In November 2012, voters in the Bend Park & Recreation District (BPRD) approved a $29M General Obligation Bond Measure to fund a comprehensive slate of recreation, trail, park and open space projects throughout the community. The Colorado Avenue Dam Safe Passage Project is widely-regarded as the most technically-challenging, but with the greatest potential for economic benefit to the community and all of central Oregon.

With the completion of BPRD’s Farewell Bend Park in 2005 and Riverbend Park in 2010, river floating and paddling has transformed this section of the Deschutes River into a flotilla of inner tubes, air mattresses, standup paddleboards, kayaks and all things in-between. The dam represents a potentially lethal barrier to river users who must exit the river and portage around the dam to continue down river to take-outs at BPRD’s Mackay, Miller Landing, Columbia and Drake Parks. The solution and basis for the project is to provide safe passage for river users over the dam, in addition to constructing a state-of-the-art whitewater park with improved fish passage and wildlife habitat. The project includes three channels (bypass for safe passage, a natural channel to enhance fish habitat and riparian vegetation, and an adjustable whitewater channel for recreational and competition paddlers). The whitewater channel with will be the first of its kind in the Pacific Northwest and provide a unique venue for whitewater enthusiasts from around the northwest.

The dam immediately downstream from the Colorado Avenue Bridge has a long history dating back to mill operations in the early 1900s. The original dam was constructed in 1915 to raise the pool elevation to form a mill pond for log storage and sorting for one of the largest pine lumber mill operations in the U.S. The dam consisted of concrete piers with horizontal wood lagging or “weir boards” to control the water level. An original vehicular bridge was also constructed at this location and provided an integral east-west crossing for mill operations, pumice mining, and public access to Mt. Bachelor and the Cascade Lakes Highway. By the mid-1970s, the original bridge had deteriorated and was removed to make way for construction of the current “Pedestrian Bridge” which at the time, handled both traffic...
Colorado Avenue Dam Safe Passage Project, Bend Park & Recreation District, Deschutes River, Bend, Oregon (continued)

and pedestrians. The Pedestrian Bridge was built in the late 1970s in close proximity to the downstream side of the original dam. The bridge is supported on steel H-piles with approximate 20-foot spans, and is topped with a pre-cast concrete bridge deck. This bridge was used for vehicular traffic for a relatively short period until the current Colorado Avenue Bridge was completed in 1982. The original dam was removed after completion of the Pedestrian Bridge in the late 1970s, and the existing dam was built from atop the new bridge deck. The existing dam consists of 20-foot sections of steel sheet-piling, laterally connected and driven into the river substrate. A critical element of the sheet-pile dam design includes support from the adjacent Pedestrian Bridge structure, located immediately downstream of the dam. The Pedestrian Bridge/Dam structure is owned by William Smith Properties, developer of the Old Mill District, and the bridge forms an integral river crossing for BPRD’s Deschutes River Trail System.

Since preliminary design work began in 2011, Wallace Group has provided geotechnical engineering services as part of the OTAK-led design team during planning, design, permitting and CM/GC selection. In-water construction began in November 2014, and the safe passage, habitat and whitewater elements of the project are scheduled for completion in June 2015. The new Pedestrian Bridge will be open to the public in the fall of 2015.

Wallace Group will provide an historic summary of “Old Mill District” development on this reach of the Deschutes River in addition to the geotechnical challenges, and a current construction status report. For an up-to-date video feed of the Colorado Safe Passage Project, go to www.eyeonbend.com.

Photo of the month Courtesy of Linda Mark

Photograph of the Oso Landslide with the North Fork Stillaguamish River bisecting the landslide debris in the middle ground and some of the February 28, 2015, AEG Professional Forum Time to Face the Landslide Hazard Dilemma: Bridging Science, Policy, Public Safety, and Potential Loss Field Trip attendees in the foreground. Oso Landslide impacted the Oso Steelhead Haven community on March 22, 2014, killing 43 people, impacting 45 homes, and partially destroying SR 530.
Bio: R. Scott Wallace, R.G.

Scott Wallace, R.G., is the President and founder of The Wallace Group, Inc., and has over 27 years of professional consulting and business management experience in the geoscience industry. He is an expert in the geologic systems of central/eastern Oregon and Washington, and has worked extensively for private, municipal, and federal clients on a broad range of environmental, geotechnical, and water resource projects. Scott’s multi-disciplinary, technical expertise includes hydrogeology, geotechnical engineering, environmental assessments and compliance, remedial investigations/feasibility studies, geologic hazards, and water rights. His project management responsibilities include scoping, developing project plans and schedules, staffing, and maintaining financial controls/budgets. He advises clients on technical issues, writes and reviews technical reports and communications, provides expert witness testimony, and has served as a regulatory liaison at the federal, state, and local level.

Scott grew up in Bend, Oregon and returned home in 1997 to start a branch office for a national geo-environmental consulting firm and to raise his family. Scott and his wife Karen have two, children (Spencer 15 and Rachel 11) and he enjoys a variety of outdoor and sports pursuits including fishing, hunting, mountain biking, skiing, golf, ice hockey, and coaching youth hockey/baseball.

