

**Conference for Industry and Education Collaboration  
Palm Springs Hilton  
February 4-6, 2015**

***Pre-Conference Events***

**Monday, February 2**

**8:00-12:00 p.m.      *CIEC Board Meeting – Tapestry Room***

The CIEC Board will meet to discuss the 2015 conference and make plans for the 2016 conference to be held in Austin, Texas.

Chair: Ron Madler, Embry-Riddle Aeronautical University, Prescott

**12:15-1:00 p.m.      *PIC V Meeting and Luncheon – Oasis II***

Representatives from the College-Industry Partnerships, Continuing Professional Development and Cooperative and Experiential Divisions will meet to discuss events pertaining to the ASEE annual conference and other PIC V business.

Chair: Lea-Ann Morton, Missouri University of Science & Technology

**1:15 – 4:15 p.m.      *CEED Board Meeting – Palm Canyon A***

Chair: Reginald McGregor, Rolls-Royce

**4:30-5:30 p.m.      *CIEC 2015 Conference Management Team – Boardroom***

**7:30-9:30 p.m.      *CIEC 2015 General Conference Chair's Reception  
(By Invitation Only) – Tapestry***

## **Tuesday, February 3**

### **6:30 a.m. – Noon *Luther Epting Golf Classic – Escena Golf Club***

The Luther Epting Golf Classic is a wonderful way to enjoy a California morning and participate in face-to-face networking opportunities with conference participants, companions and guests. A light breakfast will be served at 6:30 a.m. At 7:00 a.m. the Best-Ball Scramble Format will be held, a wonderful activity for both newcomers and experienced golfers. After a morning of great exercise and perhaps sharing of “golfing tales”, participants will have lunch at the golf club’s restaurant and celebrate their accomplishments. This event is co-sponsored by RoMan Manufacturing, Inc., Quanser, and Grand Valley State University. However, individuals must have preregistered and tickets are required to cover additional costs of the event. Cost: \$60 per person

Coordinator: Paul Plotkowski, Grand Valley State University

### **8:00 a.m. – 12 Noon CPD Division Board Meeting - Palm Canyon A**

Chair: Paul Jewel, Iowa State University

### **1:00-4:00 p.m. Division Workshops**

#### **CPD 203 *Managing Your Brand – How to Thrive in a Competitive Global Market – Tapestry Room***

Apple, Google, Coca-Cola, IBM, and Microsoft are not the world’s largest corporations, but they were the most recognizable global brands of 2013.

Your “Brand” is not just your logo. So, what is it? According to Jeff Bezos, “Your brand is what people say about you when you’re not in the room,” while Arkside Marketing, Inc. defines brand development as “the sum total of all your moving parts.”

Would you like to learn more about brand management to improve your brand? Do you have a recognizable brand? Does your brand deliver a clear and consistent message, connect to your target audience, and motivate your customers to purchase your products and services? Does it serve your strategic goals?

Attend this *fun and highly interactive workshop* where experts who are extremely successful in managing their Brand will provide in-depth information to help you understand how to maximize all of the “moving parts” of your organization to thrive in an increasingly competitive global marketplace.

By completing an extra assignment, you may also earn a badge for IACEE’s CEE Manager’s Certificate Program.

Workshop Facilitators:

Terri Gaffney – University of Idaho

Pat Hall – University of Tulsa

Panel:

Michele Jacobs – Senior Manager, Integrated Marketing at Western Union Digital Ventures

Paul Marca – Executive Director, Stanford Center for Professional Development

Diane Landsiedel – Marketing and Program Development Manager, University of Michigan

Registration Required. Cost: \$75

**ETD 204     *Engineering Entrepreneurship Toolset: Teaching Classroom Tactics to Engineering Faculty for the 21<sup>st</sup> Century – Palm Canyon A***

We know from decades the long evidence that dynamic teaching tactics help with enduring understandings. This workshop is designed to foster innovation using hands-on exercises from “Pracademics” – practical/professional and academic based professors applying curricula pedagogy for capstone courses. This session will present various opportunities to use and apply entertaining and educational toolsets. The participants will design, iterate, collaborate, and present demonstrable projects. Finally, the use of the myriad toolsets is readily applicable to various engineering disciplines demanding leadership, followership, efficiency, affordability, and sustainable concepts.

Presenters:

Michael Wilson, Purdue University

Michele Summers, Purdue University

Jimmy Gandi, California State Northridge

Registration Required. Cost: \$75

**5:30-6:30 p.m.     *CIEC 101: Meet and Greet***

All individuals who are attending CIEC for their first time or have not been able to attend in several years are invited to attend a Wine and Cheese reception sponsored by the CIEC Divisions. Board members and representatives from the CIEC 2015 Conference Management Team will provide an overview about CIEC, its divisions and acronyms and a general overview about the conference. Learn how you can get involved in future CIEC conferences.

## **Wednesday, February 4, 2015**

### **CIEC Conference Begins**

#### **7:00 – 8:45 a.m. *All Conference Continental Breakfast***

Enjoy a beautiful California morning with a continental breakfast by the pool area. Renew your acquaintance with CIEC colleagues and meet first time attendees. If the weather is cool, the breakfast will move to the lower level of the Horizon Ballroom.

#### **7:45-8:45 a.m. *Companions Breakfast and Informational Meeting***

All registered companions are invited to a breakfast meeting where a special speaker will talk about their history of Palm Springs and outstanding places to visit in the area. Information about the optional tours will be presented. Cost of the breakfast is included in the companion's registration.

