2013 ASEE Annual Conference Program

Final Conference Program & Proceedings

June 23-26, 2013
Georgia World Congress Center
Atlanta, GA
look forward to seeing you in the historic and beautiful city of Atlanta at the 2013 ASEE Annual Conference. Both this historic city and our program can be characterized as exciting, serving a plethora of professional interests and activities. We will be in Atlanta during the year of our 120th anniversary and we plan to make this a very special conference. Whether you stay in the city or its suburbs, I am certain that you will be impressed with its cosmopolitan atmosphere and historical attractions. 

As in the past, this year’s conference benefits from outstanding planning by a team that chose relevant topics fostering different types of engagement in a variety of venues. Let me highlight just a few sessions, beginning with Sunday. The ASEE Division Mixer at the Georgia World Congress Center offers a great networking opportunity, allowing you to mix with members of your own and other divisions. This event gives divisions an opportunity to showcase and promote themselves to prospective members. The Board of Directors hosts an afternoon welcome titled “Greet the Stars,” where first-time attendees can learn about the conference while tapping into one of the most valuable assets of ASEE membership—the network of professionals sharing the same commitment to engineering education.

Main Plenary I on Monday morning will feature a talk by Al Gomez, the Chief Academic Officer of The STEM Academy. During this session, I will have the pleasure of introducing you to our Executive Director, Norman Fortenberry, who will have some words to say about the state of our society.

Main Plenary II on Tuesday morning will be moderated by the 2013-2014 ASEE President, Kenneth F. Galloway, who will share his vision for the coming year. Following this talk, the Best Professional Interest Council, Zone, and Best Conference Papers will be featured, with the winning authors sharing highlights. He will then introduce the Corporate Member Council Industry Leader speaker, Alan Todd, CEO of CorpU, a leading corporate university research and executive education company.

The Distinguished Lecture Series on Wednesday is designed to broaden perspectives and deepen understanding on topics relevant to engineering and engineering technology education. This year attendees will have the opportunity to hear the insights of industry and academic leaders as they share ideas on Open Access and Open Educational Resources, Student Development: An Alternative to Sink or Swim, The Innovation Imperative, Rigor/Us: Merit Standards and Diversity in Engineering Education Research and Practice, and Exploring the Role of Men in Building a Culture of Full Inclusion Within Engineering Education and the Profession. Throughout the conference, attendees can focus on a particular division, attend business meetings, or explore the Exposition Hall. In particular, I encourage you to make room in your schedule for the Focus on Exhibits Welcome Reception (Sunday), the Focus on Exhibits Brunch and Ice Cream Social (Monday), and the Focus on Exhibits Closing Lunch and Meet the Board Forum (Tuesday).

Finally, the conference culminates in the annual ASEE Awards Banquet. The Banquet program allows us to celebrate the success of our 120th Society Year, thank those who made it possible, such as the outgoing Board Members, including Don Giddens, acknowledge our national award recipients, welcome the new ASEE Fellows, and introduce the 2013-2014 Board of Directors. It’s a grand event and I hope you will join us in the celebration.

The conference is the result of much hard work and commitment by volunteers and dedicated and professional staff. I extend my thanks to each person who contributed talent and effort to plan, review papers, design sessions, coordinate panels, and set agendas. Because of you, we will have an extraordinary event filled with many opportunities to learn with and from each other, serve our members, and contribute to the advancement of engineering and engineering technology education. I look forward to seeing you in Atlanta.

Walter W. Buchanan, ASEE President 2012-2013
ASEE would like to acknowledge and thank the 2013 ASEE Program Chairs for all their hard work and dedication.

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Texas A&M University

Architectural Engineering Division
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Indiana University Purdue University

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Biomedical Engineering Division
J. Aura Gimm
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Century College

NSF Grantees Poster Session
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Women in Engineering Education
Beth M. Holloway
Purdue University
Conference Sessions

M442 - FPD 2: RETENTION
12:30 p.m. - 2:00 p.m., Georgia World Congress Center, A309
Sponsor: First-Year Programs Division
Moderator: Richard Freuler, Ohio State University
The papers presented in this session focus on factors and challenges related to first-year retention in undergraduate engineering.

Retention in a First-Year Program: Factors Influencing Student Interest in Engineering
Dr. Lizzie Santiago, West Virginia University

The Effect of Required Introduction to Engineering Courses on Retention and Major Selection
Dr. Marisa Kikendall Orr, Louisiana Tech University

A Longitudinal Model To Increase The Enrollment And Graduation Of Alaska Native/American Indian Undergraduates
Dr. Herbert P. Schroeder, University of Alaska, Anchorage

Enhancing Retention and Achievement of Undergraduate Engineering Students
Dr. Anant R. Kukreti, University of Cincinnati

M443 - FUTURE OF GRADUATE EDUCATION: AN INDUSTRY PERSPECTIVE
12:30 p.m. - 2:00 p.m., Georgia World Congress Center, A316
Sponsor: Graduate Studies Division
Moderator: Mohammad Noori, California Polytechnic State University
Speaker: Ms. Lueny Morell P.E., Hewlett-Packard Corporation
Ms. Lueny Morell, our distinguished speaker, will present her views on the future of graduate education. The presentation will be followed with a discussion on the role of industry.

