

The Official

# AEG OREGON CHAPTER NEWSLETTER

<http://www.aegoregon.org>

## MEETING DETAILS

Date: Tuesday,  
January 25, 2022

6:30 pm Virtual

Location: Virtual Link:

[Pretty Rocks Zoom](#)

## Evening Agenda:

6:30 pm  
Virtual Presentation

## UPCOMING MEETINGS:

Feb 21nd: Maddie German  
(AEG President)

Mar 15th: Dr. Ashley Streig

Apr 19th: Rick Wooten  
(Jahns lecturer)

May 17th: Student Night



## The Great one: Pretty Rocks Landslide in Denali National Park

Scott Anderson BGC Engineering  
Orion George FHWA  
Denny Capps NPS

NOTE THE TIME



Ninety years ago, the Denali Park Road was built across Polychrome Pass and the Pretty Rocks Landslide. It was excavated into steep slopes containing permafrost at some depth and built with common cut-fill methods of the time. It probably started moving as soon as it was built, but only in a minor way. By the 1960s the movement was notable but manageable with routine maintenance performed as the road opened in the spring each year. By the 1980s and 1990s, more movement was occurring and yet it was still manageable with innovative (at the time) geosynthetic reinforcements and other means, which Denali National Park and Western Federal Lands constructed. By the 2010's, the movement was notably more each year – it was clearly accelerating, and doing so alongside a warming climate. Alternate approaches for managing the landslide or avoiding it were being considered, and in 2020 a careful consideration of alternatives, including the risks, impacts, costs, and the need for rapid solution was made and it was determined that bridging the landslide was the best path forward. Investigation and design was underway throughout 2021, when the rate of movement on the slide became unsafe and unsustainable, so the road was closed. The last vehicle drove across Pretty Rocks Landslide on September 2, 2021, but that is not the end. This talk describes the problem and planned solution, including many innovations along the way – all designed to mitigate impacts of the landslide to Denali National Park and the people who wish to enjoy it.

[It] is the little causes,  
long continued, which  
are considered as  
bringing about the  
greatest changes of  
the earth.

James Hutton

## Bio: Orion George

Orion has a BSc (summa cum laude) from Humboldt State University in Geology (2006) and a Geology MSc from Western Washington University (2012) with 13 years of collective experience working as a geologist. He has worked with Barrick Gold Exploration in Alaska and Nevada supporting grassroots and developmental exploration, as an engineering geologist with the Washington State Department of Natural Resources doing slope stability assessments supporting their timber sale program, and most recently as an engineering geologist with the Federal Highway Administration's Western Federal Lands Division supporting projects in Oregon, Washington, Idaho, Montana, Wyoming, and Alaska.



## Bio: Scott Anderson

Scott Anderson is a Principal Geotechnical Engineer with BGC Engineering in Golden, Colorado. He is a former researcher, professor, consultant and technical leader at the Federal Highway Administration. He is trained as a geologist and engineer at the University of Colorado, Colorado State, and the University of California at Berkeley, and he is a member of the ASCE Geo-Institute and AEG, and is active in these and many other professional organizations



## Bio: Denny Capps

Denny Capps is a park geologist at Denali National Park and Preserve. Geologic project manager with 20+ years of experience conducting cutting-edge remote sensing investigations, safe fieldwork in remote environments, and robust analyses.



"The earth is large and  
old enough to teach us  
modesty."

Hans Cloos

## Message from the Chapter Chair

Dear AEG Oregon,

A new year-a new wave! I hope you all are faring well, despite the stormy seas.

Now is the time to renew your AEG registration and keep AEG Oregon thriving! We have a great many members in the region- compared to other chapters. And it means we will continue to be an important link in people's professional networks. I hope you'll consider renewing or joining as a member. Students enjoy free registration.

Thanks to all that joined us for a deep dive into the history and evolution of geologic understanding of the Missoula Floods and Channeled Scablands by Jim O'Connor. Whether by Zoom or in-person, it was a great talk!

We hope you'll join us in a few short weeks for our annual joint meeting with our engineer friends, the Oregon ASCE. We are hosting, though virtually, and welcome all to join- please spread the word! (See meeting details in the side bar of this newsletter).