Scott is currently serving his second, 4-year term on the Bend Park and Recreation District Board of Directors; serves as the Ad Hoc Committee Chair for the Mirror Pond Working Group; and is a member of the Legislative Affairs Committee for the Bend Chamber of Commerce.

Bio: Mark V. Herbert, P.E., G.E.

Mark Herbert, P.E. is the Principal Geotechnical Engineer for The Wallace Group and has over 37 years of experience performing geotechnical investigations in Oregon and Colorado, including 25 years in Central Oregon. He has conducted foundation investigations, roadway and pavement evaluations, stormwater analysis, slope stability analysis, mass grading and fill assessments, aggregate resource evaluations, groundwater mitigation, dam studies and construction services. Mark has served as Geotechnical Engineer of Record for hundreds of projects throughout the Pacific Northwest, and is a recognized expert on the analysis and development of geotechnical methods applicable to the unique high desert environment of central and eastern Oregon. His experience includes a broad range of commercial, public sector and institutional clients, including local municipalities, national developers, health care providers, school districts, utility companies and heavy construction contractors.

Mark is the Bend Chapter Past-President of the Professional Engineers of Oregon (PEO). His PEO leadership involves exposing Central Oregon high school students to the world of engineering through job shadows, career fairs and scholarship programs, of which Wallace Group is a sponsor. Mark and his wife Kari enjoy Central Oregon’s rural lifestyle and are frequently camping, hiking, kayaking and spending leisure time outdoors at the Oregon Coast and along the McKenzie River.
Message from the Chair

Greetings! It was great to see you in February when we hosted Eldon Gath, PG, EG, the 2014-2015 Richard H. Jahns Distinguished Lecturer in Applied Geology. He gave an interesting and provocative talk on updating California’s Alquist-Priolo Earthquake Fault Zoning Act. Thank you to Eldon for a great presentation and to Dr. Scott Burns, CEG, RG, for a wonderful introduction.

I just got back from the 2015 AEG Professional Landslide Forum, *Time to Face the Landslide Hazard Dilemma: Bridging Science, Policy, Public Safety, and Potential Loss*, which took place February 26-28 at the University of Washington. The conference was a sell-out success and was well-attended by at least a dozen people from the Oregon Section. People from as far away as New Zealand attended the conference. Oregon Section members Dr. Scott Burns, RG, CEG, Professor Emeritus of Geology at Portland State University, and Bill Burns, RG, CEG, Department of Geology and Minerals (DOGAMI) gave oral presentations at the conference.

The conference highlight for me was Saturday’s field trip. In the morning we visited the Panaview Landslide in a residential neighborhood in Everett, Washington. The gracious homeowner invited approximately 100 people (in shifts) into his house and backyard where he and Kathy Troost, LG, PhD, University of Washington, gave us a tour of the landslide threatening his house, which has resulted in the complete loss of one of his neighbor’s houses and made three of his other neighbor’s houses uninhabitable.

Next, we visited the Rowen Landslide, just west of and larger than the Oso landslide in the North Fork Stillaguamish river valley. Alison Duvall, PhD and Sean LaHusen, both from the University of Washington, explained their new research on the Rowan Landslide, which indicates that this event occurred ~600 carbon years ago. Finally, we visited the Oso landslide, where we were provided a humbling incident response overview by Dale Topham, PE, LG of Snohomish County Public Works, followed by an excellent summary of the landslide and Geotechnical Extreme Event Reconnaissance (GEER) team response by members of the GEER team.

Please consider attending the AEG 58th Annual Meeting, in Pittsburgh, Pennsylvania, September 19-26, 2015. Abstracts are due by May 1, 2015. For more information, please visit [http://www.aegannualmeeting.org/](http://www.aegannualmeeting.org/). This year the Oregon Section of AEG will be offering TWO Student Awards to attend the Annual Meeting in Pittsburgh. Students, join AEG for free now to be eligible for these awards! Please see the award details in the newsletter on page 5. In addition, AEG Travel Grants are now available for educators and young professionals; see [http://www.aegannualmeeting.org/#!registration/ch6q](http://www.aegannualmeeting.org/#!registration/ch6q) for details.

We are working on putting the final touches on our proposal to National AEG to host the 2019 AEG Annual Meeting in Portland. We have a great meeting committee that is working on the proposal. Please email me (lmark@esassoc.com) if you’re interested in joining the effort to bring the AEG Annual Meeting to Portland.

If you haven’t renewed your membership to AEG for 2015, now is a great time to do so! AEG provides you with great monthly presentations, networking opportunities, conferences, field trips, professional development opportunities, publications, and career resources. Your AEG membership enables us to provide you with all of these and more member benefits. So, if you haven’t yet become a member or renewed for 2015, please consider becoming a member today! If you have already renewed your membership for 2015, THANK YOU!