M445 - INSTRUMENTATION TECHNICAL SESSION I
12:30 p.m. - 2:00 p.m., Georgia World Congress Center, A302
Sponsor: Instrumentation Division
Moderator: Asad Yousuf, Savannah State University
Instrumentation Division Instrumentation Technical Session I

Linear Model Estimation of Nonlinear Systems Using Least-Squares Algorithm
Dr. Alireza Rahrooh, Daytona State College
Dr. Walter W. Buchanan P.E., Texas A&M University
Dr. Remzi Seker, Embry-Riddle Aeronautical University
Portable Photovoltaic Laboratory for In-Service Teacher Workshops
Prof. Kenneth E. Dadeck, Pennsylvania State University, Hazleton Campus
Dr. Wieslaw Grebski, Pennsylvania State University, Hazleton Campus
Remote Demonstration Of Packaging
Prof. Akram Hossain, Purdue University, Calumet (Tech)
Dr. Mohammad A. Zahraee, Purdue University, Calumet (Tech)
Enhancements to a Propulsion Demonstrator
Dr. Rafic Bachnak, Texas A&M International University
Miss Sofia Carolina Maldonado, Texas A&M International University
Dr. Fernando Garcia Gonzalez, Texas A&M International University
Wireless Robot
Dr. Asad Yousuf, Savannah State University
Mr. Jarvis Brewer T, Savannah State University
Dr. Mohamad A. Mustafa, Savannah State University
Mr. Alberto G De La Cruz, Savannah State University
Faraz Muhammad Yousuf, 3-D Imaging Developer
M516 - TABLETS, MOBILE AND TECHNOLOGY
2:15 p.m. - 3:45 p.m., Omni CNN Center Hotel, Omni - Redwood
Sponsor: Computers in Education Division
Moderators: Wanda Eugene, Clemson University; Joseph Tront, Virginia Tech

The use of Tablet PCs, Slate devices and other mobile technology is investigated in this session.

**Wireless Tablet PCs for enhanced teaching at an Australian regional university teaching both campus and distance modes**
Dr. Steven Chingnam Goh, University of Southern Queensland
Dr. Linda Ann Galligan, University of Southern Queensland
Dr. Harry Ku, University of Southern Queensland

Using Mixed Mobile Computing Devices for Real-Time Formative Assessment
Prof. Frank V. Kowalski, Colorado School of Mines
Susan E. Kowalski, Colorado School of Mines
Dr. Tracy Q. Gardner, Colorado School of Mines

**Building Technology Fluency: Fostering Agents of Change**
Dr. Wanda Eugene, University of North Carolina - Charlotte
Dr. Shaundra Bryant Daily, Clemson University
Tiffany Barnes, NC State University
Richard Burns, West Chester University

**Evaluation of the VTEXT Electronic Textbook Framework**
John Oliver Cristy, Virginia Tech
Prof. Joseph G. Tront, Virginia Tech

M517 - INFORMATION AND NETWORK SECURITY
2:15 p.m. - 3:45 p.m., Georgia World Congress Center, A303.
Sponsor: Computing & Information Technology Division
Moderators: Richard Helps, Brigham Young University; Abul Azad, Northern Illinois University

This session will address recent developments in information security and network protection, and their use in industry and academia.

**Internet Accessible Remote Experimentation with Integrated Learning Management System**
Dr. Abul K. M. Azad, Northern Illinois University
Munish Sharma, Northern Illinois University

**Experiences Developing International Partnerships for Education and Research in Computing**
Mr. Jason St. John, Purdue University, West Lafayette
Prof. Thomas J. Hacker, Purdue University, West Lafayette
Prof. Raymond A. Hansen, Purdue University
Ms. Natasha N. Nikolaidis, Purdue University
Robert M Trinkle, Purdue University, West Lafayette

**IPv6 Security Course with Remote Labs – Design and Development**
Mr. John Pickard, East Carolina University
Dr. Te-Shun Chou, East Carolina University

Dr. Philip J Lunsford II P.E., East Carolina University
John Spence,
Piloting a New Curriculum: A View from the Trenches
Dr. Krystal S. Corbett, Cyber Innovation Center
Dr. Chuck Gardner, New Orleans Military and Maritime Academy
Mr. Anthony Joseph Taffaro Jr., New Orleans Military and Maritime Academy
Mr. Marvin Nelson, Benton High School

A Study of Application of Data Mining Algorithms In Healthcare Industry
Dr. Reza Sanati-Mehrizy, Utah Valley University
Jeffrey H Wright
Dr. Afsaneh Miniaie, Utah Valley University
Dr. Ali Sanati-Mehrizy
Paymon Sanati-Mehrizy, Icahn School of Medicine at Mount Sinai

M518 - BUILDING BIM INTO CONSTRUCTION CURricula
2:15 p.m. - 3:45 p.m., Georgia World Congress Center, A412
Sponsor: Construction Division
Moderator: Clifton Farnsworth, Brigham Young University

The presentations in this session focus on the integration of building information modeling (BIM) topics and techniques into the curricula, both broadly across the curriculum and within specific courses.

**Energy Modeling/Simulation Using The BIM Technology In The Curriculum Of Architectural And Construction Engineering And Management**
Dr. Hyunjoo Kim, The University of North Carolina at Charlotte

**Strategy to Incorporate BIM Curriculum In Planning And Scheduling Classes**
Dr. Marcel Maghier, Georgia Southern University
Ms. Sunitha Jain, Hill International
Dr. James G. Sullivan, University of Florida

**From BIM to Collaboration: A Proposed Integrated Construction Curriculum**
Miss Arundhati Ghosh, Arizona State University
Kristen Parrish Ph.D., Arizona State University
Dr. Allan Dee Chasey, Del E. Webb School of Construction, Arizona State University

**Integrating Industry BIM Practices into University Curriculum**
Prof. Kevin R. Miller, Brigham Young University
Dr. Clifton B. Farnsworth, Brigham Young University
Dr. Justin Earl Weidman, Brigham Young University