Bravo for continuing to persevere- wherever this newsletter may find you. We welcome any feedback you may have about how AEG Oregon can best serve you. Please reach out to any of the Board members- our contact information is listed below.

Happy trails,

-Nancy Calhoun

Oregon AEG, Chair 2021-22

---

Topic: AEG - ASCE Joint January Meeting

Time: Jan 25, 2022 06:30 PM Pacific Time (US and Canada)

[Join Zoom Meeting](#)

Meeting ID: 833 3188 7306

Passcode: 006652

One tap mobile

+13462487799,,83331887306#,,,\*006652# US (Houston)

+16699009128,,83331887306#,,,\*006652# US (San Jose)

Dial by your location

+1 346 248 7799 US (Houston)

+1 669 900 9128 US (San Jose)

+1 253 215 8782 US (Tacoma)

+1 312 626 6799 US (Chicago)

+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington DC)

Meeting ID: 833 3188 7306

Passcode: 006652





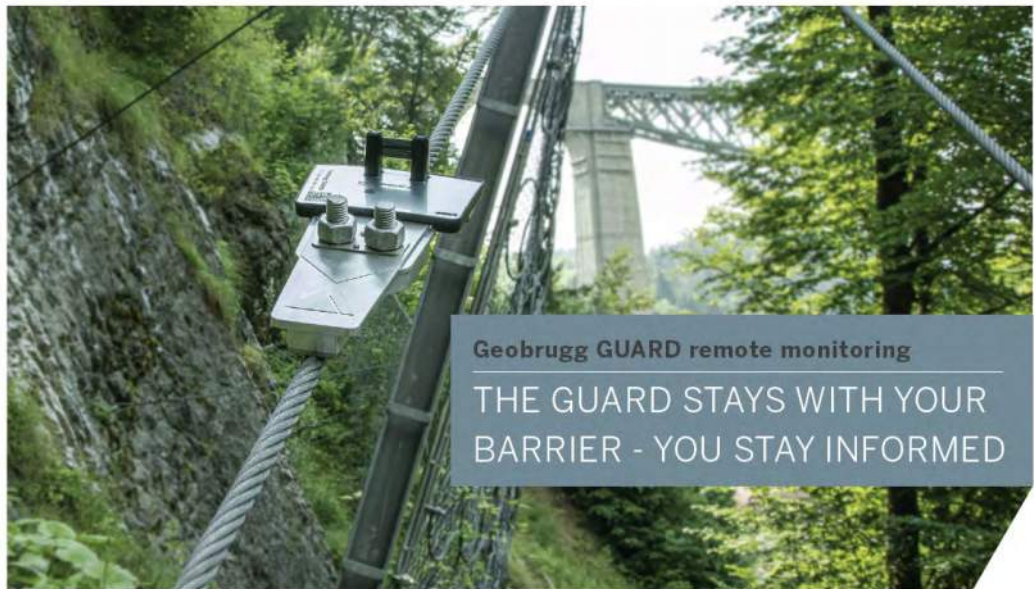
*"The earth is large and  
old enough to teach us  
modesty."*

*Hans Cloos*



[www.geobrugg.com/guard](http://www.geobrugg.com/guard)

**GEOBRUGG®**  
BRUGG  
Safety is our nature



Geobrugg GUARD remote monitoring

THE GUARD STAYS WITH YOUR  
BARRIER - YOU STAY INFORMED

Geobrugg North America, LLC | 22 Centro Algodones | Algodones, NM 87001 | USA  
T +1 505 771 4080 | [www.geobrugg.com](http://www.geobrugg.com)



**PACIFIC**  
**GEOPHYSICS**  
Applied Geophysics

**GEOPHYSICAL SURVEYING**  
for environmental  
and geotechnical  
applications

503.501.7846  
[nikos@pacificgeophysics.com](mailto:nikos@pacificgeophysics.com)  
[www.pacificgeophysics.com](http://www.pacificgeophysics.com)





## Your Environmental, Geotechnical, Clean Water Drilling Professionals

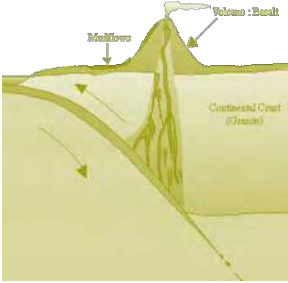
Work with experienced drillers who run your project with a friendly can-do attitude using state of the art drilling equipment, backed by an experienced management team with the authority to solve problems quickly.



