

## Monday, December 17

Time	Activity		
7:00am-8:00am	Check-in/Breakfast/Networking		
8:00am-8:30am	Opening Statements		
8:30am-9:15am	Opening Keynote: Gary Christensen		
	Track 1	Track 2	Track 3
9:30am-12:00pm	<p><b>Central Plant Optimization:</b> Substantial energy savings result from considering the integrated operations of the chillers, boilers, cooling towers and pumping systems in a central plant. This discussion will focus on how best to optimize the design and operation of these systems and will review various case studies as examples.</p> <p><i>Presenter: Bruce Dobbs, NW Natural</i></p>	<p><b>Design and Specification of Pervious Concrete Pavements:</b> This workshop covers how to design pervious concrete pavement structures, to use standard specifications for pervious concrete and to apply current hydrological design methods and procedures to the use of pervious concrete as a stormwater management method.</p> <p><i>Presenter: Andrew Marks, Puget Sound Concrete Specification Council</i></p>	<p><b>Integrated Lighting Strategies:</b> This workshop will explore concepts of integrated design, daylight and architectural form, electric lighting integration, available technology, software tools, load analysis, integration into HVAC, and integrated design tools and functional commissioning tools for lighting controls.</p> <p><i>Presenters: Tom Hudson and Eric McDaniel, Green Building Services; James Benya, Benya Lighting Design</i></p>
12:00pm-1:00pm	Lunch		
1:00pm-2:30pm	<p><b>Rainwater Harvesting: Strategies and Economics for Water Conservation:</b> Focused on the benefits of water conservation, this presentation will interest the entire design team. Audience members will gain a greater understanding of rainwater harvesting concepts, and how to successfully integrate with a building's whole water system.</p> <p><i>Presenter: John Gray and Scott</i></p>	<p><b>Lighting Retrofits and Controls:</b> In recent years there has been an explosion in the number and variety of T8 and T5 fluorescent lamps, Pulse Start and Ceramic Metal Halide lamps, LEDs, and High-performance electronic ballasts. Luminaires have also changed to keep pace with these new lamps. Occupancy and daylight controls have evolved and are often required by code. This class will address the options</p>	<p><b>Carbon Neutral Buildings and Communities:</b> This cross-sector panel will address how the design community can meet the 2030 Challenge and understand and lessen their carbon impact. The panelists will present climate change, carbon footprint and environmental impact measurement methods, design tools and new technologies, and case studies from varying perspectives.</p>

	<i>Holum, Interface Engineering; Tracy Cork and Jeff Tilleman, Intelligent Community Services, Inc.</i>	for updating existing spaces with new or modified lighting systems.  <i>Presenter: Michael Lane, Lighting Design Lab</i>	<i>Presenters: Paul Schwer, PAE Consulting Engineers; Michael Armstrong, City of Portland; Clark Brockman, SERA Architects; Damon Fordham, OR Dept. of Transportation</i>
2:30pm-3:00pm	Break		
3:00pm-4:30pm	<b>Designing and Paying for On-site Renewables:</b> On-site renewable energy systems are on the rise. They are used not only for generating electricity, but also for heating and cooling. The presenters will use "real world" examples to discuss design considerations and performance and maintenance issues of renewable options, including combined heat and power, electricity generation from waste methane, cold geothermal, and biomass heating, among others.  <i>Presenters: Conrad Brown and Jeff Jackson, PAE Consulting Engineers</i>	<b>LEED Building Performance:</b> Findings from a study of 120 LEED certified buildings actual compared to predicted energy use.  <i>Presenters: Mark Frankel and Cathy Turner, New buildings Institute</i>	<b>Salmon Safe: Site Tour:</b> Walking tour of Nike's salmon friendly site management practices to earn Salmon Safe certification.  <i>Presenter(s): Dan Kent, Salmon Safe; Lonny Knabe, Nike</i>
4:30pm-6:30pm	Networking Social		

## Tuesday, December 18

Time	Activity		
7:30am-8:00am	Check-in/Breakfast		
	Track 1	Track 2	Track 3
8:30am-10:00am	<b>Standard 189P - Incorporating Green Building Practices into Building Codes:</b> While green building is gaining speed, it is not yet mainstream, in part because the building industry and local governments lack a model building code that provides a baseline standard for high performance buildings. This	<b>Stormwater Management and Site Civil Design in LID Projects: Case Study Examples from the Puget Sound Area:</b> Learn about design and modeling of innovative low-impact features, as well as modeling as a tool to optimize designs and minimize	<b>Integrated Practice:</b> The pieces are coming together for an explosion of integration; but how does it all fit together? The need for open standards to support integration is evident, and the bottom line is that better communication equals higher value. This session will include live demonstration case studies

