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Plus two peer-led team learning improves student success, retention, and timely graduation
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ENHANCING LEARNING OF LOW PERFORMING STUDENTS IN MULTI-SECTION FIRST YEAR LECTURE/LABORATORY CLASSES: COMPLETION OF A THREE YEAR STUDY
Mark Urban-Lurain and Jon Sticklen

A MANIPULATIVE RICH APPROACH TO FIRST YEAR ELECTRICAL ENGINEERING EDUCATION
Matthew Shuman, Donald Heer and Terri S. Fiez

WORK IN PROGRESS - WHAT DO SELECTION CRITERIA TELL US ABOUT OUR STUDENTS?
Elizabeth Godfrey and A. Jonathan R. Godfrey

DEI-CHECK AUTOMATING THE ASSESSMENT PROCESS TO IMPROVE THE INFORMATIVE FEEDBACK
David Diez, Paloma Díaz, Ignacio Aedo and Camino Fernandez

Session F1E: New Competencies for Global Engineers 2
Chair: Marie C. Paretti, Virginia Polytechnic Institute and State University
Time and place: Friday, October 24, 8:00 am. - 9:30 am.

EXPLORING THE GLOBAL AEROSPACE MARKETPLACE: A FIRST PROJECT IN INTERNATIONAL COMMUNICATION FOR NON-NATIVE ENGLISH SPEAKERS
Alexander Friess, Carol Bria, Linda Thompson, Hemdeep Dulthummon and William Snyder

WORK IN PROGRESS - GRADUATE EXCHANGE PROGRAM IN MICROELECTRONICS SYSTEM ENGINEERING
Mihaela Radu, Ana Rusu, Frederick Berry and Mats Brorsson

WORK IN PROGRESS - ACHIEVING THE ABET PROFESSIONAL SKILLS USING SOLIDARITY PROJECTS
Javier Alonso López, David López, Josep-Llorenç Cruz, Carlos Álvarez, Daniel Jimenez-González, Agustín Fernández and Fermín Sánchez

WORK IN PROGRESS - ATTAINING AND MEASURING GLOBAL COMPETENCY FOR ENGINEERING GRADUATES
James Widmann and Linda Vanasupa

CONTEXTUAL PREPARATION OF FUTURE ENGINEERS: A NON-WESTERN PERSPECTIVE
Mazen O. Hasna and John Impagliazzo

Session F1F: Disciplinary Introductory Courses 1
Chair: Deborah Kilgore, University of Washington
Time and place: Friday, October 24, 8:00 am. - 9:30 am.

A MULTIDISCIPLINARY APPROACH TO INTRODUCTORY ENGINEERING DESIGN
Peter J. Robbie, Ian Baker, William Lotko and John P. Collier

WORK IN PROGRESS - ASSESSMENT OF PEER-LED TEAM LEARNING IN AN ENGINEERING COURSE FOR FRESHMEN
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HANDS-ON PROJECTS TO INTRODUCE ELECTRICAL AND COMPUTER ENGINEERING
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PROGRAMMING IN GROUPS: A PROGRESSION LEARNING SCHEME FROM THE
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Thais Castro, Hugo Fuks and Alberto Castro

INTRODUCTION TO THE ME CURRICULUM THROUGH PRODUCT ENGINEERING CASE
STUDIES
El-Sayed Aziz and Constantin Chassapis

Session F1G: Panel Session - NSF Panels: A Reviewer's Perspective
Chair: Ingrid Russell, University of Hartford
Time and place: Friday, October 24, 8:00 am. - 9:30 am.

PANEL SESSION - NSF PANELS: A REVIEWER'S PERSPECTIVE
Ingrid Russell, Duane Bailey, Stephen Cooper and Barbara M. Moskal

Session F1H: CS Courses and Labs 3
Chair: Kannan Moudgalya, IIT Bombay
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INTEGRATION AND CONTEXT IN A NEW ECE SPIRAL CURRICULUM
Mohan Krishnan, Mark J. Paulik, Sandra Yost and Tom Stoltz

WORK IN PROGRESS - A FULLY ONLINE BACHELOR OF ELECTRICAL ENGINEERING
DEGREE
Charles Westgate, Pao-lo Liu and Wendy Tang