# Call: (253) 693-3760

*Our Drilling Professionals are Ready to Help*





## We engineer success stories.

PBS is a trusted source of practical, sustainable solutions to the region's environmental and engineering challenges—enabling projects to succeed and communities to thrive.

**PBSUSA.COM**

Quality People  
Quality Results

37 years  
in the  
Northwest



ENVIRONMENTAL SERVICES • HEALTH & SAFETY  
SURVEY • GEOTECHNICAL ENGINEERING  
STRUCTURAL ENGINEERING • CIVIL ENGINEERING



### ***EARTH DYNAMICS LLC***

2284 NW. Thurman St.  
Portland, OR 97210  
(503) 227-7659  
[info@earthdyn.com](mailto:info@earthdyn.com)

[www.earthdyn.com](http://www.earthdyn.com)

Providing Quality  
Geophysical Services  
since 1984

#### **Engineering Geophysics:**

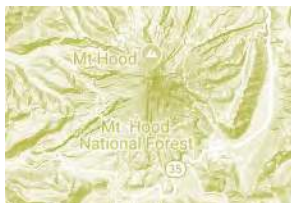
- Seismic Refraction/Reflection
- Shearwave Velocity Studies
- Electrical Resistivity Profiling
- Ground Penetrating Radar
- Magnetics/Electromagnetics
- Gravity
- Marine Geophysics

#### **Vibration & Noise Analysis:**

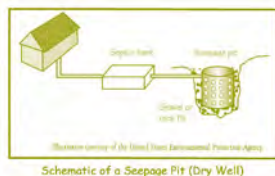
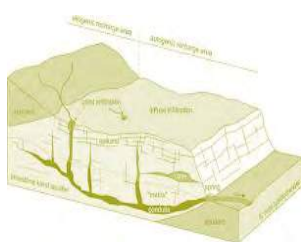
- Remote Vibration Monitoring
- Real-time Frequency Analysis
- Construction Monitoring
- Demolition Monitoring
- Blast Design and Monitoring
- Pre-construction Surveys
- Sensitive Equipment Certification

#### **Rock Mechanics:**

- Uniaxial Compressive Strength
- Direct and Traixial Shear Strength
- Direct and Indirect Tensile Strength
- Dynamic & Static Elastic Moduli
- Thermal Properties
- Density & Porosity
- Moisture Content







**EARTH**

Geotechnical Engineering  
Environmental Remediation  
Water Resources  
Stormwater  
Data + Mapping

Bainbridge Island  
Bellingham  
Bend  
Portland  
Seattle  
Wenatchee  
Yakima

**Aspect**  
CONSULTING  
[www.aspectconsulting.com](http://www.aspectconsulting.com)  
971.865.5890

**WATER**



HI-TECH Rockfall is a General Contractor that specializes in Rockfall Mitigation and has been the industry leader for over 18 years. Our Highly Trained & Skilled Employees provide us the Highest Safety Record in the Industry.



Products and Services include:

**Highwall Stabilization**

**Rock Scaling**

**Rock Dowels**

**Rockfall Barriers**

**Instrumentation Installation**

**Wire Mesh Drapery**

**Rock Bolts**

**Shotcrete**

**Avalanche Nets**

**Rope Access Work**

HI-TECH Rockfall Construction, Inc.  
P.O. Box 674, Forest Grove, OR 97116

Office: (503) 357-6508  
[www.hitechrockfall.com](http://www.hitechrockfall.com)



We Service Multiple Industries which include:

**Government & Military**

**Mines & Quarries**

**Commercial & Residential**

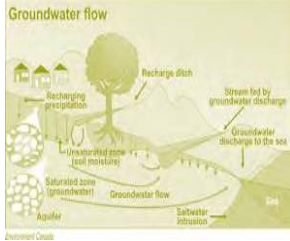
**Highways**

**Railroads**

**Utilities**







**SOIL and FOUNDATION  
STABILIZATION SOLUTIONS  
GEOTECHNICAL EXPLORATIONS**  
in OREGON and WASHINGTON  
503.649.8111 [info@plisystems.com](mailto:info@plisystems.com)

