Wednesday, October 3rd

Track 1 - 1:30 - 4:30pm

Workshop: A Workshop on How Learning Works
Maura Borrego (National Science Foundation, USA)
Guy-Alain Ammoussou (National Science Foundation, USA)
Louis Everett (National Science Foundation, USA)
Susan Finger (National Science Foundation, USA)
Zhanjing (John) Yu (National Science Foundation, USA)

Track 1 - 5:30 - 8:30pm

Workshop: Evaluation of Educational Research and Development Projects
Zhanjing (John) Yu (National Science Foundation, USA)
Maura Borrego (Virginia Tech, USA)
Louis Everett (National Science Foundation, USA)
Susan Finger (National Science Foundation, USA)
Don Millard (National Science Foundation, USA)

Track 2 - 1:30 - 4:30pm

Workshop: Learning Agile Through Active Learning Activities
Jennifer Polack-Wahl (University of Mary Washington, USA)
Karen Anwalt (University of Mary Washington, USA)

Track 2 - 5:30 - 8:30pm

Workshop: Using Student Scrums for Course and Capstone Projects
Tom Reichlmayr (Rochester Institute of Technology, USA)

Track 3 - 1:30 - 4:30pm

Workshop: Assessing Professional Skills for ABET
Phillip Thompson (Seattle University, USA)
Denny Davis (Washington State University, USA)
Steven Beyerlein (University of Idaho, USA)
Michael Trevisan (Washington State University, USA)
Jay McCormack (University of Idaho, USA)
Howard Davis (Washington State University, USA)

Track 3 - 5:30 - 8:30pm

Workshop: Training students to become better raters: Raising the quality of self- and peer-evaluations using a new feature of the CATME system
Richard Layton (Rose-Hulman Institute of Technology, USA)
Matthew W Ohland (Purdue University, USA)
Misty Loughry (Georgia Southern University, USA)
Track 4 - 1:30 - 4:30pm

Workshop: What were we thinking? Critically examining our beliefs about the purposes and goals of engineering and engineering education
Russell Korte (University of Illinois at Urbana-Champaign, USA)
John Krupczak, Jr (Hope College, USA)
Mani Mina (Iowa, USA)
William Grimson (Dublin Institute of Technology, Dublin Ireland, Ireland)

Track 4 - 5:30 - 8:30pm

Workshop: Teaching Engineering Design to Middle and High School Students using STEAM Machines™
Shawn Jordan (Arizona State University, USA)
Odesma Dalrymple (Arizona State University, USA)
Nielsen Pereira (Western Kentucky University, USA)

Track 5 - 1:30 - 4:30pm

Charles Severance (University of Michigan, USA)

Track 5 - 5:30 - 8:30pm

Workshop: Case Study Teaching in Software Development Curricula
Thomas Hilburn (Embry-Riddle Aeronautical University, USA)
Massood Towhidnejad (Embry-Riddle Aeronautical University, USA)
Salamah Salamah (Embry-Riddle Aeronautical University, USA)

Track 6 - 1:30 - 4:30pm

Workshop: Interactive Education Tools for Earth Systems and Sustainability Applications
Linda Hinnov (Johns Hopkins University, USA)
Andreas Spanias (ASU / SenSIP Center / School of ECEE, USA)
Karthikeyan Natesan Ramamurthy (Arizona State University, USA)
Girish Kalyanasundaram (Arizona State University, USA)

Track 6 - 5:30 - 8:30pm

Workshop: Project-Enhanced Learning in Engineering Science Education
Razi Nalim (IUPUI, USA)
Manikanada Rajagopal (IUPUI, USA)
Robert Helfenbein (Indiana University--IUPUI, USA)

Track 7 - 1:30 - 4:30pm

Workshop: Teaching Computer Security Literacy to the Masses: A Practical Approach
Doug Jacobson (Iowa State University, USA)
Julie Rursch (Iowa State University, USA)
Joseph Idziorek (Iowa State University, USA)

Track 7 - 5:30 - 8:30pm

Workshop: It's More Than Coding: Using Video Scenarios to Engage Students in Computing
Madalene Spezialetti (Trinity College, USA)

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Special Session: Teaching Teamwork and Communication Skills in Core Engineering Courses
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Jeff Graham (XOR Systems, United Kingdom)

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Brandon Barrett (Purdue University, USA)
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Chad Gotch (Washington State University, USA)

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Marie Paretti (Virginia Tech, USA)
Jack Lesko (Virginia Tech, USA)

