9th ANNUAL

ENERGY & CONSTRUCTION BEST PRACTICES SUMMIT

SUSTAINING OUR NATION'S INFRASTRUCTURE

June 18-19, 2014
at Centralia College

Pacific Northwest Center of Excellence for Clean Energy
cleanenergyexcellence.org

Construction Center of Excellence
RTC Renton Technical College
constructioncenterofexcellence.com

Day 1 • June 18, 2014: Sustaining Our Nation's Infrastructure

8 – 9 a.m.
Registration, Vendor Pavilion Open • HWC
Coffee and Continental Breakfast served in Vendor Pavilion

9 – 9:10 a.m.
Opening Ceremony • Corbet Theatre
Color Guard, Civil Air Patrol/Lewis County Squadron
National Anthem, Julie Caukins

9:10 – 9:20 a.m.
President's Welcome • Corbet Theatre
Dr. James Walton, President, Centralia College
Master of Ceremonies Barbara Hins-Turner, Executive Director, Center of Excellence for Clean Energy

9:20 – 10 a.m.
Opening Keynote • Corbet Theatre
The Stand-Up Economist: Carbon and the Economy by Yoram Bauman, Ph.D the world's first and only stand-up economist.
Yoram will provide an entertaining and thought-provoking overview of the current science on climate change, the impact on Washington's economy, and the opportunities, solutions and actions that can help the state achieve a prosperous and sustainable future.

10 – 10:30 a.m.
Break
Coffee and networking in Vendor Pavilion

10:30 a.m. – Noon
Executive Panel • Corbet Theatre
The Implications of Carbon Constraints for Sustainability, the Economy & the Workforce
An executive panel, representing a range of industry sectors, will address implications of the changing climate for the state's economy, sustainability and workforce development.
***Moderator**:*
Alan Hardcastle, Ph.D., Senior Researcher, Washington State University Energy Program
***Panelists**:*
David Allen, Executive VP, McKinstry
Larry Brown, Legislative & Political Director, Aerospace Machinists 751; Board Member, State Board for Community and Technical Colleges
Dr. Ron Langrell, President, Bates Technical College (American College & University Presidents Climate Commitment)
Keith Phillips, Energy Policy Advisor, Governor's Executive Policy Office
Stacy Smedley, Preconstruction Manager/Sustainability, Skanska USA Building

Noon – 1 p.m.
Oregon City High School Presentation • HWC
Light Stick Manufacturing
Ruslan Volosevych, Yellow Belt Leader, Oregon City High School Student
Dr. Bob Topping, Instructor
Platinum Sponsor Presentations

1:15 – 3 p.m.
Breakout Sessions in Industry Tracks • HWC
Discussion of key learnings and major themes from the day

Energy • Cafeteria
***Facilitator:** Arlene Abbott, M. Ed, Consultant, Polar Star Consulting*
Lee Hall, Smart Grid Project Mgr, Bonneville Power Administration
Chris Janak, Manager Workforce Planning, Puget Sound Energy
Bill Messenger, WIA Labor Liaison, Washington State Labor Council AFL/CIO
***Scribe:** Tom Barr*, Faculty, Edmonds Community College

Construction • WSC Lobby
***Facilitator:** Shana Peschek, Director, Construction Center of Excellence*
David Allen, Executive VP, McKinstry
Sean Bagsby, Alternative Energy Director, VP, Puget Sound Electrical J.A.T.C. Labor Trustee, IBEW Local 46
Colleen Hall Barta, Director of Development, Institute for Environmental Research & Education (IERE)
Dan Clarkson, VP Energy Efficiency Finance Corp., Managing Member of Energy Capital Solutions
***Scribe:** Ann Avary,* Director, Northwest Center of Excellence for Marine Manufacturing and Technology

Advanced Manufacturing • WSC 109
***Facilitator:** Mary Kaye Bredeson, Executive Director, Center of Excellence for Aerospace & Advanced Manufacturing*
Larry Brown, Legislative & Political Director, Aerospace Machinists 751; Board Member, State Board for Community and Technical Colleges
Frank Nichols, CEO/President, Silicon Forest Electronics
Stacy Smedley, Preconstruction Manager/Sustainability, Skanska USA Building
***Scribe:** Kelsey Marinoni,* Executive Assistant, CoE Aerospace & Advanced Manufacturing

3 – 3:30 p.m.
Break
Cookies in Vendor Pavilion

3:30 – 5 p.m.
Wrap-up Session • HWC
What are the top impacts and priorities for each industry?
Facilitator reports by industry.
Reflection: Martha Henderson, Ph. D., Director, Graduate Program on the Environment, The Evergreen State College

5 – 6 p.m.
Wine Time and Silent Auction • HWC
Silent auction closes 15 minutes after live auction begins.

