85th Annual Pacific Northwest
ASEE Conference
"Focusing on Student Success"
March 31 – April 2, 2016
Boise State University

Conference Registration: http://tinyurl.com/PNW-ASEE-2016		**Lodging:** http://tinyurl.com/ASEE-PNW-2016-hotel
Contact:		The Grove Hotel
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Things to do in Boise: http://www.boise.org/

Program Committee:		
Agnieszka Miguel (Seattle University)	Steve Beyerlein (University of Idaho)	David Hurwitz (Oregon State University)
Casey Cline (Boise State University)	Sean St. Clair (Oregon Institute of Tech.)	Matthew Kuhn (University of Portland)
Krishna Pakala (Boise State University)	Marilyn Dyrud (Oregon Inst. of Tech.)	Carolyn Labun (Univ. of British Columbia)
Rich Bankhead (Highline College)		

Conference Schedule:

Thursday, March 31, 2016	
3:00 PM	Registration (Grove Hotel)
4:00 PM	Tour of BSU College of Engineering (meet in the Grove Hotel lobby)
5:00 PM	Poster Session (Stueckle Sky Center, Boise State University)
6:00 PM – 8:00 PM	Dinner and Keynote Presentation: **The Use of Space Exploration to Market Science and Engineering to Students**, *Dr. Steve Swanson, NASA astronaut (ret.) and Distinguished Educator in Residence* (Stueckle Sky Center, Boise State University)

The Use of Space Exploration to Market Science and Engineering to Students
Dr. Steven R. Swanson, Distinguished Educator in Residence, NASA Astronaut (ret.)

Using real, interesting examples of what engineers and scientists do is a productive way to show students that a career in STEM can be creative and rewarding. There are many examples of this, but one I know and use is space exploration. Exploration itself is an interesting and adventurous endeavor. However, when one adds in space, then science and engineering are combined into this mix, along with a lofty goal for our country and species. This combination makes space exploration a wonderful example of what is possible in the many fields of science and engineering. I will demonstrate this concept with a video of my personal experience in space and explain how I use it to show students there are interesting, creative careers in science and engineering.

Click here for Dr. Swanson's bio

Friday, April 1, 2016 (Cedar, 2nd floor)	
7:30 AM	Registration
8:00 AM	Breakfast and Business Meeting
9:20 AM	Welcome from Dr. Amy Moll, Dean, College of Engineering, Boise State University
9:30 AM	Break (Ivy, 2nd floor)

Friday, April 1, 2016 **9:45 AM – 10:45 AM**		
Break & Coffee Room (Ivy, 2nd floor)		
Session 1A (Clearwater, 3rd floor) **Outreach and K-12** **Moderator: Marilyn Dyrud,** **Oregon Institute of Technology**	**Session 1B (River Fork, 3rd floor)** **Teaching Professional Skills I** **Moderator: R. Eric Landrum** **Boise State University**	**Session 1C (White Water, 3rd floor)** **Technology in the Classroom I** **Moderator: Sean St.Clair** **Oregon Institute of Technology**
Seeing in the Dark and through Walls: Using IR Cameras in Outreach *Thad Welch, Boise State University*	Engineering Students as Global Citizens: A Collaborative, Interdisciplinary Approach *Anthony D Songer and Karen Breitkreuz, Boise State University*	Crystal Structure Visualization and Engagement using 3D Printing *Elton Graugnard, Boise State University*
A Teacher's Journey Integrating Engineering in a Middle School Science Classroom and the Effects on Student Attitudes *Christie Jilek and Noah Salzman, Boise State University*	The Skills Summit: Creating a Permanent Venue to Decrease Graduates' Time to Competence in the Workplace *Steven Vallachia, Eric Landrum, and Lisa Giacumo, Boise State University*	Assessment of Long-Term Effects of Technology Use in the Engineering Classroom *Sean St.Clair, Oregon Institute of Technology*
The Impact of Volunteering at a Girls Outreach Activity on Community Formation *Donna Llewellyn and Janet Callahan, Boise State University*	Development and Implementation of Physical Models for Transportation Geotechnics *David S. Hurwitz and H. Benjamin Mason, Oregon State University*	

Friday, April 1, 2016 **11:00 AM – 12:00 PM**		
Break & Coffee Room (Ivy, 2nd floor)		
Session 2A (Clearwater, 3rd floor) **Project-Based Learning** **Moderator: James Ferguson,** **Boise State University**	**Session 2B (River Fork, 3rd floor)** **Teaching Professional Skills II** **Moderator: Richard Bankhead,** **Highline College**	**Session 2C (White Water, 3rd floor)** **Technology in the Classroom II** **Moderator: Kevin Chang,** **University of Idaho**
Project Discovery and Evolution in a Beginning Machine-Learning Course for Students in a Traditional-EE Program *Mehmet Vurkaç, Oregon Institute of Technology*	Proposed Strategy to Improve Student Success and Reduce New Hire Engineer Time to Productivity *Robert E. Jones and Patricia Henderson, Boeing*	A Flipped Classroom and Distance Education Approach... *Idalia Villaanueva and Jackson Graham, Utah State University*
Successes and Lessons from a Multi-disciplinary Capstone Project *Lynn Catlin, Sondra Miller, and Lisa Giacumo, Boise State University*	How to Measure and Improve Students' Attitudes toward Team Projects *Carol Sevier, Gary Hunt, Shaung Youn (Yonne) Chyung, and Donald Winiecki, Boise State University*	Leveraging New Platforms to Provide Students with a Realistic SoC Design Experience *Andrew Robert Danowitz, Cal Poly, San Luis Obispo*
Creativity and Critical Thinking in a Micro Hydro-Turbine Project *James R. Ferguson, Boise State University*	Changing Student Behavior through the Use of Reflective Teaching Practices in an Introduction to Engineering Course at a Two-Year College *Richard Bankhead, Tessa Olmstead, Higline College*	Developing a Web-Based System Framework for Transportation Engineering Coursework *Kevin Chang, University of Idaho*