#### **9:00-10:30 a.m. *CIEC 331 Plenary Session***

##### **Engineering Education: Past, Present and Future— A Socratic Dialogue**

A distinguished panel of representatives from industry and academia will discuss issues related to the conference theme and how past and present experiences might lead to new paths in engineering and engineering technology curricular, professional development programs, coop and internship experiences, and academic-industry partnerships. There will be time for the audience to reflect upon the thoughts presented during the panel discussion and question or comment upon the issues discussed. Representatives have been selected to represent the four divisions of CIEC. Come and join us and see if you agree with the panelist on how engineering education has changed and what direction we might need to go in the future.

Moderator: Ed Borbely, University of Michigan, Ann Arbor

Panelist:

Howard Appleman, Boeing

Nelson Baker, Georgia Institute of Technology

Julie First-Bowe, Southern Illinois University, Edwardsville

Walter Buchanan, Texas A & M University

Patricia Fox, Indiana University Purdue University Indianapolis

John Gilligan, North Carolina State University

Annette M. Karlsson, Cleveland State University

Ron Madler, Embry-Riddle Aeronautical University

John Mastrototaro, Medtronic

Reginald McGregor, Rolls-Royce

Yannis Yortos, University of Southern California

#### **10:30 –10:50 a.m. *Coffee Break*    *Horizon Ballroom Foyer***

#### **11:00 – 12:30 p.m. *Division Sessions***

### **CEED 312 *Looking Forward and Learning from the Past***

The history, “old timers”, “newbees”, seasoned professionals and the new generation of CEED. The Cooperative and Experiential Education Division (CEED) has been a very active division of the Conference for Industry and Education Collaboration. This panel discussion will highlight the history of CEED. Specifically, the presenters will provide an overview of the development of the organization and its original constituents including employer engagement. In regards to the present, the panel will discuss how far CEED has changed including advancements made along with current challenges. This session will conclude with prospecting the future, how we plan to last another 40 years and what CEED needs to do to remain a strong division, continue to provide resources to train students and assist employers with recruiting prepared quality students.

Moderator: Gayle Elliott, University of Cincinnati

Presenters:

Sam Sovilla, University of Cincinnati, Retired  
Walter Odom, Navigation Academy of Virginia  
Robin Hammond, Arizona State University  
Sandra English, Cleveland State University

### **CIP 313 *Where have we been and where are we headed: Past, Present and Future Reflections as a Division***

The College-Industry Partnerships Division, first known as the Relations with Industry (RWI), was formed after World War II to help develop a closer relationship between the industrial members and the educational institutions of ASEE. The RWI title was changed to College-Industry Partnership in February 1990. This session will provide you with a better understanding of the development and achievements of the division since its beginning and will provide a format of discussion on where it should be going in the future to serve its mission and the needs of the membership.

Moderator: Linda Krute, North Carolina State University

Presenters:

Lucy Morse, University of Central Florida  
Jack Selter, University of Central Florida

### **CPD 314 *Continuing Professional Development – Past, Present and Future***

A look at the history, present CPD programs and future reflections about continuing professional development will be discussed in this session.

Moderator: Yakut Gazi, Texas A & M University

The Past: A timeline and past milestones of Continuing Professional Development  
Soma Chakrabarti, University of Delaware

The Present: Iowa State Engineering-LAS Online Learning and Open SUNY,  
Thomas Brumm, Iowa State University

Kim Scalzo, State University of New York

The Future: A Panel with three visionaries who will state how they see the future of Continuing Professional Development.

Nelson Baker, Georgia Institute of Technology

Edward Borbely, University of Michigan

Paul Marca, Stanford University

### ***ETD 315 The History of Engineering Technology and Engineering Education as It Has Developed in the United States***

Covered in this session will be topics of different aspects of the development of the field of engineering technology and engineering education in the United States. Engineering Technology was founded by the "Committee of Twenty One." The members of this committee took those programs through to the predecessor of what is now ABET accreditation just after WWII. Next, the influence of the Grinter Report on engineering technology and the emergence of manufacturing engineering technology as an example will be discussed. The evolution of a proprietary school into an integrated collegiate unit, housing both engineering and engineering technology will be explored as well as the history of this college, in the context of the engineering versus engineering technology divide at the national level. The development of the Engineering Technology Listserv over the past twenty years will be covered and how it helped in a unification of the field. A brief historical analysis on whether engineering and engineering technology can exist at the same institution will also be discussed. Then engineering, education, and computers, past, present and future will be looked at. Finally an overview of engineering education in America from its inception to the present will be covered starting with the time period prior to Morrill Act of 1862 and ending with the most recent movements to integrate engineering in K-12.

Moderator: Walt Buchanan, Texas A&M University

Presenters and Presentations:

Lawrence J. Wolf, Oregon Institute of Technology. *Engineering Technology -- A Discipline or a Stepping Stone: What or Where Now?*

Rod L. Flanigan and Dale S. Porter, University of Nebraska at Kearney, *The Influence of the Grinter Report on Engineering Technology and the Emergence of Manufacturing Engineering Technology*

Amos St. Germain, Wentworth Institute of Technology. *Goodbye to All That*

Marjaneh Issapour, Farmingdale State College and Keith Sheppard, Stony Brook University. *Evolution of American Engineering Education*

Don Ploger, Florida Atlantic University. *Using Computer Speech Recognition to Enhance Second Language Learning: A Case Study*

Walt Buchanan, Texas A&M University. *The Development of the Engineering Technology Listserv over Its First Twenty Years*

## **CIEC 341 Industry Day Luncheon**

Join your colleagues for a special luncheon designed to honor the award winners from the Corporate Member Council and the CIEC sponsors. Cost of the luncheon is included in your conference registration.

