2014 ASEE INTERNATIONAL FORUM
PRESENTED BY THE BOEING COMPANY

The Latin American and Caribbean Consortium of Engineering Institutions (LACCEI)
European Society for Engineering Education (SEFI)

Indianapolis, Indiana
June 14, 2014
The International Forum is brings together engineering professionals from academia and industry from around the globe who are engaged in novel engineering education initiatives to share information on experiences and best practices. There is particular interest in highlighting engineering education activities involving at least two nations. The theme of this year’s International Forum is Preparing Students to Meet Global Engineering Challenges, in recognition of the rapid and ongoing globalization of modern engineering practice and the many engineering challenges that engineers are already facing and will face in the foreseeable future.

The 2014 ASEE International Forum will be held June 14 in Indianapolis, IN. The event will be held in collaboration with two partner societies: The Latin American and Caribbean Consortium of Engineering Institutions (LACCEI) and the European Society for Engineering Education (SEFI). The one-day Forum will consist of a two plenaries each hosted by one of the partner societies and two paper sessions arranged into concurrent tracks.

By organizing this event, ASEE reaffirms its commitment to furthering education in engineering by encouraging local, national, and international communication and collaboration and recognizing outstanding contributions of individuals and organizations. It is our hope that the Forum will provide opportunities for all participants to engage in stimulating discussions and will serve as a bridge to foster future collaborations.

We look forward to hosting you in Indianapolis!

Bevlee Watford
Chair
ASEE International Advisory Committee
ASEE gratefully acknowledges the following societies for participating in the 2014 International Forum.

The Latin American and Caribbean Consortium of Engineering Institutions (LACCEI)

European Society for Engineering Education (SEFI)

PARTICIPATING ORGANIZATIONS

INTERNATIONAL FORUM ADVISORY COMMITTEE

Ken Burbank, Chair
Purdue University

Howard Appelman
The Boeing Company

Peter Crouch
University of Hawaii at Manoa

Eck Doerry
Northern Arizona University

Maria M. Larrondo Petrie
Florida Atlantic University

LACCEI

THANK YOU TO OUR PRESENTING SPONSOR
WHO HELPED MAKE TODAY’S EVENT POSSIBLE

BOEING
PARTNER ORGANIZATION PLENARY I

Presented by the European Society for Engineering Education (SEFI)

Towards meeting the Engineering Skills Challenge, a View from Europe.
The session offers an opportunity for SEFI to present a view from Europe about ways of meeting the engineering skills challenge that engineering educators face. The challenge comes from Governments and from industry. As educators we argue that we are meeting this challenge through our curricula and programs and refer to the satisfaction of many employers with our graduates. Indeed engineering graduates are sought after by non-engineering employers for their skills. SEFI will report on its inaugural debate held in Brussels in April entitled ‘Engineering Education facing the challenges of the crisis in Europe’ and there will then be presentations from three European countries.

Presenters:
Professor Kamel Hawwash, the University of Birmingham, UK and President of SEFI
Dr Mike Murphy, Dublin Institute of Technology, Ireland and President of the European Engineering Deans Council
Professor Jose Carlos Quadradro ISEL, Portugal and President of IFEES
Dr Robin Clark, Associate Dean for Learning and Teaching, School of Engineering and Applied Science, Aston University, UK.

PARTNER ORGANIZATION PLENARY II

Presented by the Latin American and Caribbean Consortium of Engineering Institutions (LACCEI)

Engineering for the Americas: Vision 20/25, Ministers’ Plan of Action and LACCEI Initiatives
The Ministers of Science and Technology of the 34 countries that form part of the Organization of American States created the Engineering for the Americas (EftA) initiative in 2004 to promote economic and social development through quality engineering education and hemispheric collaboration. This initiative focused on three focus areas: Engineering Education Innovation, Accreditation, and Job Creation. The Latin American and Caribbean Consortium of Engineering Institutions (LACCEI), a non-profit network of more than 180 universities, was given the charge by the OAS to lead initiatives in the first two areas and reports progress to the ministers. The Pan-American Federation of Engineering Societies (UPADI, for its acronym in Spanish) leads initiatives in the job creation area. In 2011, the OAS announced their Vision 20/25 in Science, Technology and Innovation for the Americas: Hemispheric Cooperation for Competitiveness and Prosperity in a Knowledge Economy, and developed their 2012-2016 Plan of Action, creating 4 working groups: WG1: Innovation, WG2: Human Resources Training and Education, WG3: National Infrastructure, and WG4: Technological Development. LACCEI and EftA realigned its Engineering Education initiatives under working group 2. This session summarizes the Vision 20/25 concepts, and the LACCEI and other initiatives in the Americas that are aligned with the Ministers’ Plan of Action, the OAS Engineering for the Americas initiative and the Global Engineering Deans Council.