WORK IN PROGRESS - JUST-IN-TIME TEACHING AND HANDS-ON EXPERIMENTING
EMBEDDED SYSTEMS FOR UNDERGRADUATES
Nicușor Birșan and Shekhar Sharad

SCAFFOLDING M-LEARNING APPROACH OF AUTOMOTIVE PRACTICE COURSES IN
SENIOR VOCATIONAL HIGH SCHOOL
Hsiu-Yi Lin, Chun-Yu Chen and Wen-Chin Chen

TEACHING EMBEDDED SYSTEMS WITH ACTIVE LEARNING: THE SMEAGOL APPROACH
Elena Meshkova, Janne Riihijärvi and Petri Mählönen

Session F1J: Special Session - Does Size Matter? Small Programs Contribute as Many Graduates
to the Engineering Workforce as Large Programs Do
Chair: Julie Ellis, University of Southern Maine
Time and place: Friday, October 24, 8:00 am. - 9:30 am.

SPECIAL SESSION - DOES SIZE MATTER? SMALL PROGRAMS CONTRIBUTE AS MANY
GRADUATES TO THE ENGINEERING WORKFORCE AS LARGE PROGRAMS DO
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Session F2A: Active Learning 2
Chair: Eric Pappas, James Madison University
Time and place: Friday, October 24, 10:00 am. - 11:30 am.

AN INTERACTIVE TEACHING APPROACH BASED ON STUDENT-TEAMS
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INTERACTIVE LEARNING MODULES FOR INNOVATIVE PEDAGOGY IN CIRCUITS AND
ELECTRONICS
Jean-Claude Thomassian and Anoop Desai

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Saurabh Bagchi, Mark C. Johnson and Somali Chaterji

CONTEXTUALIZATION OF PROGRAMMING LEARNING: A VIRTUAL ENVIRONMENT
STUDY
Micaela Esteves, Benjamim Fonseca, Leonel Morgado and Paulo Martins

WORK IN PROGRESS - IMPACT OF GRAPHICAL PROGRAMMABLE ENVIRONMENTS ON
LEARNING AND UNDERSTANDING PROGRAMMING CONCEPTS
Gregory Bucks and William C. Oakes
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Time and place: Friday, October 24, 10:00 am. - 11:30 am.

INDUSTRY ORIENTED TEACHING AND LEARNING STRATEGIES APPLIED TO THE COURSE WITHIN TRADITIONAL ENGINEERING TECHNOLOGY UNDERGRADUATE PROGRAM
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A NEW INTERLEAVED BACHELOR OF ELECTRICAL ENGINEERING PROGRAM
Neil Cox and Glenn Pellegrin

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Chair: Ismail Fidan, Tennessee Tech University
Time and place: Friday, October 24, 10:00 am. - 11:30 am.

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WORK IN PROGRESS - INITIATIVE FOR THE USE OF LEARNING OBJECTS IN THE ELECTRONICS LABS PRACTICE
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Session F2G: Panel Session - Preparing the Engineers of 2020 - Emerging Evidence from Six Exemplary Colleges and Universities
Chair: Patrick T. Terenzini, The Pennsylvania State University
Time and place: Friday, October 24, 10:00 am. - 11:30 am.

PANEL SESSION - PREPARING THE ENGINEERS OF 2020 - EMERGING EVIDENCE FROM SIX EXEMPLARY COLLEGES AND UNIVERSITIES
Patrick T. Terenzini, Lisa R. Lattuca, Gul E. O. Kremer, Carolyn Plumb and Lois C. Trautvetter

Session F2H: Improving Access and Retention in Engineering Programs
Chair: Jack G. Mottley, University of Rochester
Time and place: Friday, October 24, 10:00 am. - 11:30 am.

