

# ASEE/PSW-2009 Conference Program

National University, 9388 Lightwave Ave, San Diego, CA 92123

(free parking is available at the NU parking lots)

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Registration \$150/person is required to attend the conference

Student's registration (\$25) does not include the dinner

Additional dinner ticket is available for \$50, but must be purchased in advance

## Thursday, March 19, 2009

## Day One Program

8:00am-8:45am	<b>Registration and Continental Breakfast</b> (Room: Lobby)
8:45 am 9:00am	<b>Welcome Address</b> (Room: 114, 116 and 118 (combined)) <b>Dr. Howard Evans</b> School of Engineering and Technology, National University
9:00am-9:50am	<b>Keynote Speech</b> (Room: 114, 116 and 118 (combined)) <b>"Recent Developments in Solid-State Nanostructures"</b> <b>Dr. Marvin White</b> Professor and Director of Sherman Fairchild Solid State Studies Center, Lehigh University, Allentown, Pennsylvania and former NSF Director.
10:00am-10:50am	<b>Keynote Speech</b> (Room: 114, 116 and 118 (combined)) <b>"How to Succeed as Next-Generation Engineers?"</b> <b>Dr. Shu Chien</b> University Professor of Bioengineering and Medicine, Director, Institute of Engineering in Medicine University of California, San Diego, La Jolla, California
10:50am-11:00am	<b>Coffee Break</b> (Room: Lobby) Coffee, Tea, Soda and Cookies
11:00am- 12:00am	<b>Panel Discussion</b> (Room: 114, 116 and 118 (combined)) <i>Problem Driven Agile Teaching in Engineering, Science and Technology</i> Moderator: Walt Loscutoff and Panelists: Pradip P. Dey, Thomas M. Gattton, Gordon W. Romney, Arun Datta, Hassan Badkoobehi, Ogun Tigli and Albert P. Cruz
12:00am-1:00pm	<b>Buffet Lunch</b> (Room: Lobby) <b>Lunch for registered attendees only</b>
	**** Three parallel presentation sessions this afternoon ****

<p><b><u>Thursday, March 19, 2009</u></b></p> <p>1:00pm – 2:45pm (Room : 131)</p>	<p><b>Presentation Session 1: Innovative Teaching Methods</b></p> <p>15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Richard K. Herz and Walt Loscutoff</b></p> <p><i>PSW108: SimzLab - Interactive simulations of physical systems for active individual and team learning, Richard K. Herz (UC San Diego) and Gregory E. Ogden (University of Arizona)</i></p> <p><i>PSW110: A Conceptual Approach To Developing A Universal Remote Laboratory For Education And Research In Electrical Power Engineering, Hassan Mohamed-Nour (CSU Long Beach)</i></p> <p><i>PSW101: Using Tablet PCs to Enhance Student Performance in an Introductory Circuits Course, Amelito G. Enriquez (Cañada College)</i></p> <p><i>PSW111: Teaming Multi-level Classes on Industry Projects, Lizabeth Schlemer and Jose Macedo (Cal Poly San Luis Obispo)</i></p> <p><i>PSW129: Agile Teaching The Integration of Ruby on Rails As An Agile Teaching Tool in IT Curricula, Gordon Romney (National University)</i></p>
<p>1:00pm – 2:45pm (Room: 133)</p>	<p><b>Presentation Session 2: Issues in Engineering Curricula</b></p> <p>15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Kurt Colvin and Hassan Badkoobehi</b></p> <p><i>PSW113: Redevelopment of a Systems Engineering Course into Blended (Hybrid) Mode, Kurt Colvin (Cal Poly, San Luis Obispo)</i></p> <p><i>PSW106: A Junior Level FPGA Course in Digital Design Using Verilog HDL and Altera DE-2 Board For Engineering Technology Students, Tariq Qayyum (Cal Poly Pomona)</i></p> <p><i>PSW150: Curricula for Using Waste Tires in Civil Engineering Applications, Ding Xin Cheng, Joel Arthur, (CSU Chico) and Albert M. Johnson (California Integrated Waste Management Board)</i></p> <p><i>PSW115: A Framework for Developing Courses on Engineering and Technology for Non-Engineers, Kate Disney (Mission College), John Krupczak (Hope College) and Vince Bertsch (Santa Rosa Jr. College)</i></p> <p><i>PSW139: Comparison of BOKI and BOK2 to NAU's Undergraduate Civil Engineering Program, Debra Larson (Northern Arizona University)</i></p>