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T2G: Engineering in International Contexts 2
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Mats Daniels (Uppsala University, Sweden)
Can Kultur (Bilkent University, Turkey)
Lori Russell Dag (Bilkent University, Turkey)
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Special Session: A practitioner's perspective on teaching technical writing
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Special Session: Creating Learning Environments that Support Intrinsic Motivation: Exploring the Alternatives
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Jonathan Stolk (Franklin W. Olin College of Engineering, USA)
David E. Goldberg (University of Illinois, USA)
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T4C: Beyond the Classroom: Preparing Faculty to Enable Student Success
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Chair: Emily L Allen (San Jose State University, USA)

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Catalyzing Collaborative Conversations
Chair: Peter A Jamieson (Miami University, USA)

T4E: Developing a Classification Scheme for "Introduction to Engineering" Courses
Catalyzing Collaborative Conversations
Chair: Kenneth Reid (Ohio Northern University, USA)

T4F: Communicating an Engineering Curriculum via Concept Maps
Catalyzing Collaborative Conversations
Chair: Jennifer French (Massachusetts Institute of Technology, USA)

T4G: Global Software Engineering Collaboration
Catalyzing Collaborative Conversations
Chair: Wook-Sung Yoo (Fairfield University, USA)

Global Software Engineering Collaboration
Wook-Sung Yoo (Fairfield University, USA)
Stephen T Frezza (Gannon University, USA)
Friday, October 5th

10:00 AM - 10:50 AM

F1A1: Teams, Communication and Profession 2

Panel: Ethics in Engineering Case Study
Deborah Limb (Boeing, USA)

11:00 AM - 11:50 AM

F1A2: Engineering in International Contexts 3

Panel: Engineering and Development: Facilitating Successful Project Work in Diverse Global Contexts
Brent Jesiek (Purdue University, USA)
Julia Thompson (Purdue University, USA)
Anne Dare (Purdue University, USA)
James Huff (Purdue University & Harding University, USA)
William Oakes (Purdue University, USA)
Juan Lucena (Colorado School of Mines, USA)
Kurt Paterson (Michigan Technological University, USA)
Richard Vaz (Worcester Polytechnic Institute, USA)

10:00 AM - 11:50 AM

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Chair: Deborah Schenberger Munro (University of Portland & Donald P. Shiley School of Engineering, USA)

A Sophomore Capstone Solid Modeling Experience: Virtual Dissection and Reassembly of Legacy Drawings
Edwin Odom (University of Idaho, USA)
Steven Beyerlein (University of Idaho, USA)
Jay McCormack (University of Idaho, USA)
Clarence Porter (University of Idaho, USA)

Physical Modeling in Design Projects: Development and Testing of a New Design Method
Vimal Viswanathan (Texas A&M University, USA)
Julie Linsey (Texas A&M University, USA)

Work in Progress: Using Rigorous Design Reviews to Teach and Assess Students' Design Capabilities
Denny Davis (Washington State University, USA)
Howard Davis (Washington State University, USA)
Jay McCormack (University of Idaho, USA)
Steven Beyerlein (University of Idaho, USA)

Work in Progress: How Engineering Students Define Innovation
Nicholas D Fila (Purdue University, USA)
William Myers (Purdue University, USA)
Senay Purzer (Purdue University, USA)

Work in Progress: Creativity, Mindset, and Implications for Engineering Design Instruction
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Catherine Brawner (Research Triangle Educational Consultants, USA)
Susan M Lord (University of San Diego, USA)
Matthew W Ohland (Purdue University, USA)
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Special Session: Making an Impact: Building Transportable NSF TUES Education Projects

Special Session: Making an Impact: Building Transportable NSF TUES Education Projects
Maura Borrego (National Science Foundation, USA)
Zhanjing (John) Yu (National Science Foundation & Evergreen Valley College, USA)
Louis Everett (National Science Foundation, USA)
Susan Finger (NSF, USA)
Guy-Alain Ammoussou (National Science Foundation, USA)

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This session is reserved for the presentation, demonstration and dissemination of the Premier Award Winner(s), to be announced at lunch on Friday, 4 October.

