Instrumentation and Monitoring” – (Bob Group)
 - NCHRP Synthesis 50-13: “Design, Estimation and Contracting Rock Slope Scaling Adjacent to Highways – (Darren Beckstrand, Nicole Oester)
 - E-Circular: “Managing Highway Rock Slope Scaling: Design and Construction State of the Practice” – (Darren Beckstrand)
 - Other 2018 related activities – (all)
- 4) **2020 Announcements**
 - 2020 Highway Geology Symposium (HGS), Asheville, North Carolina, September 21 – 23, 2020 – (John Pilipchuck, Krystle Pelham)
 - 2020 Mid-year TRB Session at HGS – (Krystle Pelham)
 - 2020 Association of Geohazard Professionals (AGHP) – (Ahren Bichler)
 - TRB staff announcement and section information – (Stephen Lane/Nancy Whiting)
 - Other announcements (all)
- 5) **Rockfall Management Subcommittee AFP10(1)** update (Ben Arndt)
- 6) **Advances in Landslides, Analysis and Control Subcommittee AFP10(2)** update (Brent Black)
- 7) **Joint Section Subcommittee on Geotechnical Asset Management** update (Darren Beckstrand/Scott Anderson)

8) Forum on Advances in Multidimensional Geologic Modeling update (Jean Hutchinson, Dave Gauthier)

9) Forum on Advances in Slope Characterization and Stability Design background (Ty Ortiz)

10) Committee Communication Coordinator update (Mark Vessely)

11) Committee Research Coordinator update (Brent Black)

12) Presentations

13) TRB's Technical Activities Division Strategic Alignment

- a. Name change to "Engineering Geology and Site Characterization"
- b. Membership changes
- c. Subcommittees and Forums
- d. Geotechnical Site Characterization Committee elimination and consolidation with the Engineering Geology and Site Characterization Committee and the Soils and Rock Properties Committee in 2021. See Attachment B for Geotechnical Site Characterization Topics.

14) Committee Research Needs and Future Session Topics (all)

See Attachment A for RNS and workshop topics.

15) Adjourn

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Attachment A: Research Need Statement and Workshop Ideas

- 1 Debris flow guidelines for steep slopes
- 2 Revisit: Procedures to develop defined metrics and protocols using existing rockslope and rockfall design guidelines within corridors for mitigation of rockfall and rockslides
- 3 Procedures to develop data driven decision methods for resource allocation
- 4 State of practice for using remote sensing to evaluate geologic hazards
- 5 Procedures to use drones to collected geologic and geotechnical information (RNS and workshop idea)
- 6 Extreme weather impacts on geohazards and geotechnical assets
- 7 Observational modeling of performance: An evaluation of geotechnical assets
- 8 Rockfall database and fragmentation simulation
- 9 Data acquisition guidelines for unstable slopes
- 10 Next generation liquefaction project
- 11 Measuring socioeconomic impacts associated with geohazards events
- 12 Resilience and sustainability in rockfall mitigation
- 13 Standard of practice for “geo” data management
- 14 Early warning systems (workshop)
- 15 Monitoring of rockfall mitigation (synthesis followed by guideline)
- 16 Data into information (workshop)
- 17 Asset management concepts to identify and evaluate assets in during ER

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Attachment B: Geotechnical Site Characterization topics

1. Drilling methods
2. Application of Cone Penetration Test (CPT)
3. Methods to evaluate soil properties
4. Geophysics applications
5. In-situ testing and probabilistic modeling
6. Methods to execute investigations and provide information in GEC-5
7. Methods to evaluate and assess road sinks and karst
8. Plans of action for scour critical bridges (FHWA's effort ISTD?)
9. Climate change- adjusting subsurface investigations to evaluate/assess
10. Non-destructive testing
11. Geotechnical involvement in LRFD
12. Visualization of digital data to enhance exploration programs and support classification of materials
13. Evaluate the adequacy of subsurface exploration and characterization for informed design, improved constructability and bid economy
14. Promote innovative underutilized technologies for exploration programs – AGAME
15. Geotechnical baseline report vs. geotechnical data reports -- side note DFI has a proposal for a workshop on this at all conferences next year

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