<p><b>Thursday, March 19, 2009</b>          1:00pm – 2:45pm          (Room: 135)</p>	<p><b>Presentation Session 3: Technology in Engineering Education</b>          15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Estelle M. Eke and Arun Datta</b></p> <p><i>PSW112: Computer Applications in Mechanical Engineering</i>, Estelle M. Eke (CSU Sacramento)</p> <p><i>PSW159: CIERRA and CIBRED for Educating the Next Generation of Engineers</i>, Thomas MacCalla, Jacqueline Caesar, and Arun Datta (National University Community Research Institute)</p> <p><i>PSW132: Understanding Histograms, Probability and Probability Density Using MATLAB</i>, Gordana Jovanovic Dolecek (Electronic Institute INAOE) and Fred Harris (SDSU)</p> <p><i>PSW147: Teaching Online in Electrical Engineering; Best Practices Experiences and Myths</i>, Bruno Osorno (CSU Northridge)</p> <p><i>PSW137: The Role of Computing in Education: The Next Revolution</i>, Frederick Harris(UNR), Gordon Lee (SDSU), Stuart H. Rubin (SPWAR), T.C. Ting (University of Connecticut), Billy Gaston (Anautics) and Gongzhu Hu (Central Michigan University)</p>
<p>2:45pm-3:00pm</p>	<p><b>Coffee Break</b> (Room: Lobby ) Coffee, Tea, Soda and Cookies</p>
<p>3:00pm – 4:45pm          (Room: 131)</p>	<p><b>Presentation Session 4: Experiments with Teaching Innovations</b>          15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Reza Raeisi and Pradip P. Dey</b></p> <p><i>PSW114: Laboratory Projects Appropriate for Non-Engineers and Freshman Engineering Students</i>, Kate Disney (Mission College) and John Krupczak (Hope College)</p> <p><i>PSW116: Multipoint Remote Temperature Monitoring And Data Acquisition System Using Rf Technology</i>, Reza Raeisi and Deepak Anand (CSU Fresno)</p> <p><i>PSW107: Design, Fabrication, And Analysis Of Photodynamic Therapy Monitoring System For Use In Esophageal Carcinoma</i>, Gemunu Happawana (CSU Fresno), A. Premasiri (SMU), Arye Rosen (Drexel U)</p> <p><i>PSW102: Photonics Research and Education at California Polytechnic State University</i>, Xiaomin Jin, Dennis Derickson, Simeon Trieu, and Samuel O. Agbo (Cal Poly San Luis Obispo)</p> <p><i>PSW103: Longitudinal Contact with Individual Students as a Route of Encouraging Self-Determination in Chemical Engineers</i>, Paul Blowers (University of Arizona)</p>

