

The Official

AEG OREGON CHAPTER NEWSLETTER

<http://www.aegoregon.org>

Meeting Details:

Date: Tuesday, January 16th, 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:

February 20, 2024--PSU

Professor Jill Marshall

March 5, 2024--

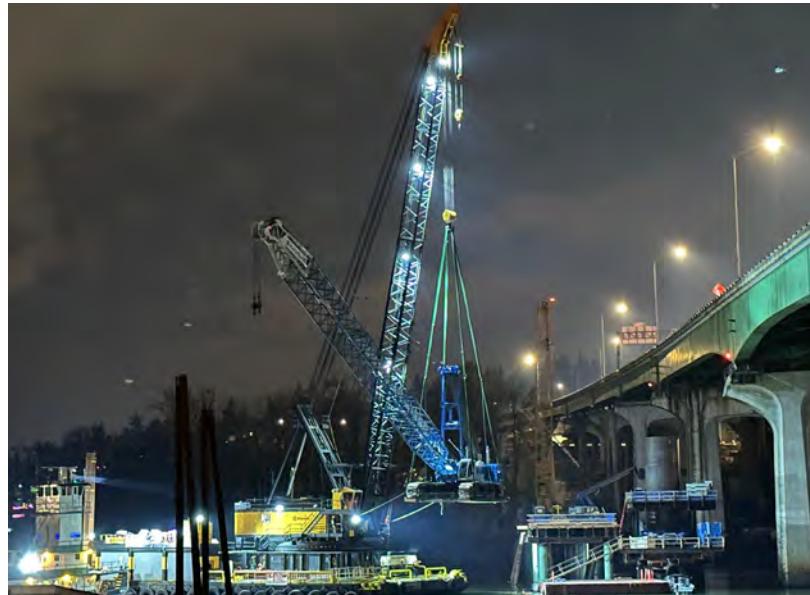
Distinguished Jahns
Lecturer Cynthia Palomares

April 16, 2024--AEG

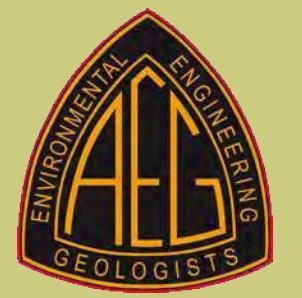
President Sarah Kalika

May 2024--Student Poster
Night

I-205 Abernethy Bridge: Testing the Limits of Geotechnical Solutions to Respond to Challenging Geologic Conditions



The Oregon Department of Transportation is performing seismic retrofit and widening of the existing I-205 Abernethy Bridge over the Willamette River. The Abernethy Bridge is approximately 1/2-mile-long and supported on 14 piers bearing on a combination of spread footings and driven pile foundations due to the varying depth of basalt bedrock. Highly variable and challenging geologic conditions along the bridge alignment included deep liquefiable soil deposits along the east bank of the river, highly variable basalt bedrock elevation on the west bank of the river, and artesian groundwater conditions within the basalt. Seismic analyses for the retrofit and widening included 2D non-linear site response analysis of the bridge alignment to evaluate liquefaction, pore pressure development, and the deformation response of the bridge profile. The analyses indicated deep seismically induced lateral deformations at some pier locations resulting in significant foundation demands. A combination of large diameter drilled shafts and ground improvement was selected to support the structure and provide resistance to seismic-induced lateral deformations. The design included 6- to 12-foot-diameter drilled shafts extending to over 240 feet in depth as well as jet grout and deep soil mixing ground improvement up to 150 feet below the ground surface. This case history presents an overview of the geologic conditions, seismic design challenges and foundation solutions, highlighting unique aspects of the project design.



*Geologists have a
saying - rocks
remember.*

Neal Armstrong



Eric Paslack, PE, Shannon & Wilson, Inc.



Eric Paslack is a project manager with 15 years of experience in geotechnical engineering for landslides, earthquake engineering, bridge foundations, retaining walls, and pavement design. He joined Shannon & Wilson in 2009 after completing his BS and MEng degrees in Civil Engineering at Oregon State University. As project manager for ODOT and local agency transportation projects, Eric has experience on more than 40 ODOT projects with Shannon & Wilson including the OR38: Scottsburg Bridge Replacement project, OR217 Auxiliary Lanes project, and the I-205 Abernethy Bridge project.

James Walters, PE, Shannon & Wilson, Inc.



James Walters joined Shannon & Wilson in 2013 after completing his BS and MS degrees in Civil Engineering at Oregon State University. James is a project manager and design lead for major infrastructure projects throughout the Pacific Northwest and is currently the project manager and Engineer of Record for the Abernethy Bridge and Van Buren Bridge Projects. His expertise includes subsurface characterization, deep foundation design and construction, and ground improvement.