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Martin Llamas-Nistal (University of Vigo, Spain)
Manuel Caeiro (University of Vigo, Spain)
Juan González-Tato (University of Vigo, Spain)
Javier Alvarez-Osuna (University of Vigo & Imaxdi Real Innovation SL, Spain)

F2E: Student as Learner 3
Special Session: What do student-generated diagrams say about their understanding?: Developmental trajectories of model-based reasoning in engineering students

Special Session: What do student-generated diagrams say about their understanding?: Developmental trajectories of model-based reasoning in engineering students

Joseph Le Doux (Georgia Institute of Technology, USA)
Wendy Newstetter (Georgia Institute of Technology, USA)
Alisha A. Waller (Georgia Institute of Technology, USA)

F2F: Game-Based Learning 2
Chair: Peter A Jamieson (Miami University, USA)

Challenges and Issues in the Development of a Software Engineering Simulation Game

Daniela Peixoto (Federal University of Minas Gerais, Brazil)
Rodrigo Possa (Federal University of Minas Gerais, Brazil)
Rodolfo Resende (Federal University of Minas Gerais, Brazil)
Clarindo Pádua (Federal University of Minas Gerais, Brazil)

FASENG: A Framework for Development of Software Engineering Simulation Games

Daniela Peixoto (Federal University of Minas Gerais, Brazil)
Rodrigo Possa (Federal University of Minas Gerais, Brazil)
Rodolfo Resende (Federal University of Minas Gerais, Brazil)
Clarindo Pádua (Federal University of Minas Gerais, Brazil)

A web tool to create educational content with gaming visualization

Enrique Barra Arias (Universidad Politécnica de Madrid & Agora Systems S. A., Spain)
Daniel Gallego (Universidad Politécnica de Madrid & Escuela Técnica Superior de Ingenieros de Telecomunicación, Spain)
Sandra Aguirre Herrera (Universidad Politécnica de Madrid, Spain)
Juan Quemada Vives (Universidad Politécnica de Madrid, Spain)

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Yunkai Liu (Gannon University, USA)
Mary Vagula (Gannon University, USA)
Stephen T Frezza (Gannon University, USA)

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Elham Beheshti (Northwestern University, USA)
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Laura Contat Rodrigo (Universitat Politècnica de València, Spain)
Isabel Gasch Molina (Universitat Politecnica de Valencia, Spain)
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Katherine Chen (California Polytechnic State University, San Luis Obispo, USA)
Roberta Herter (California Polytechnic State University, San Luis Obispo, USA)
Work in Progress: Early Prediction of Students' Academic Performance in an Introductory Engineering Course Through Different Mathematical Modeling Techniques

Shaobo Huang (Utah State University, USA)
Ning Fang (Utah State University, USA)

Work in Progress: How do first-year engineering students develop as self-directed learners? 

Boris Taratutin (Franklin W. Olin College of Engineering, USA)
Taylor Lobe (Franklin W. Olin College of Engineering, USA)
Jonathan Stolk (Franklin W. Olin College of Engineering, USA)
Robert Martello (Franklin W. Olin College of Engineering, USA)
Katherine Chen (California Polytechnic State University, San Luis Obispo, USA)
Roberta Herter (California Polytechnic State University, San Luis Obispo, USA)

First-Year Engineering Students' Peer Feedback on Open-Ended Mathematical Modeling Problems

Kelsey Rodgers (Purdue University, USA)
Heidi Diefes-Dux (Purdue University, USA)
Monica Cardella (Purdue University, USA)
Amanda Fry (Purdue University, USA)

F2I: Gender and Diversity Issues 2
Special Session: An Interactive Exploration of Gender and Engineering: Unpacking the Experience

Debbie Chachra (Franklin W. Olin College of Engineering, USA)
Lynn Andrea Stein (Franklin W. Olin College of Engineering, USA)
Alisha Sarang-Sieminski (Franklin W. Olin College of Engineering, USA)
Caitrin Lynch (Franklin W. Olin College of Engineering, USA)
Yevgeniya V Zastavker (F. W. Olin College of Engineering, USA)

4:00 PM - 5:50 PM

F3A: Approaches to Student-Centered Education 4
Special Session: Raising P-20 Engineers: Nurturing Creativity and Curiosity by Getting STEAMd

Susan Donohue (University of Virginia, USA)
Whitney Hunter (University of Virginia, USA)
Larry Richards (University of Virginia, USA)

F3B: Putting Research Findings into Practice 1
Chair: Stan Kurkovsky (Central Connecticut State University, USA)

Improving Students Understanding of Engineering Concepts through Project Based Learning

Hudson Jackson (United States Coast Guard Academy, USA)
Kassim Tarhini (United States Coast Guard Academy, USA)
Brian Maggi (United States Coast Guard Academy, USA)
Nathan Rumsey (United States Coast Guard Academy, USA)