Friday, April 1, 2016 12:00 PM – 1:30 PM (Cedar, 2nd floor)
Lunch, ASEE PNW Awards Keynote Presentation: **Stimulating Change in STEM Education: Engaging Faculty at the Department Level**, *Dr. Susan Shadle, 2015 Idaho Professor of the Year*

Stimulating Change in STEM Education: Engaging Faculty at the Department Level
Dr. Susan Shadle, 2015 Idaho Professor of the Year

Evidence-based instructional practices are well-documented by education research to be effective in supporting student learning. However, their adoption is not widespread in higher education. As part of an NSF WIDER project, we are engaged in an institutional change project aimed at engaging all STEM (Science, Technology, Engineering and Math) faculty to explore and adopt evidence-based instructional practices. This presentation will describe our work in stimulating faculty exploration, with special attention to faculty in different stages of adoption of new teaching ideas.

Click here for Dr. Shadle's bio

Friday, April 1, 2016 1:45 PM – 2:45 PM		
Break & Coffee Room (Ivy, 2nd floor)		
Session 3A (Clearwater, 3rd floor) **Improving Student Engagement** **Moderator: Patricia Henderson, Boeing**	**Session 3B (River Fork, 3rd floor)** **Hands On Learning** **Moderator: Jong Yoon, University of Washington, Bothell**	**Session 3C (White Water, 3rd floor)** **Assessment and Feedback** **Moderator: Mehmet Vurkac, Oregon Institute of Technology**
Engaging Academically Diverse Undergraduate Students in Mechanical Engineering Research *John W. Bridge, University of Washington, Bothell*	A Mechanical Design Lab Modified Using Additive Manufacturing Allowing Unlimited Shape *Charles Pringle and Craig Johnson, Central Washington University*	Digital Badges in Engineering for Middle School Rural Learners *Barbara Peterson and Tiffany Coulson, NLA Group, Wapato, WA, UW*
Improving Student Engagement and Retention in a Computer Science 1 Course *Marissa Schmidt, Amit Jain, and Mason Vail, Boise State University*	Development of an Elective Lab Section for Electricity and Magnetism with Transmission Lines *Eve Klopf, Aaron Scher, Mehmet Vurkaç, Nicholas Babcock, Kirwan Fox, Eric Storey, and William Weaver, Oregon Institute of Technology*	Developing an Instrument to Assess the Effects of Pre-College Engineering Participation on the Experiences of First-Year Engineering Students *Noah Salzman, Boise State University*
	CAD vs. Modeling, Design, and Analysis *W. Jong Yoon, University of Washington, Bothell*	Exploring the Efficacy of Different Feedback Provided on Learners' Engineering Drawing Ability *Quincy Conley and Lija Lin, BSU/East China Normal University*

Friday, April 1, 2016 3:00 PM – 5:30 PM		
Break & Coffee Room (Ivy, 2nd floor)		
Workshop 4A (Clearwater, 3rd floor)	**Workshop 4B (White Water, 3rd floor)**	
Active Learning Strategies for a Flipped Classroom *Megan Frary, Boise State University*	Using Reflective Practices to Impact Student Success in Engineering Courses *Richard Bankhead and Tessa Olmstead, Highline College*	

Friday, April 1, 2016 6:00 PM – 8:00 PM
Dinner at the Bardenay Restaurant and Distillery, Basque Block (meet in the Grove Hotel lobby at 6pm)

Saturday, April 2, 2016 8:00 AM – 9:30 AM (Cedar, 2nd floor)
Breakfast
Keynote Presentation: **Student Owned Design Platform & Instrumentation**, Alex Wong, *Digilent*

Student Owned Design Platform & Instrumentation
Alex Wong, Digilent

A key component to enhancing the learning experience is the use of student-owned equipment where the students are freed from the constraints associated with traditional laboratory environments. This presentation discuss how affordable, student-owned hardware along with free CAD tools or software can be used to teach electrical and computer engineering in an attractive yet challenging way, demonstrating the high abstraction level of theory with spectacular and fun projects.

Click here for Alex Wong's bio.

Saturday, April 2, 2016 9:30 AM – 11:45 AM	
Break & Coffee Room (Ivy, 2nd floor)	
Session 5A (Clearwater, 3rd floor) **9:30 AM - 10:30 AM**	**Workshop 5B (White Water, 3rd floor)** **9:30 AM - 11:45 AM**
Innovative Teaching Methods I **Moderator: Jeff Heys,** **Montana State University**	Meaningful Assessment of Teaching and Learning Outcomes *Eric Landrum, Boise State University*
Educating Tomorrow's Construction Leaders: Cultivating Innovation and Multidisciplinary Teamwork on a Historical Reconstruction Project *R. Casey Cline, Boise State University*	
An Open Source Approach to Numerical Methods in Engineering *Jeffrey J.Heys, Montana State University*	
Teaching Computational Modeling Modules in Undergraduate Materials Science and Engineering (MSE) Courses *Lan Li, Boise State University*	

Saturday, April 2, 2016 11:45 AM – 12:45 PM (Cedar, 2nd floor)
Lunch and Roundtable Discussion