<p><b><u>Thursday, March 19, 2009</u></b></p> <p>3:00pm – 4:45pm (Room:133)</p>	<p><b>Presentation Session 5: Recent Issues in Engineering Education</b> 15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: David Lanning and Kiran George</b> <i>PSW119: Prerequisite Skills Testing as an Indicator of Student Retention</i>, David Lanning (Embry-Riddle)</p> <p><i>PSW122: Is There a Correlation Between Conceptual Understanding and Procedural Knowledge in Introductory Dynamics?</i> Lora Goodwin, Brian Self, and James Widmann (Cal Poly San Luis Obispo)</p> <p><i>PSW117: The Capstone Design Experience in the Mechanical Engineering Department at California State University- Fullerton</i>, Jesa H Kreiner, Peter W. Othmer and Timothy Lancey (CSU Fullerton).</p> <p><i>PSW123: Catapult in Dynamics Courses</i>, Lawrence Fong and Brian Self (Cal Poly San Luis Obispo)</p> <p><i>PSW151: Learning Communities Improve Retention in Engineering and Computer Science</i>, Raman Menon Unnikrishnan and Ricardo V. Lopez (CSU Fullerton)</p>
<p>3:00pm – 4:45pm (Room: 135)</p>	<p><b>Presentation Session 6: Trends in Engineering Educations</b> 15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Micah Lande and Samuel Afuwape</b> <i>PSW124: Using Model Eliciting Activities in a Dynamics Course</i>, Teresa M. Ogletree, Brian Self, and James Widmann (Cal Poly San Luis Obispo)</p> <p><i>PSW125: Classifying Student Engineering Design Project Types</i>, Micah Lande (Stanford University)</p> <p><i>PSW126: Development of a Student-Centered Hands-on Laboratory Experiment of Chemical Detection using Micro-cantilever Sensor and Optical Lever Amplification Technique</i>, Geon S. Seo and Eniko T. Enikov (University of Arizona)</p> <p><i>PSW152: Laboratory Projects Introduced in Teaching Manufacturing Processes Course</i>, Jiancheng Liu (University of the Pacific)</p> <p><i>PSW135: Integrating Design Application And Communication Skills Into Senior Design Courses</i>, James Helbling (Embry-Riddle Aeronautical University)</p>
<p><b><u>Thursday, March 19, 2009</u></b></p> <p>5:00pm-5:30pm</p>	<p><b>YOU MUST NEED DINNER TICKET TO ATTEND THIS EVENT</b> (registered participants get their tickets from the registration booth, if you need additional dinner ticket, please pay \$50 per ticket in advance, no extra ticket will be available at the registration booth)</p> <p><b>Trip to 4Points Sheraton Hotel for Banquet</b> (Transportation is available, if you need rides, please contact Dr. Amin)</p>

6:00pm – 9:00pm	<p><b>Banquet and Awards Distribution</b> 4Points Sheraton Hotel in Kearny Mesa 8110 Aero Dr, San Diego, CA 92123</p>
7:00pm-7:20pm	<p><b>Dinner Speech</b> <b><i>Cultivating Collaboration and Interdisciplinary Practice</i></b> <b>Dr. Thomas MacCalla</b> VP of National University and Executive Director of NUCRI</p>
7:30pm-8:20pm	<p><b>Deans' Round Table Discussions (Q&amp;A)</b> <b>Moderator: Dr. Howard Evans</b> Dean, School of Engineering and Technology, National University</p>
<u>Friday, March 20, 2009</u>	<p style="text-align: center;"><b>Day Two Program</b></p> <p style="text-align: center;">**** Three parallel presentation sessions this morning ****</p>
8:00am – 8:30am	<p><b>Registration and Continental Breakfast</b> (Room: Lobby)</p>
8:30am-10:30am (Room: 117)	<p><b>Presentation Session 7: Frontiers in Engineering Education</b> 15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Gordon Romney and Kyle A. Watson</b></p>
	<p><i>PSW130: Problem-based Learning: Implementation of Efficient Two Factor Authentication for University Computer Systems,</i> Gordon Romney (National University)</p> <p><i>PSW154: Using an On-line Survey Tool to Streamline Outcomes Assessment,</i> Phillip R. Rosenkrantz (Cal Poly Pomona)</p> <p><i>PSW156: Is “Dewey’s Experience” Synonymous with the Current Usage of the Term?</i> Donna M. Schaeffer (Marymount University) and Patrick C. Olson (National University).</p> <p><i>PSW146: Engineering 101: Peer Teaching with LEGO NXT Robotic,</i> Stephen Beck, Joshua Brent, Thomas Brown, Agostino Cala, Eniko T. Enikov, Richard Lucio III (University of Arizona)</p> <p><i>PSW158: CIBRED: Engineering Education on Cyberinfrastructure with a multidisciplinary approach for non-engineering students,</i> Arun K. Datta (NUCRI), Jacqueline Caesar(National University),Julie Schuman(Virginia Tech), Stephen Cammer(Virginia Tech), Daphne Rainey(NSF) and Oswald Crasta(Virginia Tech)</p>
8:30am – 10:30am (Room:133)	<p><b>Presentation Session 8: High Tech Engineering Education</b> 15 minutes presentation and 5 minutes Q&amp;A per paper</p> <p><b>Session Chairs: Fred Harris and Shekar Viswanathan</b></p>
	<p><i>PSW133: MATLAB-Based Demo Program for Discrete-Time Convolution,</i> Gordana Jovanovic Dolecek (INAOE) and Fred Harris (SDSU)</p>