Constructive scaffolding for accessible PBL

Brian Davison (Edinburgh Napier University, United Kingdom)
Tom McEwan (Edinburgh Napier University, United Kingdom)

Work in Progress: A Quantitative Study of Effectiveness in Group Learning

Saket Srivastava (IIIT Delhi, India)
Richa Singh (IIIT Delhi, India)
Results From an Action Research Approach for Designing CS1 Learning Environments in Tanzania
Mikko Apiola (University of Helsinki, Finland)
Nella Moisseinen (University of Eastern Finland, Finland)
Matti Tedre (Stockholm University, Sweden)

Work in Progress: Supporting Latinos and English Language Learners' Written Communication Skills: A Research-Based Pedagogical Intervention
Alberto Esquinca (University of Texas at El Paso, USA)
Elsa Villa (The University of Texas at El Paso, USA)
Gabby Gandara (University of Texas at El Paso, USA)

Predictive Models on Improvement of Spatial Abilities in Controlled Training
Jorge Martin-Gutierrez (University of La Laguna, Spain)
Manuel Contero (Universitat Politècnica de València, Spain)

F3C: Faculty Development 4
Chair: Asako Ohno (Osaka Sangyo University, Japan)

Work in Progress: Update 2012 on the iCollaborate MSE Project
Kathleen Kitto (Western Washington University, USA)
Debra Jusak (Western Washington University, USA)

Work in Progress: Engaging New PIs Using an Electronic Mentoring System
Elizabeth Cady (National Academy of Engineering, USA)
Simil Raghavan (National Academy of Engineering, USA)

Work in Progress: The University of Texas System Louis Stokes Alliance for Minority Participation: A State-wide Initiative to Promote STEM Undergraduate Research
Ariana Arciero (University of Texas at El Paso, USA)
Benjamin Flores (University of Texas at El Paso, USA)
Helmut Knaust (University of Texas at El Paso, USA)

Peering at the peer review process for conference submissions
Anne Gardner (University of Technology, Sydney, Australia)
Keith Willey (The University of Technology, Sydney, Australia)
Lesley Jolly (University of Queensland, Australia)
Gregory Tibbits (University of Queensland, Australia)

Work in Progress: A Model for Facilitating Problem Based Learning
Deirdre Hunter (Virginia Tech, USA)
Holly Matusovich (Virginia Tech, USA)
Marie Paretti (Virginia Tech, USA)

Modelling Remote Laboratories integrations in e-Learning tools through Remote Laboratories federation protocols
Pablo Orduña (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain)
Elio San Cristobal (Spanish University for Distance Education - UNED, Spain)
Mikel Emaldi (Deusto Institute of Technology - DeustoTech, University of Deusto, Spain)
Manuel Castro (Spanish University for Distance Education - UNED, Spain)
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Avi Cohen (Israel, Israel)
Dalit Levy (Kibbutzim College of Education, Israel)
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Elena Seleznova (Hlukhiv Pedagogical University & Higashi Tamagawa Shoogakkoo School, Japan)

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Roberto Hernandez (Universidad Nacional de Educación a Distancia (UNED), Spain)
Antonio Robles-Gómez (Universidad Nacional de Educación a Distancia (UNED), Spain)
Agustín Caminero (The National University of Distance Education, Spain)
Salvador Ros (Universidad Nacional de Educación a Distancia (UNED), Spain)
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Special Session: IEEE Real World Engineering Projects: Discovery-Based Curriculum Modules for First-Year Students

Stephen M Williams (Milwaukee School of Engineering, USA)
Anita Vasavada (Washington State University, USA)
Jacques Nicolas Beneat (Norwich University, USA)
Gregorio Cappuccino (Deis - University of Calabria, Italy)
David Lin (Washington State University, USA)
Warren Rosen (Drexel University, USA)
Eric Carr (Drexel University, USA)
Kirk Reinkens (Washington State University, USA)
Mingrui Zhang (Winona State University, USA)
Francesco Amoroso (University of Calabria, Italy)
Saturday, October 6th

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Junaid Siddiqui (Purdue University, USA)
Linda Vanasupa (California Polytechnic State University, San Luis Obispo, USA)
Roberta Herter (California Polytechnic State University, San Luis Obispo, USA)
Feedback Effects: Comparing the Change Resulting from Peer and TA Feedback to Student Solutions of Model-Eliciting Activities
Jacob Bishop (Utah State University, USA)
Matthew Verleger (Utah State University, USA)