*Geologists have a
saying - rocks
remember.*

Neal Armstrong



Tom Braibish, PE, Oregon Department of Transportation



Tom has 25 years of geotechnical engineering experience working on projects throughout the Pacific Northwest. He received a BS in Geology and MS in Civil Engineering from Portland State University and worked as a consulting geotechnical engineer in the late 1990's to early 2000's prior to joining ODOT in 2003. While at ODOT Tom has taken on roles as a geotechnical design engineer, consultant project manager, manager of the Geo/Hydro/HazMat section, and is currently the Region 1 Senior Geotechnical Engineer. He has taught several geotechnical engineering courses as an adjunct instructor at Portland State University. Tom served as a subject matter expert on the I-205 Abernethy Bridge project and coordinated reviews of the analysis and design of drilled shafts and ground improvements.

Message from the Chapter Chair

Happy New Year Oregon Chapter,

I hope you all had an opportunity to take a break from *geologizing* in the last few weeks to spend time enjoying family and friends over the holidays. This time of year, I typically reflect on the last twelve months and take note of things I'm grateful for. Regarding the Oregon Chapter, I am grateful for a solid group of dedicated professionals who invest their time and energy to make connections with colleagues and students, share technical knowledge, and generally help advance the practice. We received end of year Chapter reports from National, and I am proud to report that Oregon ranks number 6 out of 27 in terms of overall membership (see table below). It is apparent at our monthly Chapter meetings that you all enjoy the opportunity to connect and contribute to the success of the Chapter. Many of you are past board members, and if it were not for your efforts the Chapter would not be the success it is today. Thank you!

1	Carolinas	313	11	Chicago	122	21	Nisqually	64
2	International	290	12	Sacramento	117	22	Nashville	57
3	Southern California	226	13	Greater Pittsburgh	106	23	Kansas City/Omaha	54
4	Texas	199	14	St Louis	89	24	San Joaquin Valley	49
5	Mile High	196	15	Great Basin	82	25	Lower Mississippi	45
6	Oregon	186	16	Southern Nevada	81	26	Inland Empire	44
7	Puget Sound	173	17	Utah	79	27	Alaska	38
8	San Francisco Bay Area	163	18	Atlanta	72			
9	New York/Philadelphia	149	19	New England	68			
10	DC/Maryland/Virginia	132	20	Phoenix	65			



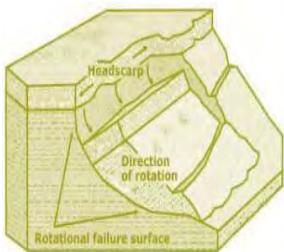
On the topic of thank you, I'd like to give a big shout out to Josh Wagner from Global Rope Access for presenting in December on Constructability Considerations for Rockfall Mitigation. Getting a contractor's perspective on challenges and opportunities in contracting rockfall mitigation work added a lot of value to our membership, as evidenced by some lengthy discussion after his talk. Excellent work Josh! Also, I'd like to thank Geobrugg again for their contribution of refreshments at the meeting!

This month will be the annual joint meeting with the Oregon Section of the American Society of Civil Engineers. This month James Walters, Eric Paslack, and Tom Braibish will present an overview of geologic conditions, seismic design challenges and foundation solutions, highlighting unique aspects of project design for an Oregon Department of Transportation project involving performing seismic retrofit and widening of the existing I-205 Abernethy Bridge over the Willamette River. This promises to be an excellent technical presentation that you won't want to miss. Due to capacity limits at Old Market Pub we will be capping attendance to 40 attendees from AEG via Brown Paper Tickets. We hope that you'll all attend.

Next month Jill Marshall, incoming Professor at Portland State University's Geology Department, will present "The Role of Trees in Progressive Rock Failure". We hope you'll come out and broaden to your depth of knowledge on rock slope engineering. See you all then!