## **2:00 – 3:30 p.m. Division Sessions**

### **CEED 322 *Overcoming the Barriers to Co-op***

Cooperative Education enables students to integrate classroom theory into practice in an employment position related to their major field of study. Co-op is an extension of the classroom in theoretical practice. Typically, students get academic credit and earn as they learn. Sounds great – so what is the problem? As there are many co-op programs that are not mandatory and would like to employ the traditional concepts of a mandatory co-op program, there are challenges. This panel will cover aspects of how a non-mandatory co-op program has had success with developing a robust self-sustaining program. In addition, discussion of exploration of studying students' attitudes toward optional co-op programs will be addressed. Also, this panel will cover how experiential learning thrives through internship opportunities while sharing information on providing employers to external funding for internships and developing inter-departmental work groups to enhance employer engagement.

Moderator: Erin Minta

Presenters:

John Bau, University of Connecticut

Ana Wieman, University of Washington

Matthew Jensen, Florida Institute of Technology

### **CIP 323 *CMC/CIP Roundtable: Building a Bigger Tent for the Future***

How can corporations and educational institutions work better together to expedite the adoption of best practices in research, co-op and internships, preparing a diverse community of graduates and educating in-service engineers? Representatives from the Corporate Member Council will share a work-in-progress presentation of CMC's strategic review and lead an open discussion to gain feedback on that process from all CIEC attendees. CIP, CPD, CEED and ETD participants are invited to share lessons learned, best practices, challenges, and success stories as we look into the future for building stronger industry/academia partnerships.

Moderator: Ron Madler, Embry-Riddle Aeronautical University

Presenters: Diane Matt, WEPAN and Dan Sayre, John Wiley, Inc.

### **CPD 324: *Engaging Industry in the Post-Recession World***

The Great Recession left its indelible mark across the world of business and its effects did not ignore university-industry engagement activity. It's common to hear that during tough economic times training budgets are the first to go, but how exactly does this change the way engineering schools design and deliver training to industry organizations.

Highlighting pre and post-recession corporate demands, identifying how best to approach and manage design/delivery of programs, finding balance between what engineering schools do best and what companies actually need; this session presents both anecdotal understanding and industry survey results to catalyst intelligent dialog around today's business of selling corporate and professional programs.

Moderator: Zachary Gredlics, University of Kansas

Presenter: Karl Theisen Arizona State University

### **ETD 325 Nuts and Bolts of Engineering Technology Division**

Designed specifically for ETD newcomers (but useful for all), this session will concentrated on the resources available to ETD members including members of the ETD leadership, funding and publishing opportunities, the ETD List serve, and information on the ETD Strategic Plan. Opportunities for getting involved will be explained. A special introduction of the ETD Mini Grant Winners will also be presented.

Moderator: Keith Johnson, East Tennessee State University

Presenters:

Walt Buchanan, Texas A&M University

Marilyn Dyrud, Oregon Institute of Technology

Keith Johnson, East Tennessee State University

Ken Rennels, Indiana University Purdue University Indianapolis

### **3:30 – 4:00 p.m. EXPO and Coffee Break**

Visit the CIEC exhibitors during the coffee break session to learn more about their products and services.

EXPO Chairs: Edna Grover-Bisker, Missouri University of Science and Technology  
David Schmueser, Altair Corporation

### **4:00-5:30 p.m. Division Sessions**

#### **CEED 332 *Future Trends – Systems Thinking for Co-ops and Internships***

This interactive session will provide ideas of the 21<sup>st</sup> century continuous improvement (CI) and systems thinking combined with some recent research on workforce development and the millennial generation. This session will discuss strategies for successful co-ops and



internships from the perspective of students, industry and universities. In particular, review of the Baldrige framework and Lean Six Sigma practice for improving co-op and internship experiences will be examined. After the session, you will be able to take back to your organizations CI tools and quality systems thinking to improve your co-op and internship programs.

Moderator: Edna (Eddie) Grover-Bisker, Missouri University of Science & Technology

Presenters: Cindy Veenstra, Veenstra and Associates  
Julie Furst-Bowe, Southern Illinois University Edwardsville  
Reginald McGregor, Rolls Royce

### ***CIP 333 What Industry Wants and Needs***

In every partnership there are at least two or more parties involved who bring with them certain goals or perceived needs. Communication is one of the extremely important components in developing a working relationship for the partnership to succeed. Does academia really understand the motivation and needs of their industry partners? This session will focus on issues related to industry and how universities can better understand what industry needs or is looking for in the establishment of partnerships with academia.

Moderator: Letha Hammon, DuPont

Panelists: Industry Representatives

### ***CPD 334 Partnerships that Perform—It Takes More than Good Intentions***

The future of engineering education is being transformed through the emergence of new opportunities for partnerships made possible in an inter-connected world. One of the great promises of distributed learning is the opportunity for partnerships between diverse organizations that can produce superior outcomes. However, partnerships often fall short of their promise and end in disappointment. The presenters published a model for effective partnering over 10 years ago and have used it successfully with corporate and university groups. In this session we present our model and share our experiences in applying it. An interactive component calls upon participants to apply aspects of the model to their own programs and partnerships.

Moderator: Diane Landsiedel, University of Michigan

Presenters: Sue Bray, New Vistas and Kim Scalzo, State University of New York

### ***ETD 335 Collaborations that Strengthen Engineering and Engineering Technology Programs***

This session explores the ways in which an academic program can collaborate with industry partners; government entities or agencies; and other academic programs (both at the home institution and at other institutions of higher learning). These collaborations can be established at the local, state, national, or international levels and are designed to add value to all parties involved in the collaborations. The primary goals of the collaborations are to: 1) enhance student learning, 2) increase engagement between involved parties, and 3) increase research in engineering and engineering technology. Papers in this session describe various collaborations, as well as, the strengths, weaknesses, and opportunities that are associated with each partnership.