6 – 8 p.m.
Signature Crab Feed and Scholarship Auction • HWC
Hosted by Bob and Judy Guenther

*9th Annual Energy & Construction Best Practices Summit * Registration is required: http://cleanenergyexcellence.org/summit*
At Centralia College - 600 Centralia College Blvd., Centralia, WA 98531

Day 2 • June 19, 2014: Cascadia Earthquake Readiness Workshop Agenda

Seminar Description:
A catastrophic earthquake of magnitude 9.0 or a series of earthquakes ranging from 8.0 to 9.0 will hit the Pacific Northwest. It's not a question of IF this will occur, but WHEN. The Cascadia Subduction Zone spans the west coast from northern California to Vancouver, British Columbia. It has produced more than 40 large magnitude earthquakes in the past 10,000 years. The most recent full-rupture zone quake occurred 314 years ago with an estimated magnitude 9. History has shown that these large quakes occur every 300 to 500 years and scientists tell us we're due.

Buildings and bridges will collapse, dams and energy systems will fail, all modes of transportation will cease, and many people will perish when the big Cascadia quake hits. Our region's infrastructure will remain poorly prepared to meet the threat unless we start taking action. Is our workforce prepared to inspect, reinforce, and rebuild?

8:30 – 9 a.m.
Registration, Vendor Pavilion Open • HWC
Coffee and Continental Breakfast served in Vendor Pavilion

9 – 9:15 a.m.
Welcome, Centralia College Board of Trustees • HWC
Master of Ceremonies: Matt Cutts, P.E., Critical Infrastructure Program Manager, U.S. Army Corps of Engineers, Portland District; Immediate Past President, SAME Portland Post; Captain, U.S. Coast Guard (ret.)

9:15 – 9: 30 a.m.
Legislative Perspective • HWC
Sara Crumb, State Director, or
Dena Horton, SW Washington Outreach Director for Senator Maria Cantwell (WA-D)

9:30 – 10:15 a.m.
Executive Panel • HWC
The Current Preparedness State of Transportation, Ports, and Energy Infrastructure in the Pacific Northwest
Response to and recovery from a catastrophic incident such as the Cascadia Earthquake will overwhelm local and state resources. In the event of an extreme event, sectors will join forces to respond. Many disparate private and public organizations are key elements of our local economies and/or operate and maintain critical infrastructure in the Pacific Northwest. The Federal Emergency Management Agency, Washington Emergency Management Division, Oregon Office of Emergency Management, and Portland Bureau of Emergency Management are working together with the private and public sectors to plan for and recover from a catastrophic event.
Moderator:
Matt Cutts, P.E., Critical Infrastructure Program Manager, U.S. Army Corps of Engineers, Portland District; Immediate Past President, SAME Portland Post; Captain, U.S. Coast Guard (ret.)
Panelists:
Robert Ezelle, Director, Washington State Emergency Management
Pat Massey, Regional Director, National Preparedness Division, FEMA Region X
Carmen Merlo, Director, Portland Bureau of Emergency Management
Dave Stuckey, Director, Oregon Office of Emergency Management

10:15 – 10:45 a.m.
Break
Coffee and networking in Vendor Pavilion

10:45 – 11:30 a.m.
Panel Discussion, the Triple 3 Resilience Target • HWC
Yumei Wang & Kent Yu recently drafted a paper on resilience engineering frameworks. Panelists in this session will provide their perspective on the paper as related to their area of expertise. The following is an edited excerpt from the paper: "Because the Northwest lies along an active plate boundary subduction zone, our region is prone to extreme events like earthquakes and tsunamis. Earthquake shaking can last for several minutes, tsunamis can strike with only 15 to 25 minutes of warning, and coastal lands can experience regional subsidence of one to two meters or more.