I look forward to our next meeting on Tuesday, March 17 at the Old Market Pub when we welcome Scott Wallace, R.G. and Mark Herbert, P.E. of Wallace Group, Inc. They will be speaking about the *Colorado Avenue Dam Safe Passage Project* on the Deschutes River in Bend. This project will provide safe passage for river users over the Colorado Avenue Dam, in addition to constructing a state-of-the-art whitewater park with improved fish passage and wildlife habitat. Scott and Mark will provide an historic summary of Old Mill District development on this reach of the Deschutes River, and will describe the geotechnical challenges of the project and a construction status report.

I hope to see you Tuesday, March 17 at the Old Market Pub!

Cheers,

Linda Mark, RG, CPG
Chair, Oregon Section of AEG

“Keen observation is at least as necessary as penetrating analysis”

*Karl Terzaghi*
Oregon Section of AEG Student Award to Attend 2015 Annual Meeting in Pittsburgh, PA

Two Awards of $1,000 each will be given to two Student Members of the Oregon Section of AEG meeting the following criteria:

- **Completion of the Application for Student Award to Attend the 2015 Annual Meeting** - Application submittal to the Oregon Section Board of AEG due by 10 p.m. on Friday June 19, 2015.

- **Active AEG Oregon Section Student Membership** - Any Student Member of the Oregon Section of AEG is eligible for this award. If you are not currently a Student Member of AEG, you may register for free online at www.aegweb.org.

- **Presenting at the AEG 2015 Annual Meeting in Pittsburgh** - Abstracts for presenting at the 2015 AEG Annual Meeting must be submitted online to AEG no later than May 1, 2015. Those people submitting abstracts should be notified by the AEG Technical Committee of abstract acceptance by June 1, 2015. A copy of the notice of acceptance from the Technical Committee must be submitted with the application.

- **Essay (250 to 500 words)** - Describe in an essay your geologic activities outside of the university classroom and demonstrate how these activities relate to your geologic professional goals. Activities might include attendance at geology-related meetings, professional field trips, mentorship experiences, volunteering in the community, working in a lab, etc.

Complete applications for this award are due no later than 10 p.m., Friday, June 19, 2015. Selection of the award winners is at the sole discretion of the Oregon Section Board of AEG. The Oregon Section Board of AEG reserves the right to not select a winner or winners if there are an inadequate number of submissions or if applicants do not meet the minimum requirements. We expect to decide on the winners of the award by July 1, 2015.

See the Application Form (coming out soon!) for submittal details.

**Additional award opportunities are available to students, including:**

- Complimentary registration from AEG to students who volunteer at the 2015 Annual Meeting.
- Various scholarship and grant opportunities through AEG Foundation (amounts vary), described at http://www.aegweb.org/students-educators/scholarships-grants.

**Not a Student?**

- Check out the Educators and Young Professional Travel Grants: http://www.aegannualmeeting.org/#!registration/ch6q
Below the steep slopes of Mount Washington created by three great rivers, the City of Pittsburgh blends its industrial heritage with its forward focus on technology. Throughout this dynamic urban landscape, past and present collide in land use, environmental impacts, and shifting economic forces. The AEG 2015 Annual Meeting Planning Committee invites you to join us for the “Conference at the Confluence”.

**WYNDHAM GRAND DOWNTOWN**

Discover the 90 distinct neighborhoods of Pittsburgh Pennsylvania when you stay at the centrally located Wyndham Grand Pittsburgh Downtown.

The hotel is located in the Central Business District, also known as the Golden Triangle, at the meeting of the Allegheny and Monongahela Rivers to form the Ohio River. Where occurring skyscrapers and Pittsburgh’s famous three rivers meet, an upscale hotel experience awaits in downtown.

**SPONSORSHIP & EXHIBITOR OPPORTUNITIES**

Event sponsorship is effective advertising that builds lasting recognition and goodwill for your company. We anticipate over 500 professional registrants at AEG2015 in Pittsburgh! We also have a brand new, fully interactive mobile app that provides even more sponsorship opportunities, so be sure to check it out!

**FIELD TRIPS, GUEST TOURS AND SPECIAL EVENTS**

We have an exciting lineup of trips, tours and a very special event this year, an evening aboard the Gateway Clipper. Join us for a reception cruise and see the spectacular city skyline as the sun sets on the three rivers.

**CALL FOR ABSTRACTS**

(Oral and Poster Presentations)

*Do not miss this opportunity to provide an oral or poster presentation at this year’s meeting!*

Abstract submission deadline is May 1, 2015

To submit an abstract go to: www.aegannualmeeting.org
Username: AEG
Password: Pittsburgh2015

(Do not use your AEG Membership Login)
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Karl Terzaghi
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Hans Cloos
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The Oregon Section Newsletter

OREGON SECTION AEG NEWSLETTER is published monthly from September through May. Subscriptions are for members of AEG affiliated with the Oregon Section or other Sections, 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: Scott Braunsten, OR Section AEG Newsletter Editor, PBS Engineering and Environmental, 4412 SW Corbett Avenue, Portland, OR 97239, e-mail: scott.braunsten@pbsenv.com, phone (503) 417-7737. Electronic media is preferred. Deadline for submittal is the 25th of the month. Advertising: business card $100/yr; ¼ page $200/yr; ½ page $350/yr; 1 page $450/yr. Please notify Scott if you have a change to your email or mailing address.

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.