

January 2017 Revision

Potential Technical Session / Symposia Topics

Names in **bold** suggested volunteered as potential symposia organizers during various calls. Items without a symposium organizer can be Technical Session topics.

OVERVIEW OF TOPICS BY APPLICATION

ENGINEERING GEOLOGY FOR INFRASTRUCTURE

1. Water Resources Infrastructure – Surface Water
 - a. Water-retaining Infrastructure
 - i. Dams and Levees
 - ii. Tanks and Basins
 - b. Water Conveyance Infrastructure
 - i. Channels
 - ii. Pipelines
 - c. Water Treatment Infrastructure
2. Water Resources Infrastructure – Groundwater
 - a. Groundwater Basin Management and Protection
 - b. Groundwater Contamination: Prevention and Treatment
3. Transportation Infrastructure
 - a. Railroads (including high-speed rail)
 - b. Port Facilities
 - c. Bridges
 - d. Tunnels
 - e. Highways
 - f. Airport Facilities
 - g. Pipelines (raw products and fuels)
4. Private and Public-Private Infrastructure
 - a. Tall and Large Buildings and Plant Facilities
 - b. Stadiums and Arenas

OVERVIEW OF TOPICS IN ENGINEERING GEOLOGY SITE CHARACTERIZATION (Program Design and Execution, Exploration and Analytical Methods, Case Histories)

1. Foundation Exploration and Design (Including groundwater, expansive soils and rock, weak and collapsible soils and rock, solutioning, caves, karst, lava tubes, permafrost....)
2. Slope Stability, (static and dynamic)
3. Groundwater Resource Development, Protection, and Remediation
4. Slope Stability Assessment
5. Design Earthquake development and Ground Motion Characterization
6. Tsunami and Seiche Hazards
7. Fault Displacement Hazard Assessment

8. Naturally Occurring Asbestos
9. Volcanic Hazards
10. Flood Hazards
11. Landslide Hazards
12. Instrumentation and Remote Sensing
13. Engineering Geology in Mine Development and Reclamation
14. Engineering Geology in Land Use Planning
15. Engineering Geology in Disaster Response Planning and Post-Disaster Response

OVERVIEW OF TOPICS IN PROFESSIONAL PRACTICE

1. Education in Engineering Geology
 - a. Basic Educational Programs; What Content is Important?
 - b. Academic Program Accreditation
2. Professional Practice: Evaluating Competency
 - a. Professional Association Basic Certification
 - b. Professional Association Advanced Certification
 - c. Statutory Licensure
 - i. Examination Development and Administration
 - ii. Enforceable Practice Standards: Methods and Procedures
 - iii. Enforceable Practice Standards: Professional Conduct (Ethics)

SPECIFIC TOPICS FOR SYMPOSIA AND SESSIONS (In Development)

Confirmed Dams: sedimentation / rivers: **Brian Green**

Confirmed Landslides: slope stability, rockfall, rock mechanics: **Paul Santi, Jerry Higgins, Dave Cruden (Canada), John Clegh (Canada), Bill McCormick (conceptual Chair), Chris Wills**

?? need to contact someone Karst Topography / Other Geologic Phenomenon: **Janet Sowers (Fugro), Lindsey Swain, Dave Lienhart**

Sarah to contact Dave Mining Topics, Mine Reclamation: **Dave Bieber?**

?? need to contact someone Volcanics of Northwest and Hawaii, Hydrothermal: **Richard Hazlett, Rachel Cartwright?, Rick Lahusen, California Volcano Observatory folks in Menlo Park**

Confirmed Naturally Occurring Asbestos: **Mark Bailey** (potential to draw a full day of speakers & mostly non-member attendees)

Garry Maurath to contact Tim & Holly Earthquakes / Faulting: Ground Motion /

Rupture individual sessions: CGS people, USGS local members, EERI **Betsy Mathieson, Donald Wells** (potential speaker: Steve Bowman), **Tim McCrink, Holly Nichols**

Proposed: Fault Displacement Hazard Assessment (Tim Dawson and Tim McCrink)

Sarah to contact Coastal Hazards TWG, Jeff to contact Rick Wilson Coastal Hazards- Marine & Coastal Processes: **Gary Greene, Keith Logue**, AEG Coastal Hazards TWG, consortium of groups on tsunami model map (USGS, NOAA, etc) **Rick Wilson**

Garry to ask Mark Andersen Quantifying Climate Change: IAEG group members? – potential Technical Session topic? Mark Andersen DWR in California; paleoclimate?

Professional Practice Issues: three topics below subject to adjustment:

Confirmed Education & Preservation of Engineering Geology / Recognition / Licensure: **Keith Turner, Bob Tepel**

Confirmed Professional Practice & Ethics: **Keith Turner, Ken Neal**

Confirmed Training & C4 Symposium: **Fred Baynes**

Groundwater Basin Management, Clean Water Resources - potential Technical Session topic

Garry Maurath to contact: Land Subsidence: **Michelle Sneed (recent Sac Section speaker)**

Confirmed Lidar / Technology – landslide application of unmanned aerial vehicles (UAV), remote sensing: **Bill Haneberg former Jahns - (voluntold chair- State Geologist for Kentucky)** also good for marine geohazards, **Jeff Keaton, John Kemeny (UA-Tucson), Bill Burns, Skip Watts**

Geotechnical / Site Characterization for infrastructure - High Speed Rail, High Rises, Bay Mud, Coastal Development

Environmental - brownfield redevelopment, groundwater contamination / remediation, site characterization, Incremental Sampling Methodology, naturally occurring hazardous minerals (mercury, arsenic, silica, etc)

Coralie to ask around Levees – evaluation & design **Derek Morley (Army Corps), Holly Nichols, Coralie**

Jeff to contact Jenn Disaster Emergency Response for hazards (International involvement in disaster response), GEER contacts? Landslide Professional Forum-

from Seattle- two people from County level emergency management National Association of Emergency Managers (contact Jenn Bauer).