To save lives and reduce economic losses, we need to learn from past disasters and develop resilience engineering frameworks to adapt to these extreme events. For this purpose, engineers need to move the performance goal beyond life safety to resilience, while resilience engineering frameworks should be developed to focus on achieving reliable critical infrastructure services. Long range action plans should achieve the Triple 3 Resilience Target to meet immediate needs in three days, basic needs in three weeks, and modernized infrastructure with improved services in three years."
Moderator:
Matt Cutts, P.E., Critical Infrastructure Program Manager, U.S. Army Corps of Engineers, Portland District; Immediate Past President, SAME Portland Post; Captain, U.S. Coast Guard (ret.)
Panelists:
Toby Brewer, Chief Dam Safety Engineer, Tacoma Power
Eric Heidmann, Chief Security and Continuity Officer, Bonneville Power Administration
Deanna Henry, Emergency Preparedness Coordinator, Oregon Dept. of Energy

11:30 – 12:30 p.m.
Lunch/Break

Day 2 • June 19, 2014: Cascadia Earthquake Readiness Workshop Agenda

12:30 – 2 p.m.
Breakout Sessions

WSC 109
SESSION 1: Earthquake & Tsunami Impact on Ports and Waterways

Current Earthquake Scenario: While many coastal ports will be flooded by the tsunami, the large ports at Portland, Seattle, Tacoma, and Vancouver B.C. are, fortunately, not in the tsunami inundation zone. However, these and other ports are likely to experience severe currents, which can damage ships and piers within harbors. Also, ports tend to be vulnerable to earthquakes because the ground around and beneath natural waterways often consists of water-saturated soils that become unstable when shaken.

Shipping channels may also be disrupted by a Cascadia earthquake. Sections of the Columbia and lower Willamette rivers, for instance, are likely to be closed to shipping due to underwater landslides and the presence of debris where ground failures have caused parts of structures, such as bridges and electrical transmission towers and lines, to topple into the river.

Session Focus: The focus of this session will be a discussion of the improvements necessary to achieve the Triple 3 Resilience Target for water transportation infrastructure, including liquefied natural gas (LNG), considering interdependencies with other sectors. The Session Moderator will guide the conversation between panelists and participants, going through several phases of the Resilience Engineering Framework:

- Conduct gap analysis of Ports and Waterways critical infrastructure with respect to a Cascadia Earthquake & Tsunami, including interdependencies with other sectors;
- Determine viable strategies for reducing the impact of a Cascadia Earthquake & Tsunami; and
- Propose infrastructure improvements for higher resilience to meet the Triple 3 Resilience Target.

Moderator:
Ann Avary, Executive Director, Northwest Center of Excellence for Marine Manufacturing & Technology
Panelists:
Dr. Andre Barbosa, Assistant Professor, Oregon State University
Randy Clark, Contingency Planning Security Specialist, U.S. Coast Guard Marine Safety Unit
Pat Corcoran, Coastal Hazards Outreach Specialist, Oregon State University Extension
Mike Ott, P.E., Channels and Harbors Operations Project Manager, U.S. Army Corps of Engineers, Portland District
Scribe: *Shana Peschek,* Director, Construction Center of Excellence

OUTCOME: Top ten list of recommended Ports and Waterways infrastructure improvements to meet the Triple 3 Resilience Target, including interdependencies with other sectors.

WSC Lobby
SESSION 2: Emergency Management/Earthquake Scenarios (with input from engineers)

It is the responsibility of the state and local jurisdictions to ensure that our communities are safe and protected during emergencies. State and local emergency plans involve the development of realistic, executable contingency plans that are synchronized with all partners and are tested and improved through regular, quarterly exercises. The focus of this session is to discuss how earthquake scenarios (including exercises and training sessions) are currently developed and implemented, and to assess how additional input from engineers and scientists can improve these scenarios.

Moderator:
Linda Crerar, Director, Center of Excellence for Homeland Security - Emergency Management (HS-EM), and
Paul McNeil, Lead Faculty, HS-EM program,
Panelists:
Jeff Hepler, C.P.G., Readiness Section, USACE Portland District, U.S. Army Corps of Engineers, Portland District
Eric Holdeman, Director, Pacific Northwest Economic Region (PNWER) Center for Regional Disaster Resilience
Dr. Haizhong Wang, Assistant Professor, Transportation, Oregon State University
Scribe: Kelly Hale, Special projects coordinator, Center of Excellence for HS-EM

OUTCOME: Recommended list of action-items to improve current earthquake scenarios. Recommended list of improvements to infrastructure to achieve the Triple 3 Resilience Target.

Hanson Boardrooms
SESSION 3: Energy Education and Training: A Call to Action
Energy Educators Association Summer Meeting

The governor has put out a call for carbon pollution reduction and clean energy action through Executive Order 14-04. Energy Educators play a pivotal role in preparing a resilient energy-sector workforce -- facilitating movement toward building a clean energy economy. Let's explore how we answer this call. Join us and share your best educational ideas and materials!

