Association of Environmental and Engineering Geologists
2021 - 2022 Jahn's Lecture:

'Debris Flows, Big Slow Movers, and Rockslides: Assembling the Geospatial Legacy of Landslides using Lidar, Drones and Boots on the Ground'

2021 - 2022 Jahns Distinguished Lecturer
Richard M. Wooten, P.G.
Formerly of the North Carolina Geological Survey

MEETING DETAILS

Event	Meeting Place	Date & Time
W.M. Keck Earth Science and Mineral Eng. Museum Tour	Mackay Mines (MM) Entrance	Feb. 11 9:30 AM
Earthquake Engineering Laboratory Tour	Earthquake Engineering Lab (EEL) Entrance	Feb. 11 10:30 AM
Jahn's Lecture	Earthquake Engineering Lab (EEL) Auditorium	Feb. 11 Noon

Cost: FREE (optional donation to our student chapter)

Reservations: Please fill out the RSVP form, indicating which events you plan to attend. We expect to have plenty of spaces, but this will help us to plan appropriately. Please RSVP by **Thursday, February 10**.

Parking:
Paid parking is available at the Brian J. Whalen Parking Complex, as well as the West Stadium Parking complex. Unpaid parking may be found along Valley Rd., E. 9th St., or Evans Ave.

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Abstract

Damaging landslides are a recurring problem in the Blue Ridge Mountains of North Carolina as elsewhere in the Southern Appalachians and in mountainous regions worldwide. Since 1879 landslides in western North Carolina have resulted in at least 84 fatalities and 22 injuries, over 84 destroyed or condemned homes and damage to 60 others, continued damage and threats to regional infrastructure, and have cost well over $53 million since 1990 in direct losses alone. Assembling and maintaining a landslide geodatabase is a multi-year, ongoing effort using data collected from landslide hazard mapping and responses to landslide events. Developing such a geodatabase is a fundamental component of proactive landslide loss reduction.

The NCGS's landslide geodatabase documents the areal extents prehistorical and historical landslides of various types - key predictors for where landslides may happen in the future. Debris flows, large slow-moving, deep-seated, debris slides and weathered-rock slides (big slow movers); and, rockslides comprise the main types of landslides. Rainfall from landfalling tropical cyclones can trigger hundreds to thousands of debris flows. Rapidly moving debris flows can travel 30 mi/hr (13 m/sec) and have resulted in fatalities and destroyed homes. Mapped debris flows and past debris flow deposits provide the empirical bases for debris flow susceptibility and pathways models – important components of landslide hazard maps.

About the Speaker:

Rick has over 40 years of experience in applied geology in the Cascade Mountains of Washington State, and applied geologic research in the Piedmont, and Blue Ridge Mountains of North Carolina. He earned his B.S. and M.S. degrees in geology at the University of Georgia in 1973 and 1980. Rick recently retired from the North Carolina Geological Survey where he was the Senior Geologist for Geohazards and Engineering Geology from 1990 to 2021. His previous work includes mapping geologic resources and conditions for land-use planning, landslide investigations and applied geotechnical geology for the USDA-Forest Service on the Gifford Pinchot National Forest in Washington State from 1980 to 1990. His work with the North Carolina Geological Survey includes the scientific regulatory review and field investigations for a low-level radioactive waste disposal project, and bedrock geologic mapping in the Piedmont and Blue Ridge Mountains. Since 2003 his main focus has been on landslide hazard mapping and research, and responding to landslide events North Carolina Blue Ridge. He has a special interest in the relationships of ductile and brittle bedrock structures with geomorphology and landslides processes, and communicating landslide hazards information with stakeholders.