The Effect of Feedback on Modeling in an Authentic Process Development Project
Debra Gilbuena (Oregon State University, USA)
Erick Nefcy (Oregon State University, USA)
Milo Koretsky (Oregon State University, USA)

The Effect of Student Learning Styles on the Learning Gains Achieved When Interactive Simulations Are Coupled with Real-Time Formative Assessment via Pen-Enabled Mobile Technology
Frank Kowalski (Colorado School of Mines, USA)
Susan Kowalski (Colorado School of Mines, USA)

Automatic Classification of Question Difficulty Level: Teachers' Estimation vs. Students' Perception
Elena Verdú Pérez (Universidad de Valladolid, Spain)
Luisa Regueras (Universidad de Valladolid, Spain)
María Jesús Verdú Pérez (Universidad de Valladolid, Spain)
Juan Pablo de Castro Fernández (University of Valladolid, Spain)
Ricardo García Martín (University of Valladolid, Spain)

Student Self-Efficacy in Introductory Project-Based Learning Courses
Geoffrey Pleiss (F. W. Olin College of Engineering, USA)
Madeline Perry (F. W. Olin College of Engineering, USA)
Yevgeniya V Zastavker (F. W. Olin College of Engineering, USA)

Using Modern Graph Analysis Techniques on Mind Maps to Help Quantify Learning
Peter A Jamieson (Miami University, USA)

Work in Progress: Changes in Elementary Teachers' Noticing of Engineering Pre/Post Professional Development with Engineering
Daphne Duncan-Wiles (Purdue University, USA)
Tamecia R. Jones (Purdue University, USA)
Heidi Diefes-Dux (Purdue University, USA)
Sean Brophy (Purdue University, USA)

Using Robots to Teach Programming to K-12 Teachers
Jennifer Kay (Rowan University, USA)
Janet Moss (Rowan University, USA)

The Effect of University Research Experiences on Middle Level Math and Science Instructors Perceptions
Karen High (Oklahoma State University, USA)
Juliana Utley (Oklahoma State University, USA)
Julie Angle (Oklahoma State University, USA)
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Thomas Cortina (Carnegie Mellon University, USA)
Wanda Dann (Carnegie Mellon University, USA)
Carol Frieze (Carnegie Mellon University, USA)
Cara Ciminillo (University of Pittsburgh, USA)
Cynthia Tananis (University of Pittsburgh, USA)
Keith Trahan (University of Pittsburgh, USA)

Work in Progress: Theory meets practice: The impact of immersive science teaching experiences on pre-service elementary science teachers' self efficacy

Donald DeRosa (Boston University School of Education, USA)
Carol Jenkins (Boston University School of Education, USA)
Andrew Hollins (Boston University School of Education, USA)
Brenda Richardson (Trotter Elementary School, USA)

SIE: Software Engr, Computing & Informatics 4
Chair: Deborah Trytten (University of Oklahoma, USA)

Computational Science Programs: the Background Research

Lori Carter (Point Loma Nazarene University, USA)
Ryan Botts (Point Loma Nazarene University, USA)
Catherine Crockett (Point Loma Nazarene University, USA)

Introducing Parallel Programming to Traditional Undergraduate Courses

Henrique Cota Freitas (Pontifical Catholic University of Minas Gerais, Brazil)

A system to help teaching and learning algorithms

Leônidas O Brandão (University of São Paulo, Brazil)
Romenig Ribeiro (Universidade de São Paulo, Brazil)
Anarosa Brandão (University of São Paulo, Brazil)

The Impact of a Scientific Computing Prerequisite on Student Performance in a Linear Systems Course

Steve Warren (Kansas State University, USA)
Dwight Day (Kansas State University, USA)

SIF: All About Design 3
Chair: Monica Cardella (Purdue University, USA)

Integrating Developmental Instruction in Four Sustainability Contexts into an Undergraduate Engineering Design Curriculum: Level Three

Eric Pappas (James Madison University, USA)
Olga Pierrakos (James Madison University, USA)
Robert Nagel (James Madison University, USA)

Promoting Design Skills in Distributed Systems

Maria Feldgen (Universidad de Buenos Aires, Argentina)
Osvaldo Clua (Universidad de Buenos Aires, Argentina)

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Nate Sexton (University of La Verne, USA)
Jalin Brooks (University of La Verne, USA)
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