

The Official

# AEG OREGON CHAPTER NEWSLETTER

<http://www.aegoregon.org>

## Meeting Details:

Date: Tuesday, Sept. 17,  
2024 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:

May 2024--Student Poster  
Night\*\*\*\*\*

## Geologic Exploration for Ground Classification: Widening of the I-70 Twin Tunnels (Idaho Springs, CO)

Todd Hansen, P.E.

USACE, Portland District

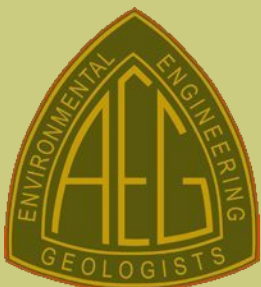
Geotechnical, Civil, and Environmental Design Section



Between 2011 and 2016 the Colorado Department of Transportation (CDOT) recently widened Interstate 70 (I-70) Veterans Memorial Tunnels located one mile east of Idaho Springs, Colorado. As the geotechnical consultant, Yeh and Associates (Yeh) performed an investigation of the rock mass which would allow the tunnel design team to develop ground support and baseline conditions. Investigation methods included geologic and structural mapping of rock outcrops; drilling and logging rock core borings; borehole camera inspection of the drilled borings; and a three-dimensional seismic reflection tomography survey. Field data and lab test results correlated to observed conditions from the investigation were used to produce geologic maps showing estimated RMR, Q-ratings and rock types.

Portal entrance stability reviewed the kinematic rock structure in addition to historical rockfall events to develop RHRS ratings. Data was collected using rope access techniques to and analysis used CRSP 4.0 to determine rockfall kinetic energy and support mitigation recommendations. Construction support included real-time monitoring of the tunnel using MBPX, pressure meters and crack meters in the tunnel to track the rock deformation and rock-mass stresses.

Following completion of the project, Yeh compiled a geologic map of observed as-built conditions of the eastbound bore to compare against predicted conditions.



*Geologists have a  
saying - rocks  
remember.*

*Neal Armstrong*

**Todd Hansen** has a BS degree in Geological Engineering ('06) from the Mackay School of Mines/Univ Nevada Reno and is a licensed PE in Colorado. He started his career in Denver, CO and worked for Yeh and Associates then shifted to FHWA Central Federal Land, and then moved to FHWA Western Federal Lands out of Vancouver, WA. Todd joined the Portland District of USACE in April 2024. He has a breadth of experience at every stage of project delivery for complex geologic conditions, emergency response and construction design support on transportation projects, servicing FHWA, Colorado DOT, Wyoming DOT, California DOT, counties and municipalities. In addition to traditional geotechnical experience supporting field investigation and design work, Todd had the great fortune to be mentored by leading experts in geohazards, slope stability and specialty rope access work. He hopes to be as cool as them someday.

At home, Todd enjoys country life with his wife Sara and kids Clark and Audrey.



## Message from the Chapter Chair

Happy Fall AEG Oregon!

Summer's end is approaching, and here at AEG Oregon we are excited to start this new season with friends and colleagues, back from the field and full of stories and information to share.

I am acting chair this year, following in the footsteps of past chairs Ryan Cole and Aine Mines. I am grateful to have had my fellow board members and volunteers near in the past years. The first order of business will be to conduct board elections. We do not have an incoming secretary this year, so Ryan and I will be helping with that. Stay tuned for information and details regarding the elections for the time being. If you are interested in joining us on this journey, please send us an email or talk to us. We are starting this year, on September 17, with a talk by Todd Hansen of US Army Corps of Engineers, Portland District, covering aspects of the CDOT I-70 Twin Tunnels widening effort. This sounds so interesting! The venue so far remains the same: the large room at the back of Old Market Pub.

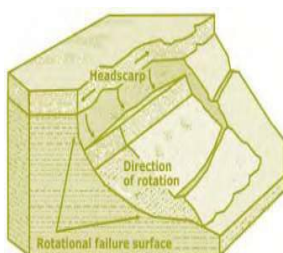
Our organization's annual meeting is currently taking place in Philadelphia, PA. Hopefully we will get insights from some local members who are there.

A few words about myself, as per apparent tradition. I moved to Portland from Athens, Greece, via State College, PA, in 1994, and I love living here. I have been in the field all around this state and beyond as a geophysicist, marveling at the beauty that surrounds us (together with some dusty, dry terrains that are still, somehow beautiful). My wife and I have two daughters that are now off to college and beyond. I consider myself lucky.

We are looking forward to seeing everyone soon for some pizza and beverages. Here is the question: how is your membership? [www.aegweb.org/membership](http://www.aegweb.org/membership). See you all very soon.

Here's to a great year!

Nikos Tzetos  
AEG Oregon Chapter Acting Chair



*Geologists are never at  
a loss for paperweights.*

*Bill Bryson*



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*Bill Bryson*



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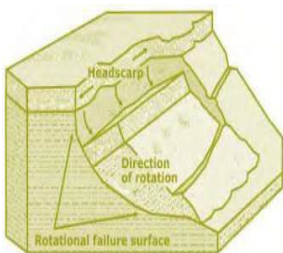
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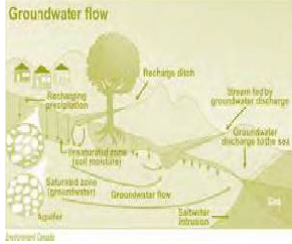
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*We learn geology the morning after the earthquake.*

*Ralph Waldo Emerson*



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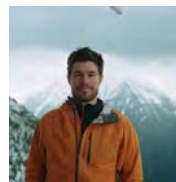
## 2023-2024 Chapter Officers & Committee Chairs...Election coming soon



Chair:  
Ryan Cole  
US Forest Service  
[ryan.cole@usda.gov](mailto:ryan.cole@usda.gov)



Program Chair:  
Nathan Villeneuve  
[nvilleneuve@gri.com](mailto:nvilleneuve@gri.com)



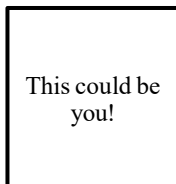
Legislature Chair:  
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Cornforth Consultants  
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Chair -Elect:  
Nikos Tzetos  
Pacific Geophysics  
[nikos@pacificgeophysics.com](mailto:nikos@pacificgeophysics.com)



Field-Trip Chair:  
Volunteer Needed  
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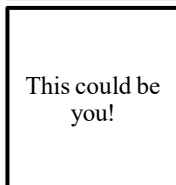
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Secretary:  
Justin McCarley  
Cornforth Consultants  
[Justin.McCarley@cclit.com](mailto:Justin.McCarley@cclit.com)

**The Oregon Chapter is also on  
the web at**

<http://www.aegoregon.org>

**National AEG webpage:**

<http://aegweb.org>



PSU Student Chapter President:  
Marge Belcastro  
Portland State University

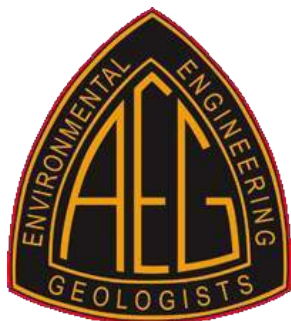


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## The AEG Oregon Chapter Newsletter

The Association of Engineering Geologists (AEG) contributes to its members' professional success and the public 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.

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