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Matthew Shuman, Jace Albert Akerlund, Donald Heer and Terri Fiez
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Chair: Cynthia Atman, University of Washington
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Time and place: Friday, October 24, 1:30 pm. - 3:00 pm. Phila
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Maxine S. Cohen and Timothy J. Ellis
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Rana Al-Fares and Lulwa A. Al-Abdulmuhisen
VALUING DIVERSITY: DEVELOPMENT OF A STUDENT SUPPORT FORUM FOR FEMALES
Sandra Cairncross, Karen Gordon, Debbie Ratcliffe, Jenny Tizard and Caroline Turnbull
GENDER AND RACE: STEREOTYPING, COPING SELF-EFFICACY AND COLLECTIVE SELF-ESTEEM IN THE CSET UNDERGRADUATE PIPELINE
Antonio M. Lopez, Kun Zhang and Frederick G. Lopez

Session F4C: Design Experiences 2
Chair: David Voltmer, Rose-Hulman Institute of Technology
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm. Broadway 2

WORK IN PROGRESS USING A COMPANY BASED MODEL TO ORGANIZE PROJECT TEAMS IN AN INTRODUCTORY DESIGN COURSE
Allen H. Hoffman and Jeffrey R. Court
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Amalia Rusu and Mike Swenson

Session F4D: Research, Technology and Resources for Global Engineering Education
Chair: Claudio da Rocha Brito, Council of Researches in Education and Sciences
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm. Broadway 3

FUTURE OF DISTANCE EDUCATION THROUGH EHEA
Manuel Castro, Antonio Colmenar and Juan Peire
EVOLVING MODELS FOR GLOBAL MEDICAL TECHNOLOGY EDUCATION
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ADVANCING GLOBAL CAPACITY FOR ENGINEERING EDUCATION RESEARCH: PRELIMINARY FINDINGS
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WORK IN PROGRESS - DEVELOPING JOINT DEGREES THROUGH E-LEARNING SYSTEMS
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CREATING TRANSPARENCY FOR MUTUAL RECOGNITION IN TECHNICAL TEACHINGS THROUGH INTERNAL QUALITY ASSURANCE SYSTEMS
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Chair: Asad Azemi, The Pennsylvania State University
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm.

CLASSIFICATION OF LEARNING PROFILE BASED ON CATEGORIES OF STUDENT PREFERENCES
Luciana A. M. Zaina and Graça Bressan

THE EFFECTIVENESS OF COLLABORATIVE TECHNOLOGIES IN REMOTE LAB DELIVERY SYSTEMS
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WORK IN PROGRESS - IGRAHS FOR CHARACTERIZATION OF ONLINE COMMUNITIES
Alvaro Figueira and Joanne Laranjeiro

FORMING COMMUNITIES IN WEB-BASED EDUCATIONAL SYSTEMS THROUGH USERS' PREFERENCES AND INTEREST MEASURING
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RESEARCH ON THE INFLUENCE OF COMPUTER NETWORK SUPPORTED COOPERATIVE LEARNING ON SENTENCE CONSTRUCTION SKILLS OF ELEMENTARY SCHOOL STUDENTS
Tzu-Hua Huang, Yuan-Chen Liu and Wei-Ti Hsiao

Session F4F: Graduate Curricula, Community & Collaboration
Chair: Pamela Theroux, University at Albany/SUNY and Rensselaer Polytechnic Institute
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm.

CROSSING DISCIPLINARY BORDERS: A NEW APPROACH TO PREPARING STUDENTS FOR INTERDISCIPLINARY RESEARCH
Kathryne M. Drezek, Deborah Olsen and Maura Borrego

THE VIRGINIA PARTNERSHIP FOR NANOTECHNOLOGY EDUCATION AND WORKFORCE DEVELOPMENT
James F. Groves

WORK IN PROGRESS - MENTORING UNDERGRADUATE STUDENTS PREPARING FOR GRADUATE STUDY IN ENGINEERING-A CREATE CASE STUDY
Lane Thames and Randal Abler

THE GRADUATE TEACHING ACADEMY: IMPLEMENTING GRADUATE LEARNING COMMUNITIES
Kenneth E. Viall, Jiyeon Kim and Debra Fowler

INTEGRATING GRADUATE AND UNDERGRADUATE EDUCATION WITH REAL WORLD PROJECTS
Bradley Perrin, Amy Thompson, Cyrus Agarabi and Valerie Maier-Speredelozzi

Session F4G: Panel Session - Pen-based Computing in the Engineering and Science Classroom:
Implementation Scenarios from Three Institutions
Chair: Julia Williams, Rose-Hulman Institute of Technology
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm.