Moderators: Patricia Fox and Charles McIntyre, Indiana University Purdue University Indianapolis

Presenters and Presentations:

Doug Acheson, Indiana University-Purdue University Indianapolis.

*3D Parts Manufacturing: Hewitt Molding Company Groundbreaking Collaboration between Consumer Retailer Walmart, University Research, and Existing Manufacturing and Revolutionary Additive Manufacturing Firms*

Sofia Vidalis and Joseph Cecere, Penn State University, Harrisburg.

*Building Information Modeling/Vertical Digital Construction: Teaching Strategies and Preparing Students for the Workforce*

Emory Zimmers and Charalambos Marangos, Lehigh University, Zephyros, Inc.

*The Design and Implementation of an Advanced Analytics Laboratory Supporting Industry Partnerships*

Masoud Fathizadeh, Purdue University Calumet.

*Industry Collaborating for Training Workforce*

Regena L. Scott and Edie K. Schmidt, Purdue University.

*Establishing and Managing Business-University Research Partnerships*

Charles McIntyre and Patricia Fox, Indiana University Purdue University Indianapolis.

*Developing a "High Impact" Industry Advisory Board*

#### **4:00 – 6:00 p.m. ETD Board Meeting**

Chair: Keith Johnson

East Tennessee State University

#### **5:45-6:30 p.m. CIEC Walk/Run in Downtown Palm Springs**

Meet in the hotel lobby at 5:45 p.m. for a walk around downtown Palm Springs.

Coordinator: Helene Demont, University of Wisconsin, Madison

#### **7:00 p.m. CIEC 40<sup>th</sup> Anniversary Gala Banquet**

Join conference participants as we celebrate the 40<sup>th</sup> anniversary of CIEC. The cost of the dinner is included in the CIEC registration fee. Individual tickets may be purchased for guests at the event who are not registered for the companion's program. Dress is semi-formal.

## Thursday, February 5, 2015

### **7:00-8:15 a.m. *Division Breakfasts and Business Sessions***

Meet your colleagues for breakfast and a brief business meeting at one of the following division breakfasts. First time attendees are welcome to attend the breakfast of the division they are interested in gathering more information or joining.

#### **CEED 412 *CEED Business Meeting Breakfast***

Chair: Reginald McGregor, Rolls-Royce

#### **CIP 413 *CIP Business Meeting Breakfast***

All CIP and CMC members are encouraged to attend this breakfast meeting as the division elects new officers and board members. The Board Chair will provide an overview of the division's 2013-14 activities.

Ron Madler, CIP Board Chair, Embry-Riddle Aeronautical University  
Beth Bryant, CIP Secretary, Georgia Tech University  
Linda Thurman, CIP Treasurer, University of North Carolina, Charlotte  
Charles Baukal, CIP Past-President and Elections Chair, John Zink Corporation

#### **CPD 414 *CPD Business Meeting and Breakfast***

All CPD members and new attendees are invited to attend. New officers will be elected and introduced.

Chair: Paul Jewell, Iowa State University

#### **ETD 415 *Engineering Technology Division Breakfast***

All ETD members are encouraged to attend this breakfast meeting of the division. Come get involved!

Chair: Keith Johnson, East Tennessee State University

### **7:30-8:30 a.m. *Companions Breakfast Meeting***

Companions can enjoy breakfast together in the Terrace Restaurant. Tickets will be provided as part of the registration fee.

### **9:00-11:00 a.m. *Companions Tours of the Palm Springs Windmills***

All who are registered for the tour will meet in the hotel lobby. Tour bus will pick up companions at the hotel and will return approximately at 11:00 a.m. Tickets must be purchased in advance.

## **8:30-10:00 a.m. Division Sessions**

### ***CEED 422 Preparing Students for Co-op: Successful co-ops, First co-ops and Success in Full-Time Job Searching and Beyond***

Much discussion has been found in literature and social media these days on whether GPA is the best indicator of success for working outside of school. This session will look at resources used in the classroom on understanding the Growth Mindset in order to better prepare students for co-op. In addition, for first co-ops, this session will provide interactive marketing, promotional and engagement strategies – ingredients that have increased the appetite of 1<sup>st</sup> year students to the smorgasbord of career exploration.

Moderator: Mary Rose Tischar,

Presenters:

Jan Vanselow, Northeastern University

Lorraine Mountain, Northeastern University

Kyle Liechty, Michigan State University

Bernadette Friedrich, Michigan State University

### ***CIP 423 Innovative Partnerships to Provide Students with Skills Industry Needs***

Moderator: Lori Glover, MIT

Session A:

The Engineering Ambassador Network is a nationwide collaboration of Engineering Ambassador Programs that provides opportunities for undergraduate students to become exceptional communicators and leaders. This session will highlight how one university has worked closely with industry through program sponsorship, internships, and networking events to establish partnerships that benefit the university, the industry partners, and the undergraduate Ambassadors.

Presenters: Christine Haas, Engineering Ambassadors Network  
Melissa Marshall, Penn State University

Session B:

This presentation will highlight a unique partnership between Embry-Riddle Aeronautical University and Gulfstream Aircraft Company to design and deliver an exclusive master's degree program for company's engineering and technical staff. Launched in 2009 and initially designed to address company's competency gaps, provide professional growth opportunity, loyalty, and talent retention, has resulted in many other win-win initiatives benefiting both the company and the university. Data on student success, enrollment trends, program delivery modes, and impact of the program on enhancing and strengthening the university-company collaboration are presented and analyzed.