Ryan Cole

AEG Oregon Chapter Chair 2023-2024



*Geologists are never at
a loss for paperweights.*

Bill Bryson



TECCO® GREEN Slope Stabilization

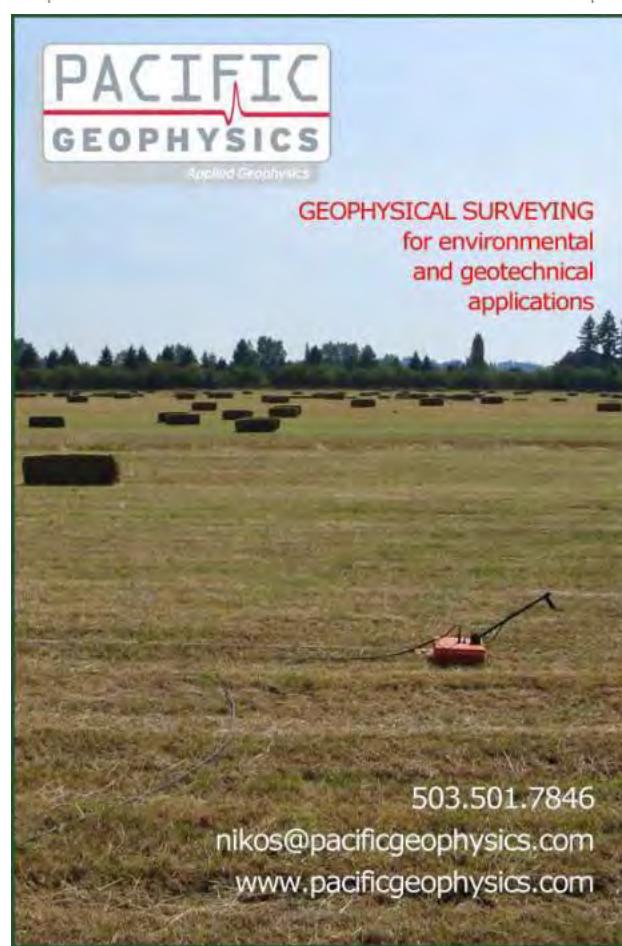
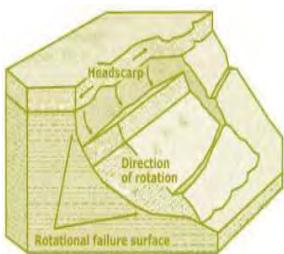
Geobrugg North America, LLC

22 Centro Algodones
Algodones, NM 87001 USA



www.geobrugg.com/tecco

BRUGG
Geobrugg



*Geologists are never at
a loss for paperweights.*

Bill Bryson



Great People, Great Results.

We engineer success stories.

Since 1982, PBS Engineering and Environmental Inc. has been 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



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



Providing Quality
Geophysical Services
since 1984

EARTH DYNAMICS LLC

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

www.earthdyn.com

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





HOLT SERVICES INC

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 learn geology the morning after the earthquake.

Ralph Waldo Emerson

Rock Supremacy

Slope Stabilization
We are a one-stop-shop for your next retaining wall project from a basic cantilevered concrete, battered micropile foundation or a heavy duty anchored soldier pile wall.

Rockfall Mitigation
We are highly skilled in stabilizing rock slopes using pinned Tecco® systems, cable/ring netting, and double twist wire mesh. We also perform rock scaling, rock bolting/doweling and many other rockfall mitigation measures.

Drilling
We have extensive experience in drilling multiple variations of rock bolts/rock dowels, cable anchors, micropiles, rock sockets, tie-backs or horizontal drains in all types of subsurface environments.

Tunnel Rehabilitation
We specialize in rehabilitating or providing new tunnel construction with steel set erection, road heading, tunnel notching, liner removal, and applying shotcrete.

Shotcrete
We use a proprietary formula to effectively seal canals, soil nail walls or rock/soil surfaces. Our mix design is extremely durable and can be colored to match existing native landscapes. We also perform sculpting & staining services.

Landslide Remediation
We have years of experience solving landslide problems with a wide range of solutions to reach the perfect solution.

A wide-angle aerial photograph showing a massive, deep gash in the side of a mountain. The ground is covered in talus and loose rock. A small, isolated structure is visible at the bottom of the slide. The surrounding terrain is rugged and rocky.

541.383.ROCK (7625) | Info@RockSupremacy.com | RockSupremacy.com

65147 N Hwy 97, Bend, OR 97701

Chapter Officers & Committee Chairs



Chair:
Ryan Cole
FHWA Western Federal Lands
ryan.cole@dot.gov



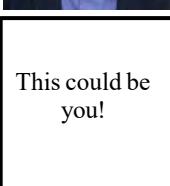
Program Chair:
Nathan Villeneuve
nvilleneuve@gri.com



Legislature Chair:
Sebastian Dirringer
Cornforth Consultants
SDirringer@CornforthConsultants.com

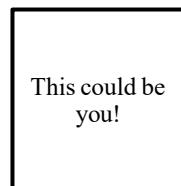


Chair-Elect:
Nikos Tzetas
Pacific Geophysics
nikos@pacificgeophysics.com



This could be
you!

Field-Trip Chair:
Volunteer Needed
Please Help



This could be
you!

Newsletter Editor:
Volunteer Needed
This could be you!

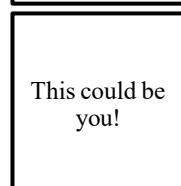


Treasurer:
Nicholas Farny
FHWA Western Federal Lands
nicholas.farny@dot.gov



This could be
you!

Membership Chair:
Volunteer Needed
Please Help



This could be
you!

Webpage Editor:
Volunteer Needed
This could be you!



Secretary:
Justin McCarley
Cornforth Consultants
Justin.McCarley@cclit.com



PSU Student Chapter President:
Marge Belcastro
Portland State University



Past-Chair:
Aine Mines
Cornforth Consultants
Aine.Mines@cclit.com

**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.electricmembers.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@cclit.com, phone (503) 452-1100. Electronic media is preferred. Deadline for submittal is the 25th of the month. Advertising: business card size \$100/yr; 1/4 page \$200/yr; 1/2 page \$350/yr; 1 page \$450/yr.