PANEL SESSION - PEN-BASED COMPUTING IN THE ENGINEERING AND SCIENCE CLASSROOM: IMPLEMENTATION SCENARIOS FROM THREE INSTITUTIONS
Archana Chidanandan, Patrick Ferro, Jeff Frolik, Maki Hirotani, Kathy Schmidt, Deborah Walter and Julia Williams

Session F4H: Assessing and Understanding Student Learning
Chair: Debbie Chachra, Franklin W. Olin College of Engineering
Time and place: Friday, October 24, 3:30 pm. - 5:00 pm.

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Isabel Garcia, Alfonso Duran and Manuel Castro

Session F4J: Special Session - Increasing Awareness of Issues of Poverty, Environmental Degradation and War within the Engineering Classroom: A Course Modules Approach

Chair: George D. Catalano, State University of New York at Binghamton

Time and place: Friday, October 24, 3:30 pm. - 5:00 pm. Highrock

SPECIAL SESSION - INCREASING AWARENESS OF ISSUES OF POVERTY, ENVIRONMENTAL DEGRADATION AND WAR WITHIN THE ENGINEERING CLASSROOM: A COURSE MODULES APPROACH

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Session S1A: Classroom Technology 3

Chair: Ladimer S. Nagurney, University of Hartford

Time and place: Saturday, October 25, 8:00 am. - 9:30 am. Phila

META-ANALYSIS OF EFFECTIVENESS OF TECHNOLOGY USE IN UNDERGRADUATE ENGINEERING EDUCATION

Georgette M. Michko

LESSONS LEARNED FROM THE FIRST-TIME USE OF TABLET PCS IN THE CLASSROOM

Micah Stickel and Sean V. Hum

A STUDY OF STUDENT ATTITUDE TOWARDS MEDIA BASED INSTRUCTION IN INTRODUCTORY ENGINEERING COURSES

Jean-Claude Thomassian, Anoop Desai and Patrick Kinnicutt

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Time and place: Saturday, October 25, 8:00 am. - 9:30 am. Broadway 1

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A LABORATORY PLATFORM FOR TEACHING COMPUTER VISION CONTROL OF ROBOTIC SYSTEMS

Lelio R. Soares Jr. and Victor H. Casanova Alcalde

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TELELAB - REMOTE AUTOMATIONS LAB IN REAL TIME

Manuel E. Macias and Israel Méndez

Session S1C: Promoting Effective Learning Communities

Chair: Maggie Pollock, University of Glasgow

Time and place: Saturday, October 25, 8:00 am. - 9:30 am. Broadway 2

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- LIVING WITH THE LAB - A FRESHMAN CURRICULUM TO BOOST HANDS-ON LEARNING, STUDENT CONFIDENCE AND INNOVATION, David Hall, Hisham Hegab and James Nelson  
- TEACHING PROBABILITY AND STATISTICS IN A FIRST-YEAR ENGINEERING COURSE, Eric C. Johnson, Barbara Engerer, Kenneth Leitch and Douglas Tougaw  
- MAKING MATHEMATICS MEANINGFUL, Virginia Eaton and Natalie Campbell

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- WORK IN PROGRESS - CHALLENGES TO EDUCATING STUDENTS WITHIN THE COMMUNITY OF OPEN SOURCE SOFTWARE FOR HUMANITY, Heidi J. C. Ellis, Ralph A. Morelli and Gregory W Hislop  
- SPANNING THE GAP BETWEEN SOFTWARE ENGINEERING INSTRUCTOR AND STUDENT, Andrew J. Budd and Heidi J.C. Ellis  
- WORK IN PROGRESS - SVAEC, AN ADAPTIVE ENVIRONMENT FOR CREATING AND EXPLORING KNOWLEDGE STRUCTURES, Fernando Sanchez-Zamora and Martin Llamas-Nistal  
- LEARNING SOFTWARE ENGINEERING PRINCIPLES USING OPEN SOURCE SOFTWARE, Jagadeesh Nandigam, Venkat N. Gudivada and Abdelwahab Hamou-Lhadj

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Time and place: Saturday, October 25, 1:30 pm. - 3:00 pm. Highrock

- REPRESENTATIONAL LITERACY AND PARTICIPATORY LEARNING IN LARGE ENGINEERING CLASSES USING PEN-BASED COMPUTING, Aditya Johri and Vinod Lohani
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