

The Official

AEG OREGON CHAPTER NEWSLETTER

<http://www.aegoregon.org>

Meeting Details:

Date: Tuesday, Feb. 25, 2025,
7:00 pm Hybrid

RSVP

In-Person \$25 Cash or
check.

Cards please use link above.

Old Market Pub
6959 SW Multnomah Blvd.

Agenda:

5:30- 6:30 pm social

6:30-7:00 pm dinner

7:00 pm presentation

UPCOMING MEETINGS:

**March 11: Erin Dunbar,
Geosyntec Consultants**

April 15: Student night

**May 13: Presentation by
AEG President**

Jahns Lecture

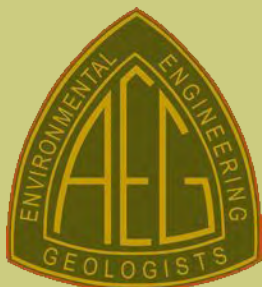
Everyday Geospatial: New Technologies Anyone Can Afford for 3D Field Scanning, Point Cloud Processing, Rock Mass Characterization, and Slope Stability

John Kemeny

2025 Richard H. Jahns Distinguished Lecturer In Applied
Geology

Professor Emeritus, University of Arizona, Tucson, AZ

Geospatial includes remote sensing 3D imaging technologies such as Lidar, photogrammetry, and multispectral and thermal imaging. These technologies can produce high resolution 3D point clouds, from which point cloud processing software is used to extract detailed and, in some cases, automated rock mass characterization and slope stability outputs. When I started in this field in the early 2000s, 3D imaging and point cloud processing was expensive and time consuming, which limited its use to companies that could afford the time and expense. It also limited its use in resource constrained communities and countries. Today, high resolution registered point clouds can be obtained in minutes using iPhone lidar or smartphone pictures, and semi-automated point cloud processing procedures in open-source software are now routinely used to conduct rock characterization quickly and accurately. Photos from inexpensive drones can produce very high-quality point clouds of large areas, and these surveys can be repeated to monitor degradation and movement. In this Jahns lecture I will discuss modern "everyday" geospatial tools that are transforming many aspects of applied geology and give examples of the step-by-step process involved to go from field imaging to final rock mass characterization and slope stability. This talk also mentions some modern AI approaches that are transforming the way we think about characterization and monitoring in applied geology. This talk was partly inspired by an online class I teach on rock fractures that includes everyday geospatial skills, where students from across the US as well as other countries conduct their own field scanning and point cloud processing in the areas where they live.



*Geologists have a
saying - rocks
remember.*

Neal Armstrong



Dr. John Kemeny has over 40 years of experience in the applied geoscience fields through a career that has included working at a geomechanics consulting company, post-doc at the Lawrence Berkeley National Lab, 33 years as Professor at the University of Arizona, and co-founder of a successful startup company that became a world leader in vision-based rock fragmentation measurement software and point-cloud based rock mass characterization software. He earned BS degrees in geology and math from the University of California Santa Barbara in 1977, ME and PhD degrees focusing on rock mechanics from the University of California Berkeley in 1982 and 1986. He began his career in the Department of Mining and Geological Engineering at the University of Arizona in 1989, retiring as Emeritus Professor in 2022. At the University of Arizona Dr. Kemeny published over 170 papers, gave over 80 invited technical talks and workshops, and graduated 15 PhD and over 50 masters students, with research and teaching focused on rock mechanics, slope stability, rock fracture mechanics, numerical simulation in rock mechanics, and developing 3D imaging and sensing technologies for geotechnical applications. In 1998 he co-founded Split Engineering with three students, a spinoff company focused on new technologies for measuring rock fragmentation and point cloud processing software for slope and underground stability. The company had offices in the US, Chile, Peru, South Africa and Australia and was acquired by Hexagon Mining in 2019. Since retiring from the University of Arizona, Dr. Kemeny has been involved with integrating AI into the applied geology fields, to help combat the increasing hazards due to climate change.



In Memoriam

It is with sadness that we are announcing the passing of Dr. Paul Hammond, emeritus geology professor at Portland State. He died on January 8, 2025, 20 days short of 96 years old. In 1963, he joined the Geology Department at Portland State University. For over 30 years, he taught the fundamentals of geology and followed that with over 20 years of field-based research. Professor Hammond had an influence on many people among us. His family is planning a Celebration of Life with the date and location to be announced.

Message from the Chapter Chair

Hello, AEG Oregon!

We were reminded it is still winter these past few days. Well, while it was snowing in Portland I was in Medford in alternating windy and calm conditions, but 51-55 degrees and sunny skies. I hope all of you are safe after Portland's traditional Valentine's Day snowstorm. No matter what Punxsutawney Phil is predicting, daylight is increasing, and winter is almost over (no guarantees).

The Old Market Pub back room was full last month for the joint AEG/ASCE meeting. It feels so long ago. ASCE hosted the meeting, with Eric Paslack, Max Gummer, and Joe Zaleski presenting on the construction of a major urban corridor-widening at OR 217.

This month we are returning with another continuing tradition, the Jahns lecture. Dr. John Kemeny, prof. emeritus at University of Arizona, will bring us closer to remote sensing 3D imaging technologies and their applications.

Looking ahead, we will hear from our AEG President, Erin Dunbar, and host our student poster night. Stay tuned.

Have you renewed your membership? Click [here](#) to do that. Also, please take the Oregon Chapter [membership survey](#)!

The board is looking forward to seeing you all at the Old Market Pub.

Sincerely,

Nikos Tzetos
AEG Oregon Chapter Chair

PS.
Person: I hate geology puns.
Me: My sediments exactly.



*Geologists are never at
a loss for paperweights.*

Bill Bryson



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A photograph of a geophysical surveying site. The image shows a grassy field with several black rectangular markers or sensors laid out in a grid pattern. A red and black surveying instrument is visible in the foreground. The background shows a line of trees under a clear sky.

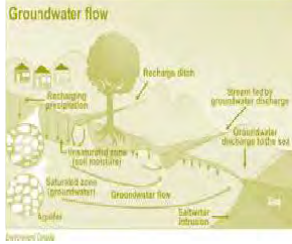


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morning after the
earthquake.*

Ralph Waldo Emerson

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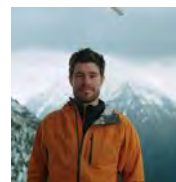
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nikos@pacificgeophysics.com



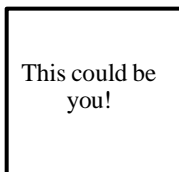
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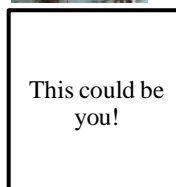
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The AEG Oregon Chapter Newsletter

The Association of Engineering Geologists (AEG) contributes to its members' professional success and the public's welfare by providing leadership, advocacy, and applied research in environmental and engineering geology. AEG's values are based on the belief that its members have a responsibility to assume stewardship over their fields of expertise. AEG is the acknowledged international leader in environmental and engineering geology and is greatly respected for its stewardship of the profession.

AEG OREGON CHAPTER NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Chapter or other Chapters, and other interested people who have requested and paid a local subscription fee of \$10.00. E-mail subscriptions are free. News items are invited and should be sent to: Nikos Tzetos, AEG Oregon Chapter Chair, Pacific Geophysics, 5915 NE 30th Avenue, Portland, OR 97211, e-mail: nikos@pacificgeophysics.com, phone 503.501.7846. Electronic media is preferred. Deadline for submittal is the 25th of the month. Advertising: business card size \$100/yr; ¼ page \$200/yr; ½ page \$350/yr; 1 page \$450/yr.