Presenter: Maj Dean Mirmirani, Embry-Riddle Aeronautical University

### **CPD 424 *You want to teach what from where?!***

An adjunct professor is contracted to teach an undergraduate class to students at a remote location close to his place of employment. At the last minute, it is decided to simultaneously offer the class to students on campus 65 miles away via distance technology (on a budget). We will chronicle the trials and tribulations of supporting a technology challenged instructor from a distance and the various delivery platforms attempted. We will be focusing on the decisions to use certain platforms including their strengths, weaknesses, student experience, and dependability. We will conclude with a discussion of the eventual winning solution and how the number of requests like this is increasing.

Moderator: Tamra Swann, Mississippi State University

Presenter: Marty Ronning, University of Maryland

### **ETD 425 *Engineering Technology National Forum (ETNF)***

The ETNF is an action arm of the ASEE Engineering Technology Council, providing “a continuity of effort in taking internal and anecdotal discussions to a higher level to investigate them factually, turning high-level issues into action items for national impact.” *Journal of Engineering Technology*, Fall 2012 Issue.

The ET National Forum also works closely with the ETLI National Leaders Conference in developing the conference program currently held in Washington, DC each fall. This CIEC session will report on current activities and seeks interaction from the attendees on current activities as well as potential future activities that could impact Engineering Technology Nationally. Ongoing current activities include:

- Federal Office of Personnel Management (OPM) GS-800 description rewrite to be more inclusive of the Engineering Technology
- NAE NSF sponsored study: *THE STATUS, ROLE, AND NEEDS OF ENGINEERING TECHNOLOGY EDUCATION IN THE UNITED STATES*
- ET Marketing Strategies
- Other timely topics as appropriate

Moderator: Bob Herrick, Purdue University

Presenters: Representatives from ETNF Subcommittee

### **10:15–10:55 a.m. Expo and Poster Session**

Visit the CIEC exhibits and the poster presentations. A list of poster presenters will be available.

Poster Session Chair: Rita Burrell, Mississippi State University

### **11:00-12:30 p.m. Division Sessions**

***CEED 432 Experiential Learning Pathways for Junior and Senior STEM Students: A Model for Incorporating Undergraduate Research, Internships, and Entrepreneurship Experiences***

STEM (Science Technology, Engineering, Mathematics) students with no or limited exposure to professionals in the field may make career decisions based on distorted perceptions that lack socialization to the profession. This session will discuss the evolution of a unique experimental learning program in a large engineering and computer science college. This model differs from traditional experiential learning programs in four ways: (1) partnerships with other on-campus colleges and units to incorporate undergraduate research, internship and entrepreneurship pathways under one program; (2) a co-hort-based approach to create learning communities; (3) recruitment of internships for rising juniors and community college transfers who lack the discipline-specific knowledge of seniors ; and (4) sponsored funding to support the program and provide financial support to the students.

Moderator: Danielle Beaverson, Cleveland State University

Presenters:

Lisa Massi, University of Central Florida

Jackie Herold, University of Central Florida

***CIP 433 Successful Partnerships between Academia and Industry***

Successful partnerships between academia and industry are built upon the cooperation and clear communications among all parties which have agreed to work together to undertake a specific task or provide a specific service or purpose. Examples of such partnerships between academia and industry and among academic institutions will be shared in this session.

Moderator: Beth Bryant, Georgia Institute of Technology

Presenters:

James Sember, Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC), University of Wisconsin, Madison

Nick Nagel, Triumph Aerospace

John Gilligan, Power America: The Next Generation Power Electronics National Manufacturing Innovation Institute, North Carolina State University

Diran Apelian, Metal Processing Institute, Worcester Polytechnic Institute

***CPD 434 International Partnerships in Continuing Engineering Education: Best Practices and Considerations for Future Global Expansion***

Continuing engineering education has transformed from a localized service to a global industry. International expansion continues to be a necessity for professional development programs in the future, but this expansion is not always easily obtainable. Partner universities, professional organizations and corporations around the world can assist by providing experts who are familiar with educational, business and cultural expectations in the destination country.

This presentation will share best practices and lessons learned, including business practices, legal considerations, cultural expectations and learning differences encountered while developing international partnerships in professional engineering education.

Moderator: Octavio Heredia, Arizona State University

Presenters:

Zachary Gredlics, University of Kansas

Soma Chakrabarti, University of Delaware

### **ETD 435 *More Women and Girls in STEM: How To***

Learn proven recruitment and retention practices and strategies so you can see more female students succeed in your STEM classes within the next year. Donna Milgram—Executive Director of the National Institute for Women in Trades, Technology and Science—will share proven practices and strategies that resulted in real increases in female enrollment and in female and male completion rates in STEM programs around the country. Participants will walk away with recruitment and retention strategies they can implement in their schools right away. This will be an interactive session with a worksheet you can bring back to your home institution.

Moderator: Helen McNally, Purdue University

Presenter: Donna Milgram, Executive Director, Institute for Women in Trades, Technology & Science (IWITTS)

### **12:45-2:00 p.m. CIEC Awards Luncheon**

CIEC 2014 award winners and CEED's student of the year and employer of the year will be honored. Luncheon tickets are included in the registration fee. Continue your dialogue with conference participants as we honor these winners.