Facilitators:
Larry Owens (Shoreline CC)
Carol Lewellen (Edmonds CC)
Tom Barr (Edmonds CC)
Alison Pugh (Edmonds CC)

9th Annual Energy & Construction Best Practices Summit
Registration - http://cleanenergyexcellence.org/summit

Day 2 • June 19, 2014: Cascadia Earthquake Readiness Workshop Agenda

Cafeteria

SESSION 4: Earthquake Impact on Energy Infrastructure (including hydropower generation facilities and transmission lines)

There are 55 major hydroelectric projects located on the Columbia River and its tributaries. Thirty are federal dams owned by the U.S. Army Corps of Engineers or the Bureau of Reclamation. Twenty five are publicly and privately owned. These give the Pacific Northwest the largest hydroelectric system in the world. What happens when this system, its waterways and highways, the electrical power grid and Oregon's Critical Energy Infrastructure Hub on liquefied soils are threatened?

Current Earthquake Scenario: Current Earthquake Scenario: Widespread power outages are expected throughout the Pacific Northwest, and throughout the NW-SW interties which connect the entire west coast grid to Southern California, Arizona and beyond. Dams and power transmission lines will fail; and the electrical grid will go down west of the Cascades. Vulnerable components of substations and transformers will trip off line. A substantial drop in power demand will ripple back to hydroelectric generation facilities, halt power production, and require spillway gate operations to prevent dam overtopping. Emergency generators will experience outages if they are not seismically secured. Liquid fuel deliveries will be delayed by days or months due to bridge, overpass & pipeline failures. Everyone should be prepared to live without electricity, and we all need to take actions to address the identified risks in advance.

Session Focus: The focus of this session will be a discussion of the improvements necessary to achieve the Triple 3 Resilience Target for energy infrastructure, considering interdependencies with other sectors. The Session Moderator will guide the conversation between panelists and participants, going through several phases of the Resilience Engineering Framework:

- Conduct gap analysis of critical energy infrastructure with respect to a Cascadia Earthquake, including interdependencies with other sectors;
- Determine viable strategies for reducing the impact of a Cascadia Earthquake; and
- Propose energy infrastructure improvements for higher resilience to meet the Triple 3 Resilience Target.

Moderator:

Barbara Hins-Turner, Executive Director, Pacific Northwest Center of Excellence for Clean Energy

Panelists:

Toby Brewer, Chief Dam Safety Engineer, Tacoma Power
Dr. Dan Gillins, Assistant Professor, Geomatics, Oregon State University
Eric Heidmann, Chief Security and Continuity Officer, Bonneville Power Administration
Allison M. Pyrch, P.E., G.E., Geotechnical Engineer, Hart Crowser, Inc.
Dave Scofield, P.E., Geotechnical Design Section, U.S. Army Corps of Engineers, Portland District
Scribe: *Daniela Todesco, P.E.,* Senior Engineer, WEST Consultants, Inc.

OUTCOME: Top ten list of recommended Critical Energy infrastructure improvements to meet the Triple 3 Resilience Target, including interdependencies with other sectors.

The largest hydroelectric system in the world — the jewel of the Pacific Northwest — is located within the Columbia River Basin.

2 – 2:30 p.m.

Break

Cookies in the Vendor Pavilion

2:30 - 3:30 p.m.

Report Out Session • HWC

Improving Cascadia Earthquake & Tsunami Emergency Management Scenarios and Improving Resilience of Ports, Waterways, and Energy Infrastructure to achieve the Triple 3 Resilience Target in the Pacific Northwest