	<p>session will discuss the multi-stakeholder effort behind the development of ASHRAE Standard 189.1. The standard aims to be an ANSI-accredited standard that can be incorporated into local building codes.</p> <p><i>Presenter: Tom Marseille, Stantec</i></p>	<p>construction costs.</p> <p><i>Presenters: Robin Kirschbaum &amp; Matt Brennan, Herrera Environmental Consultants</i></p>	<p>of real time collaboration on a global scale.</p> <p><i>Presenter: Kimon Onuma, Onuma Inc.</i></p>
10:00am-10:30am	Break		
10:30am-12:00pm	<p><b>State Energy Efficiency Program (SEED): State of Oregon's pursuit for High Performance Public Buildings:</b> A look at how this program has evolved from its primary focus on energy efficient design to an emphasis on verification of energy measures and post occupancy performance. Includes program overview, innovative technologies, and case studies. Looks at how some of these buildings are actually performing in "real life", and compares those results to the modeled predictions.</p> <p><i>Presenters: Mike Rosenberg &amp; Glenn Hansen, OR Dept. of Energy</i></p>	<p><b>Green on the Ground:</b> Strategies for Sustainable Construction Sites</p> <p><i>Presenters: Maria Cahill, MGH &amp; Associates; Rob Fallow, Fortis Construction</i></p>	<p><b>BIM-ing Green, The Ripple Effect of Building Information Modeling (BIM):</b> An overview and case studies of how BIM supports sustainable decisions and design. A change is happening in the industry and understanding what BIM is about is critical to understanding this change. BIM is all about connecting the dots, linking information to graphics and supporting decision making, BIM can start very simple and continue to evolve.</p> <p><i>Presenter: Kimon Onuma, Onuma Inc.</i></p>
12:00pm-1:00pm	Lunch		
1:00pm-2:30pm	<p><b>Underfloor Air Distribution: Updated Guidelines and Lessons Learned (4 hour workshop):</b> This presentation will summarize current design guidelines and lessons learned covering a range of topics from recent research through practical advice based on experience in</p>	<p><b>Public Private Collaboration and the Livable Community:</b> Using New Columbia, a Portland mixed-use/mixed-income redevelopment project, as an example, Josh will explore the intersection of civil engineering, public agencies, sustainable design and</p>	<p><b>Nike Campus Sustainability Tour:</b> The Nike Campus is among the greenest in the nation - nearly all of the buildings on the Nike campus are Energy Star rated buildings, the Ken Griffey achieved LEED-EB Gold certification, site management follows Salmon Safe protocol,</p>

	<p>the field. Specific topics will include:</p> <ul style="list-style-type: none"> <li>▪ UFAD overview and comparison to overhead systems</li> <li>▪ Diffusers, system design, and stratification</li> <li>▪ Underfloor plenums</li> <li>▪ Thermal comfort and indoor air quality</li> <li>▪ Load calculations, energy use</li> <li>▪ Installation and commissioning</li> </ul> <p><i>Presenter: Fred Bauman, Center for the Built Environment at the University of California - Berkeley</i></p>	<p>community development.</p> <p><i>Presenters: Josh Lighthipe, KPFF; Nancy Merryman, RMB Architects</i></p>	<p>and more.</p> <p><i>Presenter: Lonny Knabe, Nike</i></p>
2:30pm-3:00pm	Break		
3:00pm-4:30-pm	<p><b>Underfloor Air Distribution Continued</b></p>	<p><b>Innovation Clearinghouse:</b> Various product manufacturers of innovative design tools and products that aide in the integration of green building practices will present their products and answer questions.</p>	<p><b>Nike Campus Sustainability Tour:</b> The Nike Campus is among the greenest in the nation - nearly all of the buidings on the Nike campus are Energy Star rated buildings, the Ken Griffey achieved LEED-EB Gold certification, site management follows Salmon Safe protocol, and more.</p> <p><i>Presenter: Lonny Knabe, Nike</i></p>