Hosts: Ron Madler, CIEC Board Chair

Mark Schuver and Mitch Springer, Purdue University

Ken Rennels, UIUPI, CIEC 2014 General Conference Chair

### **1:30-4:00 p.m. *Companions Indian Canyon Tour***

Meet in the hotel lobby at 1:15 p.m. to load the bus for the Indian Canyon Tour. Tickets must be purchased in advance.

### **2:00-3:30 p.m. Division Sessions**

## ***CEED 442 Preparing Students for Success in Full-time Job Searching and Beyond***

As a part of a graduation requirement, Northeastern University's College of Engineering students must take a course entitled "Professional Issues in Engineering." The Mechanical & Industrial Engineering co-op department developed this course curriculum which covers topics such as reflection and career planning, portfolios, ethics, and lifelong learning. This session will share curriculum overview and dive more deeply into the topics of engineering leadership development and human resources perspectives on student success in the job search derived through collaboration with our industry partners.

Moderator: Chris Cooper, University of Cincinnati

Presenters:

Kerri Beiswenger, Northeastern University

Alison Nogueira, Northeastern University

## ***CIP 443 Future of Engineering Education: An IEEE Report***

Technological, economic, and social changes will reshape undergraduate engineering education, but there is little consensus on its future. To gather more information about how members of the engineering education community think about the current state and future directions of engineering education, the IEEE Curriculum and Pedagogy Committee (CPC) conducted a global survey. People in four categories were surveyed: individuals who (a) teach undergraduate students, (b) administer a degree program (i.e., Department Chairs and Heads), (c) serve as a top-level administrator over all engineering degree programs (i.e., Deans), and (d) individuals who work professionally in engineering, were invited to respond to the survey. With 2176 responses on a wide range of issues, the CPC believes that survey results can inform conversations about the future of engineering education. For this presentation, the CPC will focus on responses from industry practitioners on the importance of a wide range of skills for engineering graduates as well as strengths of current engineering graduates with respect to these skills. In addition, the CPC will present an analysis of data from all respondents on initiatives to:

- (1) Ensure that entry-level engineers are prepared,
- (2) Facilitate exchanges between industry/government practitioners and students, and
- (3) Facilitate collaborative activities between academia and industry.

Results will illuminate strengths and opportunities to improve engineering graduates as well as potential directions to enact these improvements.

Moderator: Linda Thurman, University of North Carolina, Charlotte

Presenter: Susan Lord, University of San Diego

## ***CPD 444 Best Practices in Faculty Compensation to Incentivize Distance Learning Participation***

In higher education, courses and curriculum are purportedly the intellectual property of the academic departments who provide faculty to teach or the faculty themselves. This directly implies there needs to exist some level of financial incentive for the home department of those faculty, as well as direct incentive to the faculty who are involved in teaching. After all expenses are accounted for, then, what model for faculty incentive is most applicable and will



provide maximum incentive to participate in professional studies? This paper focuses on the impact of numerous employed faculty compensation models across multiple institutions of higher education.

A survey of these many institutions of higher learning, regarding their compensation strategy for adjunct faculty, was collected and compiled. This presentation will share the results of this cross-institution study and encourage input from attendees on their experience with these and other methods/practices.

Moderator: Rita Burrell, Mississippi State University

Presenters:

Tom Brumm, Iowa State University

Mitchell Springer, Purdue University

Mark Schuver, Purdue University

### **ETD 445 *The Dean's Panel***

Engineering Technology Deans from three different types of university settings will discuss the budget processes and challenges faced today. In addition, future predictions and how we may solve some of the challenges we all face will also be discussed. The panel will start with a few brief opening comments for background and then this session will be mostly Q&A. Come and take advantage of a great opportunity to better understand the realities of the budgeting process and variety each institution faces from a Dean's perspective.

Moderator: Ken Burbank, Purdue University

Presenters:

Verna Fitzsimmons, Kansas State University

Steve Cobb, Murray State University

### **4:00-5:00 p .m. CIEC Ice Cream Social**

Visit the exhibits and poster presentations for the last time and enjoy refreshments with your CIEC colleagues.

### **5:00-6:30 p.m. CIP and ETD Hospitality Event**

Before going out to dinner, take time to visit colleagues and new acquaintances in the hospitality suite. All CIEC participants and companions are invited to attend the joint event sponsored by the College-Industry Partnership and Engineering Technology Divisions.

### **5:00-6:30 p.m. CPD and IACEE Hospitality Event**

Please join the **Continuing Professional Development Division** and **International Association for Continuing Engineering Education** for a joint wine and cheese hospitality event. Attendees can network and mingle with members from both CPDD and IACEE.

## **5:00-6:30 p.m. CEED Awards Reception**

Join CEED as they recognize the Award Winners for the Student of the Year and the Employer of the Year.

## **7:00 p.m. – Bedtime Downtown Palm Springs Village Fest**

Downtown Palm Springs opens up on Thursday evenings for its weekly street Village Fest or street fair. Palm Springs Canyon road will be closed to vehicles between Baristo and Amado where more than 100 arts, crafts, and food vendors set up their booths up and down the street. A lot of the shops and restaurants will be open so you can get souvenirs for your family. The Palm Springs Art Museum will also be open and there is no admission fee for the evening. Get some exercise, see how many Hollywood stars you remember identified on the sidewalks, and enjoy the evening event.

## **Friday, February 6**

### **7:30- 8:45 a.m. Division Breakfasts and Planning Meetings**

#### **CEED 512 *CEED Breakfast***

Join CEED colleagues for a morning cup of coffee and breakfast.

#### **CIP 513 *CIP/CMC Planning Breakfast***

Join the CIP Board Members, CMC representatives and CIP members as they look towards the future in the planning of CIEC 2016 sessions and activities.