- Drilled and Grouted Tie-Back Anchors
- Light Weight Fills: Foam & Cellular Concrete
- Geotechnical Drilling Explorations
- Shoring (temporary & permanent)
- Drainage, Including Horizontal
- Helical Anchors & Piles
- Drilled Shafts (caissons)
- Limited Access Drilling
- Landslide Stabilization

- Elevator Jack Shafts
- Displacement Piles
- Wall Construction
- Sheet Pile Walls
- Injection Boring
- Underpinning
- Rock Anchors
- Rock Coring
- Dewatering
- Pile Driving
- Micropiles
- Shotcrete
- Soil Nails
- Grouting
- Pin Piles
- SPT

*"A soil adapted to the growth of plants, is necessarily prepared and carefully preserved; and, in the necessary waste of land which is inhabited, the foundation is laid for future continents, in order to support the system of the living world.."*

*James Hutton*





## Chapter Officers & Committee Chairs



Chair:  
Nancy Calhoun  
DOGAMI  
[nancy.calhoun@oregon.gov](mailto:nancy.calhoun@oregon.gov)



Chair –Elect:  
Aine Mines,  
Cornforth Consultants , Inc.  
[amines@cornforthconsultants.com](mailto:amines@cornforthconsultants.com)



Treasurer:  
Ryan Cole  
FHWA Western Federal Lands  
[ryan.cole@dot.gov](mailto:ryan.cole@dot.gov)



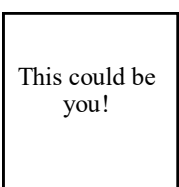
Secretary:  
Nikos Tzetos  
Pacific Geophysics  
[nikos@pacificgeophysics.com](mailto:nikos@pacificgeophysics.com)



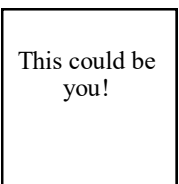
Past-Chair:  
Mike Marshall  
GRI  
[mmarshall@gri.com](mailto:mmarshall@gri.com)



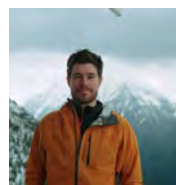
Program Chair:  
Jasmin Toro  
Aspect Consulting  
[jtoro@aspectconsulting.com](mailto:jtoro@aspectconsulting.com)



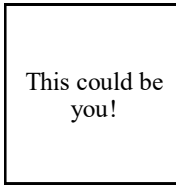
Field-Trip Chair:  
Volunteer Needed  
Please Help



Membership Chair:  
Volunteer Needed  
Please Help



Legislature Chair:  
Sebastian Dirringer  
Cornforth Consultants  
[SDirringer@CornforthConsultants.com](mailto:SDirringer@CornforthConsultants.com)



Newsletter Editor:  
Volunteer Needed  
This could be you!



Webpage Editor: Rud Moe  
PSU Graduate Student  
[rudlambmoe@gmail.com](mailto:rudlambmoe@gmail.com)

PSU Student Chapter President:  
Rud Moe  
Portland State University

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

<http://www.aegoregon.org>

**National AEG webpage:**

<http://aegweb.org>

Subscribe to the newsletter by sending any e-mail to  
[aegoregon-subscribe@groups.electricembers.net](mailto:aegoregon-subscribe@groups.electricembers.net)

## Thanks For Supporting AEG

Members, Volunteers, Aspect Consulting, Cornforth Consultants Inc., DOGAMI, Earth Dynamics LLC., Federal Highways (FHWA), Geobrugg, GRI, Hi-Tech Rockfall, Holt Drilling, NACSE, ODOT, Oregon State University, Pacific Geophysics, PBS Engineering & Environmental, PLI Systems, Portland State University, Western Oregon University

## 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.

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: Aine Mines, AEG Oregon Chapter Chair-Elect, Cornforth Consultants, Inc., 10250 SW Greenburg Road, Suite 111, Portland, OR 97223, e-mail: [amines@ccilt.com](mailto:amines@ccilt.com), phone (503) 452-1100. 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.

