

AEG's 2020 Virtual Annual Meeting
 September 16-18, 2020

**TECHNICAL SESSION #7: APPLIED GEOSCIENCE METHODS FOR PROBLEM SOLVING –
 A GALLERY OF PRACTICAL EXAMPLES, PART II**

Presenter Biographies

Samantha Farmer - Analysis of High Priority Unstable Rock Slopes in Great Smoky Mountains National Park, Tennessee and North Carolina



My name is Samantha Farmer and I am a graduate student studying Geospatial Analysis at East Tennessee State University. My thesis focuses on unstable rock slopes in the Great Smoky Mountains National Park, Tennessee and North Carolina and the societal risks associated with rockfalls. During my time with ETSU, I was the recipient of The Mayo Educational Foundation, Inc. scholarship and the American Federation of Mineralogical Societies (Eastern Federation of Mineralogical and Lapidary Societies) scholarship. I graduated from Radford University in 2019 with a Bachelor's Degree in Geology with a concentration in Environmental and Engineering. While at Radford, I was the recipient of the Robert C. and Brenda Lark Whisonant Scholarship, received Outstanding Work Study Student, and was the Radford University Museum of the Earth Sciences Student Manager. I am FAA Part 107 certified and have used UAVs in previous research studies. I hope to combine my passion and knowledge of UAVs and geologic hazards to create awareness of

rock slope instability and more efficiently communicate rockfall/landslide hazards.

Margaret Kroehler - Preliminary Investigation of Slope Movements in the North Cove Area, North Carolina



Margaret Kroehler is a master's student at Kent State University studying engineering geology with a primary interest in slope stability. She earned her BS-Geology at the College of William and Mary and MS-Geological Sciences at the University of Texas at Austin, with research in tectonics of the Blue Ridge and eastern Caribbean, respectively. She worked in the oil and gas industry in Houston, TX before being transferred to Pittsburgh, PA to work on Marcellus Shale development. In Pittsburgh, she developed an interest in engineering geology while attending local professional meetings and decided to pursue it as a new career. Her current goals are to graduate this fall and obtain a job in the Pittsburgh area.

Arpita Nandi - Soil Creep and its Role in Mudslide Generation – Case Study from Erwin, Tennessee



Arpita Nandi is a Professor and Chair in the Department of Geosciences, East Tennessee State University. She completed her doctoral studies in Engineering Geology at Kent State University, Ohio, USA. Her research involves landslide hazard mapping and mitigation using geospatial analysis, soil mechanics, physico-chemical behavior of soil, soil erosion studies, rock slope instability analysis, and weak rock geotechnical properties. She is actively involved in undergraduate and graduate education, research, and service. She teaches Engineering Geology, Soil Mechanics, and Scientific Methods in Geosciences, and published close to 40 peer-reviewed journal articles. One of her publications was recognized as one of the 30 most cited papers in 50th anniversary of the journal Engineering Geology.

In her professional service, Arpita serves as the editorial board member of the GSA and AEG joint publication Environmental & Engineering Geoscience. She is a regular reviewer of geological, hazard, and geospatial journals, including but not limited to Environmental and Engineering Geology, Natural Hazards, Hydrogeology,

Environmental Earth Science, Cartography and GIS, etc. She is active in the community and visits regional schools to promote STEM education including Earth Sciences.

Nicholas Ferry - Influence of Bedrock Substrate on Mobility of Large Rock Avalanches Formed in Dry Climates: Blue Diamond Landslide Case Study



Nick Ferry attends the University of Kansas where he is pursuing a PhD in geology. Nick's research interests lie in using a multidisciplinary approach to understand basin formation, evolution, and resource potential. His current research focuses on source-to-sink sediment dispersal. He is particularly interested in interactions between sedimentation and tectonic processes. Nick's research experience includes evaluating sedimentary processes at marine-ending glaciers to document glacial fluctuations through time; conducting provenance studies of large rock avalanches to better understand their emplacement mechanisms; and developing numerical landslide models to analyze the response and recovery of landscapes impacted by mega-landslides. Nick earned a BS in geology from Northern Illinois University in 2018 and a MS in geology from the University of Cincinnati in 2020. From 2008 – 2012, Nick served honorably in the US Marine Corps where he reached the rank of Sergeant.

Dylan Hemraj - Development of a Geotechnical Model for Open Pit Slope Design in Cenozoic Sediments in the Pilbara region of Australia



Dylan Hemraj is an Associate Engineering Geologist at PSM. PSM is an engineering consultancy based in Australia specializing in engineering geology, geotechnical engineering and hydrogeology. Dylan has a dual degree in geotechnical engineering and geology and has over 13 years' experience working in Australia and abroad. His experience ranges from small civil projects to geotechnical studies for large open pit mining projects, such as the one he's presenting today. Dylan is currently based in Perth, Australia however hopes to move to Seattle, WA next year.

George Freitag - Pumice Mine Reclamation, Oregon State University – Cascades Campus, Bend, Oregon



George Freitag (FRY-tag) is a principal with GRI in Beaverton, Oregon. He has BS/MS degrees in Geology from California State University Northridge (go Matadors). He has 30 years of engineering geology experience in Oregon, Washington, Nevada, and California. His three years of practice in southern Nevada in the early 1990s was barren of landslide work which helped convince him to relocate to the Pacific Northwest.

Edmund Medley - Recent Advances in Stochastic Analyses of Slopes in Bimrocks and Bimsoils



Dr. Medley is a principal consultant with Terraphase Engineering, based in Oakland, California. He has 50+ years of varied geopractice experience in prospecting; geological/geotechnical engineering consulting; failure investigations and litigation support; teaching and lecturing. He is a researcher of bimrocks (block-in-matrix rocks) and bimsoils - such as melanges, fault rocks, weathered rocks, tills, colluvia, etc.

Credentials:

- BApplSc Geological Engineering (Univ BC, Canada)
- MS and PhD Geotechnical Engineering (Univ California at Berkeley)
- Professional licenses as engineer and geologist in the USA, United Kingdom and Canada
- 1993 AEG Marliave Scholar
- 2008-2009 Jahns Distinguished Lecturer

Echo Li - A Machine Learning Algorithm for Rock Mass Characterization and Stability from Point Clouds



Echo Li is currently a graduate student at the University of Arizona in the Mining and Geological Engineering Department. He had his bachelor's degree at the University of Arizona focusing on Geoscience. He had working experience in underground gold mining as an internship in China in 2019. And He is now working on a study of the application of machine learning in geomechanics and mining industry.

Jacqueline Sosa - Preparing for The Big One: Data-Driven Spatio-Temporal Risk Maps for Earthquake Evacuation in LA County



Jacqueline Sosa Lindo is a Panamanian USC graduate with a bachelor of science degree in Geodesign. She has worked in different research projects within the USC Spatial Science Institute. Her current work focuses on creating an efficient earthquake evacuation plan considering spatial patterns and population fluctuation in the Los Angeles County.