Moderator: Ranji Vaidyanathan, Oklahoma State University, 2016 CIP CIEC Program Chair

#### **CPD 514 *Special Interest Group (SIG) Breakfast***

Join the CPD breakfast discussion that sets the framework for workshops and sessions for the 2016 CIEC Program for the Continuing Professional Development Division. Meet in your designated Special Interest Group, which include: Administration, Faculty, International, Industry and Delivery -- and share ideas for workshops and sessions that you would like to either present or attend at the 2016 CIEC!

Moderator: Mark Schuver, Purdue University  
Presenter: Terri Gaffney, University of Idaho, 2016 CIEC CPDD Program Chair

#### **ETD 515 *ETD Business Meeting and Breakfast***

Join the ETD leadership as they discuss pertinent division information as well as upcoming events and activities. All ETD members are encouraged to attend.

## **9:00 – 10:30 a.m. Division Sessions**

### ***CEED 532 Industry Perspectives on Successful Careers after Successful Co-ops and Industry Benefits on Workforce Diversity***

What makes a successful industry co-op program? What guidance can be provided to students while on co-op? This session will have industry representatives share their experiences with hiring and working with successful and unsuccessful co-ops. Industry representatives will also discuss how co-op programs are crucial to their company's recruitment and provide feedback on the benefits and challenges to incorporating internships. For industry members that would like to start a co-op program, this session will give guidance to the "nuts and bolts" of this endeavor. With the push in academia to increase women and representation of other under-represented groups in engineering, panelists will conclude with a discussion on the importance of diversity and inclusion for engineering workforce development.

Moderator: Reginald McGregor, Rolls-Royce

Presenters:

Helen Rapp, GE Lighting

Duane Crockrum, Parker Hannifin Corporation

Phillip Polito, Turner Construction Company

Lewis Braxton, NASA

Woodrow Whitlow, Cleveland State University

### ***CIP 523 Potpourri of New Initiatives in Engineering Education Programs***

#### **Session A: EnCorps STEM Teacher Program for Professions and Military Veterans**

EnCorps' mission is to recruit, transition and support experienced professionals and military veterans in the STEM fields as teachers and tutors. Find out what inspires the participating professionals to help young people become future explorers, engineers and scientists.

Presenter:

Katherine Wilcox, EnCorps

#### **Session B: Disruptive Technologies = New opportunities for Academic/Industry Partnerships**

We have all heard about MOOCs- traditionally semester long undergraduate level classes, delivered online for free, and accessed all over the world. But what if you took the technology platform, created professional level content, shortened the offering to just about 1 month, and added custom features companies would need? This session will discuss how MIT used the EdX platform to offer "Tackling the Challenges of Big Data" to a professional audience world-wide and added new win/win opportunities for academic/industry partnerships in the process.

Lori Glover, MIT

Moderator: Charles Baukal, John Zink Institute

## **CPD 524 *Serendipity in Entrepreneurship: Engineering Your Own Breaks***

“Serendipity” may evoke the image of “dumb luck,” but serendipity in entrepreneurship is a combination of one’s prior knowledge, a purposeful search, and a chance event. The speakers will share how their programs have grown through serendipitous discovery: outlining categories of serendipitous incidents and giving examples of the application of the knowledge and the search activity that lead to success when a seemingly “chance event” occurred. They will also share how individuals and organizations can improve their opportunities for serendipitous growth. Throughout the presentation, feedback and examples will be elicited from the audience.

Moderator: Edna Grover-Bisker, Missouri University of Science & Technology

Presenters:

Kevin Curry, University of Kansas Continuing Education

Jeffrey Blessing, Milwaukee School of Engineering

Joe Levens, Pittsburg State University

## **ETD 543 *Future of Engineering Technology Education - Graduate Programs***

Beginning in the 1950s and 1960s, post-secondary institutions in the United States and Canada began offering degrees in Engineering Technology. These programs focus on applied application of engineering science principles. Depending on the institution, 2-year Associate of Science and/or 4-year Bachelor of Science degrees were offered. In general, an Engineering Technologist student receives a broad range of applied science and applied mathematics education as well as the fundamentals and application of engineering principles in the student’s area of focus. Today, many institutions offer graduate degrees at the Master’s and/or Doctorate level. While many programs remain applied in nature, other programs include applied research components. This session will explore the future direction of graduate education programs in Engineering Technology in terms of philosophy along with curriculum design, assessment and accreditation.

Moderator: Ken Rennels, Indiana University Purdue University Indianapolis

Presenters and Presentations:

Andy E. Jackson, East Carolina University. *The Ghost of Technology Future*

Saeed D. Foroudastan and Dianna J. Prince, Middle Tennessee State University.  
*Engineering Management: The Future of Engineering Technology*

George Yang, Missouri Western State University.  
*Using Graduate Teaching Assistant to Build a Self-Sustaining Graduate Program*

N. Athula Kulatunga, Purdue University.  
*Enhancing Graduate Research through Collaborative Research: Case of Global Innovations for Smart Grids*

Ken Rennels, Indiana University Purdue University Indianapolis.  
*Online Graduate Education in Engineering Technology: Lessons Learned*

**10:30-11:00 a.m. Morning Refreshment Break**

**11:00-12:30 p.m. Sessions**

**CEED 532 *CEED Planning Session for 2016***

Join CEED members as they plan for the next CIEC conference to be held in Austin, Texas. Bring your ideas and help plan your division's sessions and activities.

Moderator: Sandra English, CEED Program Chair for CIEC 2016

**CIP 532 *CIP Board Meeting***

Letha Hammon, 2015 CIP Chair, will lead a discussion among continuing and newly elected board members about CIP projects and initiatives for 2015.