Presenters:
Maria M. Larrondo Petrie, PhD, Florida Atlantic University, USA
José Carlos Quadradro, PhD, Instituto Superior de Engenharia de Lisboa, Portugal
Jaime Bonilla Ríos, PhD, Tecnológico de Monterrey, México
Renetta Garrison Tull, PhD, University of Maryland Baltimore County

2014 ASEE INTERNATIONAL FORUM

PROGRAM-AT-A-GLANCE

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<td>Partner Organization Plenary II</td>
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<td>Concurrent Tracks Session II</td>
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Enhancing Learning for Distance Students in an Undergraduate Engineering Course through Real-time Web-Conferencing
Dr. John Matthew Long, Deakin University
Mr. Simon William Cavenett, Deakin University
Ms. Eloise Gordon, Deakin University
Dr. Matthew Joordens, Deakin University

Enabling Extensive Numerical Problem Solving on Smartphones and Tablets
Dr. Michael B. Cutlip, University of Connecticut
Dr. Mordechai Shacham, Ben-Gurion University of the Negev
Michael Elly, Ben-Gurion University of the Negev

Embedded Systems - Shape The World
Dr. Jonathan W. Valvano, University of Texas, Austin

Impact of Study Abroad – 10 Years of Trips to Germany with Students
Dr. Henry W. Kraebber, Purdue University, West Lafayette
Dr. E. Shirl Donaldson, Purdue University, West Lafayette
Ms. Katie Mae Hackney, Purdue University

Assessment of Remote Laboratory Practices in Engineering Technology Distance Education
Dr. Mert Bal, Miami University

Constructing Community, Content, and Confidence (C3) to Enhance First-Year Success and Retention
Dr. Steven M. Pilgrim, Alfred University

Dr. Valentina Cecchi, University of North Carolina, Charlotte
Dr. Mona Azarbayjani, University of North Carolina, Charlotte
Dr. Brett Tempest, University of North Carolina, Charlotte

Forming A Leadership Bridge Between High School And College: The Energy and STEM Leadership Program
Prof. Mariam K. Issaqou, State University of New York, Farmingdale
Dr. Gonca Altuger-Genc, State University of New York, Farmingdale

Cultural Accommodation in Virtual Engineering Academic Teams
Mr. Andras Gordon, Pennsylvania State University, University Park
Dr. Richard J. Schuhmann, Massachusetts Institute of Technology
Dr. Richard F. Devon, Pennsylvania State University
Mr. Andrew Michael Erdman, Pennsylvania State University
Dr. Ahmad Alleh, Tabah University
Mr. Peter Dietrich, Corvinus University Budapest
Are we prepared to bridge the gap?
Prof. Mudasser Fraz Wyne, National University

Challenges in Establishing an American Global Campus in Korea
Prof. Hongshik Ahn, Stony Brook University
Dr. Imin Kao, Stony Brook University
Dr. Yacov A. Shamash, Stony Brook University
Dr. ChoonHo Kim, SUNY Korea

Moderator:
Peter Crouch, University of Hawaii at Manoa

Presented by the European Society for Engineering Education (SEFI)
10:30 a.m. - 12:00 p.m.

**501 • Track 2 - Session 1 - Faculty Development**
ROOM 102

**Moderator:**
Eck Doerry, Northern Arizona University

**Role of the President’s Program of Training Engineers in Improvement of the Research University Educational Activity**
Prof. Svetlana Vasilevna Barabanova, Kazan National Research Technological University
Prof. Vasily Ivanov, Kazan National Research Technological University
Prof. Mansur Galikhanov, Kazan National research Technological University
Mrs. Alina Guzhova, Kazan National Research Technological University

**Proposal for accreditation procedure to support the development of skills and competencies in globalized engineering world**
Prof. Anna Friesel, Technical University of Denmark
Prof. Tsingotis Georgios, Technological Educational Institute of Eastern Macedonia and Thrace

**Engineering Faculty Perspectives on Shared Global Experiences**
Dr. Kerrie L. Schattler, Bradley University
Dr. Amir W. Al-Khaafaji, Bradley University

**Impact of International Collaboration on the Learning Environment**
Dr. Krishnanand Y. Mallaichcheruvu, Bradley University
Dr. Amir W. Al-Khaafaji, Bradley University

**Story Telling as an Effective Mean for Stimulating Students’ Passion in Engineering Classes**
Dr. Ibrahim Ali Oliwi, King Abdulaziz University

**Methodology of Creativity and Creative Thinking: Structure and Content of Educational Cluster**
Dr. Lev Vadimovich Redin, Kazan National Research Technological University, Russia

**10:30 a.m. - 12:00 p.m.**

**503 • Track 3 - Session 1 - Student Development**
ROOM 107

**Moderator:**
Howard Appelman, The Boeing Company

**Education Without Borders: Exploring the Achievement of ABET Learning Outcomes through Engineers Without Borders-USA**
Kaitlin Litchfield, University of Colorado, Boulder
Dr. Amy Javernick-Will, University of Colorado, Boulder
Dr. Daniel Knight, University of Colorado, Boulder

10:30 a.m. - 12:00 p.m.