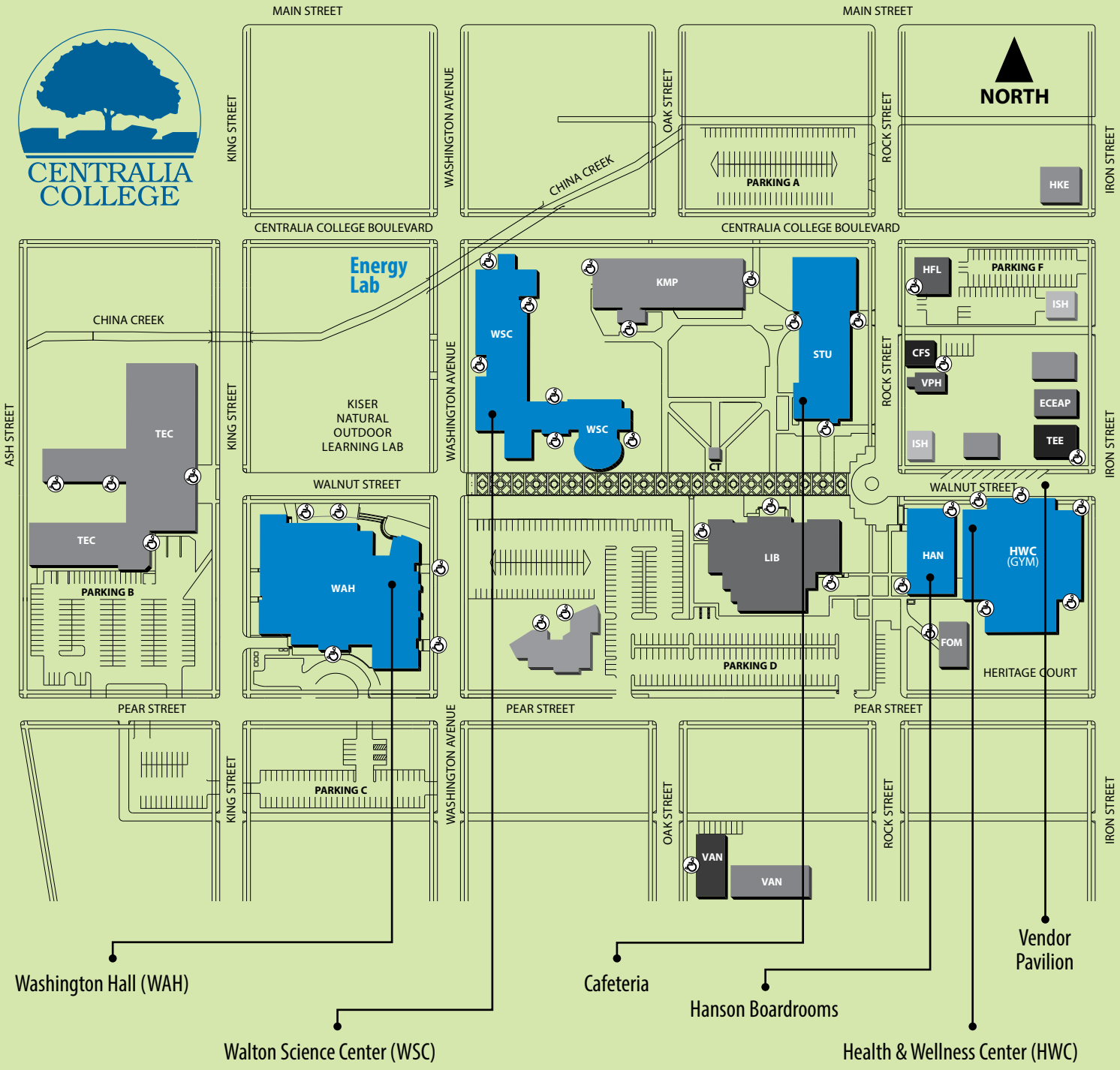
Moderators of Breakout Sessions 1, 2 and 3 will spend approximately 15 minutes summarizing the collective wisdom gathered during their sessions.

This information will be compiled and made available to all workshop participants, and will also be provided to FEMA Region X, the U.S. Army Corps of Engineers, Washington Emergency Management Division, Oregon Office of Emergency Management, Portland Bureau of Emergency Management, Cascadia Region Earthquake Workgroup, the Pacific Northwest Economic Region, and other public and private organizations involved with Cascadia Earthquake and Tsunami readiness, response and recovery.

Closing Comments and Next Steps:

Matt Cutts, P.E., Critical Infrastructure Program Manager, U.S. Army Corps of Engineers, Portland District; Immediate Past President, SAME Portland Post; Captain, U.S. Coast Guard (ret.)

9th Annual Energy & Construction Summit - Centralia College
Registration: http://cleanenergyexcellence.org/summit



Centralia College is a clean energy producing campus.

Be sure to visit our Energy Ball and photovoltaic dual power producing Energy Lab in the KNOLL.
Join us for the 9th Annual Energy & Construction Best Practices Summit, June 18-19, 2014

Registration is required - visit http://cleanenergyexcellence.org/summit

Center of Excellence for Clean Energy

CONSTRUCTION CENTER OF EXCELLENCE

CENTER OF EXCELLENCE for Aerospace and Advanced Materials Manufacturing

HOMELAND SECURITY EMERGENCY MANAGEMENT CENTER OF EXCELLENCE

CENTER OF EXCELLENCE for Marine Manufacturing & Technology