**CPD 543 *Engineering Education: Past, Present and Future***

Session A: *"The [Students] They Are a Changin..."*

With greatest respect for Bob Dylan's 1964 song "...the [students] they are a changin..." ProSTAR has experienced first-hand, the transitioning of professional working adult learners from one generational cohort to another, and now, to yet the youngest of generational cohorts... the Millennials.

Drawing from sixteen years of student data, this report will focus on who these cohort learners are and how they compare to previous cohort groups of comparable age. The information presented will focus on generational cohort differences that impact, or have the potential to impact the offering of Master of Science degrees and other fee-based continuing educational opportunities.

Session B: *Quality vs Quantity: Running the Academy as a Business*

Everyone should agree quality programs are the cornerstone of a quality education and the attendant ranking of an institution. Our differences reside in perspective couched in the perception of necessity to run an academic unit as a business.

ProSTAR has produced scholarship on the insufficiency of GPA and GRE as determinants of entry into graduate programs for professional working adult learners. This paper will dig deeper into the cultural perspective of the burning platform, and the implications for historical thresholds for adult learner entry. The paper will examine the underlying premise of what has been termed "a call to action".

Moderator: Meghan Balding, University of Southern California

Presenters:

Mitch Springer, Purdue University

Mark Schuver, Purdue University

**ETD 545 *Potpourri of Creative Ideas***

Creative ideas and inspiring papers which did not quite fit the programs sessions are included in this session. Contributions span from ethics in corporate America to engineering

education in K-12. Experiences and sustainability ideas for Senior Capstone and Internship programs will be presented as well as a very innovative teaching tool for power management.

Moderator: Mike Strange, California Maritime Academy

Presentations and Presenters:

Engineering Ethics and Corporate America: The Case of Ford Motor Company  
Marilyn A. Dyrud, Oregon Institute of Technology,

An Integrated Experience for Elementary Engineering Education  
Richard Gilbert, University of South Florida and Marilyn Barger, Florida Advanced Technological Education Center of Excellence

Creativity Assessment of Senior Design Projects Using an Engineering Expert Panel  
Abi Aghayere, Drexel University

Viability of an Engineering Technology Internship Program at a Rural Institution  
Austin C. Cheney, Eastern Illinois University

Design and Development of a Teaching Tool for Lithium-ion Battery Management System, Y. Gene Liao and David T. Fu, Wayne State University

Cradle to Cradle Sustainability Concept for Technology Education Senior Capstone Projects  
George E. Comber and Kerry N. Tobin, Weber State University,

**12:45 p.m. CIEC 2015 Conference Concludes**

## **Post Conference Activities – Friday, February 6**

**12:45-2:00 p.m. *CIEC 2015 and 2016 Management Team Luncheon***  
By Invitation Only

**1:00-5:00 p.m. CPD 543 – IACEE Executive Council Meeting**

**1:30-3:00 p.m. ETD 555 – ECETDHA Board Meeting**

**3:00-4:30 p.m. ETD 546 – ETC Board Meeting**

**4:30-6:00 p.m. JET Meeting**

**Saturday, February 7**

**8:00 a.m. - 12 Noon** *IACEE Executive Council Meeting*

**9:00 a.m. – 5:00 p.m.** *ETD Workshop: Fundamentals of Program Assessment (ABET)*

Participants will broaden their understanding of the continuous improvement of student learning through the design of assessment processes, development of measurable student outcomes, and application of data collection and data reporting methods. Workshops are facilitated by highly experienced faculty with wide-ranging experience in assessment and evaluation. This workshop focuses primarily on ABET Criterion 2: Program Educational Objectives, Criterion 3: Student Outcomes and Criterion 4: Continuous Improvement. This workshop is interactive and those attending will work in small groups applying the concepts learned throughout the day. Participants will receive a workshop booklet containing all slides and reference materials.

Presenter: Elaine Cooney, Indiana University Purdue University Indianapolis

Registration Required: Cost \$175 for CIEC 2015 Participates

## **CIEC 2015 Conference Management Team**

### ***General Conference Chair***

**Linda Krute**

North Carolina State University

### ***CIEC Executive Board Chair***

**Ron Madler**

Embry Riddle Aeronautical University, Prescott

### ***Assistant General Conference Chairs***

**Mark Schuver**

Purdue University

**Mitchell Springer**

Purdue University

### ***Registrar***

**Mike Mathews**

Retired, Mississippi State Univ.

### ***Publicity Chair***

**Maureen Barcic**

University of Pittsburgh

***College-Industry Partnership Division Program Chairs***

**Lori Glover**

Massachusetts Institute of Technology

***Engineering Technology Division Program Chair***

**Helen McNally**

Purdue University

***Continuing Professional Development Division Program Chair***

**Candace House Teixeira**

University of Southern California

***Cooperative & Experiential Education Division Program Chair & Asst. Chair***

**Sandra English**

Cleveland State University

***Golf Networking Coordinator***

**Paul Plotkowski**

Grand Valley State University

***Walk-Run Coordinator***

**Helene Demont**

University of Wisconsin, Madison

***EXPO Coordinators***

**Edna (Eddie) Grover-Baker**

Missouri University of Science & Technology

**David Schumeser**

Altair Engineering

***Sponsorship Chair and Proceedings Coordinator***

**Ken Rennels**

Indiana University Purdue University Indianapolis

***Financial Chair***

**Linda Krute**

North Carolina State University

***Companions Program Chair***

**Robert Krute**

Retired, US Army