<p>8:30am – 10:30am (Room:145)</p>	<p><i>PSW138: Potential Value of Toys in Engineering Education</i>, Said Shakerin (University of the Pacific)</p> <p><i>PSW155: Bio-molecular Engineering Verified by High Sensitivity Detection</i>, Claudia Lee(UVP, LLC), Andrew Zepfel (Claremont McKenna College), Nina Timberlake(Scripps College), Larry Grill(Pitzer College) and Sean Gallagher(UVP, LLC)</p> <p><i>PSW128: Teaching Classical Control to Mechanical Engineers via Take-Home Experimental Setup Based on Microcontrollers</i>, Vasco D. Polyzojev, Eniko T. Enikov (University of Arizona)</p> <p><i>PSW142: From Sequential to Parallel</i>, Ranjan K. Sen (Microsoft) and Pradip Peter Dey (National University)</p> <p><b>Presentation Session 9: Paradigm Shift in Engineering Education</b> 15 minutes presentation and 5 minutes Q&amp;A per paper <b>Session Chairs: Yusuf Oztruk and Alireza Farahani</b></p> <p><i>PSW143: Expanding Engineering Education through Undergraduate Research Experience in Micro-Robotic Drug Delivery</i>, Eniko T. Enikov and Malcolm T. Gibson (University of Arizona)</p> <p><i>PSW144: TOWARDS A JOINT DEGREE PROGRAM IN AMBIENT COMPUTING</i>, Yusuf Ozturk, Emrah Orhun, and Chris Bowerman (SDSU)</p> <p><i>PSW131: Finite Element Analysis Tutorials for an Undergraduate Heat Transfer Course</i>, Kyle A. Watson and Ashland O. Brown (University of the Pacific)</p> <p><i>PSW104: Use of Concept Maps to Build Student Understanding and Connections Among Course Topics</i>, Paul Blowers (University Arizona)</p> <p><i>PSW105: Distance Learning and Cognitive Load Theory to Enhance Computer Programming for Mechanical Engineers: Qualitative Assessment</i>, Thomas J. Impelluso (SDSU)</p> <p><i>PSW120: Application and Practice of Sustainable Development in Engineering</i>, Hassan Badkoobei (National University)</p>
<p>10:30am-10:40am</p>	<p><b>Coffee Break</b> Coffee, Tea, Soda and Cookies</p>
<p>10:40am – 11:05am</p>	<p><b>Keynote Speech:</b> <b><i>“Innovations in Undergraduate Bioengineering Education”</i></b> (Room:114, 116 and 118 (combined)) <b>Dr. Melissa Kurtis Micou</b> University of California-San Diego, La Jolla, California</p>
<p>11:10am-11:35am</p>	<p><b>Concluding Speech: <i>“When Did Engineering Become so Cool? Engaging a New Generation”</i></b>. (Room:114, 116 and 118 (combined)) <b>Dr. David T. Hayhurst</b> Dean, College of Engineering, San Diego State University, San Diego, CA</p>

11:35am-12:00pm	<b>Conclusion Remarks</b> (Room: 114, 116 and 118 (combined)) <b>Dr. Mohammad Amin, Conference Chair</b> <b>Dr. Debra Larson, ASEE/PSW Chair</b>
12:00pm-1:00pm	<b>Buffet Lunch</b> (Room: Lobby) <b>Lunch for registered attendees only</b>
1:00pm-2:00pm	<b>ASEE/PSW Board Meeting (only Board Members)</b> (Room: 117)

### ASEE-PSW-2009 Conference Organizing Committee

**Conference Chair:** Dr. Mohammad Amin, National University  
**Conference Co-chair:** Dr. Lal Tummala, San Diego State University  
**Conference Chief Advisor:** Dr. Pradip Dey, National University  
**Conference Host:** Dr. Howard Evans, SOET Dean, National University  
**Event Management Chair:** Professor Albert Cruz, National University  
**Conference Moderator:** Dr. Thomas Gatton, National University

#### Committee Members

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Dr. Alireza Farahani, National University  
Dr. Gordon Romney, National University  
Dr. Shekar Viswanathan, National University  
Dr. Ron Uhlig, National University  
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Dr. Pelin Fu, National University  
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