**504F • Networking Lunch**
ROOM 105 - 106

Sponsored by the Boeing Company

1:30 p.m. - 3:00 a.m.

**504G • Partner Plenary**
ROOM 103 - 104

Presented by the Latin American and Caribbean Consortium of Engineering Institutions (LACCEI)

**10:30 a.m. - 12:00 p.m.**

**503 • Track 3 - Session 1 - Student Development**
ROOM 107

**Moderator:**
Howard Appelman, The Boeing Company

**Education Without Borders: Exploring the Achievement of ABET Learning Outcomes through Engineers Without Borders-USA**
Kaitlin Litchfield, University of Colorado, Boulder
Dr. Amy Javernick-Will, University of Colorado, Boulder
Dr. Daniel Knight, University of Colorado, Boulder

Reaching Beyond Engineering to Achieve Best Practice in Global Learning
Dr. David DiBiasio, Worcester Polytechnic Institute
Dr. Terri A. Camesano, Worcester Polytechnic Institute
Ms. Natalie A Mello, The Forum on Education Abroad

Adaptive Teaching: An Effective Approach for Learner-Centered Classrooms
Dr. Rami Jubrail Haddad, Georgia Southern University
Dr. Youakim Kalaani, Georgia Southern University

Project Based Learning (PBL) - Across Disciplines and Across Cultures
Dr. Pradeep Kashinath Waychal, Pune Innovation Centre
Ms. Ayano Ohsaki, Tottori University
Prof. Katsuyuki Ohsawa, Tottori University

Integrating Global Systems Development Skills into the Engineering Curriculum
Prof. Arnold Neville Pears, Uppsala University
Prof. Mats Daniels, Uppsala University
Dr. Åsa Sofia Cajander, Uppsala University

International Experiential Learning in Engineering: a Case Study of Junior Enterprise in the United States
Miss Morgan M. Bakies, University of Illinois at Urbana-Champaign
Comparative Assessment of Scaled Global Engineering Initiatives
Dr. Dianne J. DeTurris, California Polytechnic State University
Dr. Jane L. Lehr, California Polytechnic State University
Dr. James M. Widmann, California Polytechnic State University
Lily Hsu Laiho, California Polytechnic State University
Dr. Fred W. DePiero, California Polytechnic State University
Dr. Zoe Wood, California Polytechnic State University
Alana Christine Snelling, California Polytechnic State University

The Development and Integration of Humanitarian Engineering Curriculum in an Engineering Technology Program
Mr. Aaron Brown, Metropolitan State University of Denver
Mr. Duane B. Swigert, Metropolitan State University of Denver

Internationalization and Civil Engineering Program Innovation
Dr. Robert W. Fuessle, Bradley University
Dr. Amir W. Al-Khafaji, Bradley University

Indian and Japanese Software Engineering Students in the “Egoless Space”
Dr. Pradeep Kashinath Waychal, Pune Innovation Centre
Gautam Akiwate, University of California, San Diego
Ms. Ayano OHSAKI, Innovation Center for Engineering Education, Tottori University

Preparing Engineers for Global Challenges: Engaging with Chile through the 100,000 Strong in the Americas Initiative
Dr. Megan Mercedes Echevarria, International Engineering Program, University of Rhode Island
Dr. Sigrid Berka, University of Rhode Island

Preparing Engineers for Global Challenges
Dr. Souhail Elhouar, Bradley University
Dr. Amir W. Al-Khafaji, Bradley University
Why Invest in International Research Experiences for Undergraduates?:
Intercultural Maturity in Domestic and International REU Participants
Dr. Cheryl Matherly, University of Tulsa
Ms. Sarah R. Phillips, Rice University
Prof. Junichiro Kono, Rice University
Mr. Shane M. Curtis, University of Tulsa

Sustainability Challenges & the Opportunities for Global Engagement:
Linking Caribbean secondary school classrooms and Engineering
Departments at US Universities
Dr. Maya A. Trotz, University of South Florida
Dr. Joniqua Howard, University of Texas Arlington
Ken Darrie Thomas, Auburn University, Biosystems Engineering & The
Honors College
Dr. Helen Muga, University of Mount Union
Dr. Jeanese Christine Badenock, University of the West Indies, Cave Hill
Dr. Sheena A. Francis, University of Technology

JOIN US NEXT YEAR IN SEATTLE!
June 13, 2014
Washington State Convention Center
Seattle, WA
WE ALL SHARE THE SAME ADDRESS.

Boeing proudly salutes the American Society for Engineering Education for its dedication and commitment to global education initiatives.