



**Conference for Industry and Education Collaboration  
Unmasking Engineering Education  
Hotel Monteleone, New Orleans LA  
January 30-February 1, 2019**

Welcome to the 44<sup>th</sup> annual CIEC Conference. The 2019 CIEC management team designed this year's conference to include two workshops, 40 sessions planned by the four sponsoring divisions, and special opportunities for you to gain new ideas and share your thoughts and experiences with others in similar areas of responsibilities. Your conference registration includes all of the meals of the day, including the CIEC Awards Luncheon on Wednesday and the Industry-Education Luncheon honoring the Corporate Member Council's award winner on Thursday. If this is your first CIEC conference, please have breakfast with one of the four divisions, meet their members and learn more about their activities.

Twenty exhibitors will be in the EXPO on Thursday to share ideas with you about their products, services or divisions. Make time for the evening hospitality events sponsored by each of the divisions. The Corporate Networking session on Friday morning will also include great exercise and networking activities in a different venue at the Audubon Park Golf Club.

Please seek out any member of our management team if you have questions about our conference or how you might become more involved in CIEC.

We are glad that you have joined us this week in New Orleans.

**Linda Krute**  
2019 CIEC General Conference Chair

**2019 Conference Management Team**

2019 General Conference Chair  
**Linda Krute**  
North Carolina State University

2019 Assistant General Conference Chair  
**Rita Burrell**  
Purdue University

CIEC Board Chair  
**David Schmueser**  
Clemson University

CIEC Registrar  
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University of Cincinnati

CEED Program Chair  
**Sandra English**  
Cleveland State University

CIP Program Chair  
**David Schmueser**  
Clemson University

CPDD Program Chair  
**Terri Gaffney**  
University of Idaho

ETD Program Chair  
**Ken Rennels**  
Retired, University of Indiana  
Purdue University Indianapolis

Corporate Liaison  
**Letha Hammon**  
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Communications Coordinator  
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University of North Carolina at Charlotte

Publicity Chair  
**Maureen Barcic**  
University of Pittsburgh

Golf Networking Coordinator  
**Paul Plotkowski**  
Grand Valley State University

New Attendees Program Coordinator  
**Tamra Swann**  
Mississippi State University

Proceedings Chair  
**Ken Rennels**  
Retired, University of Indiana  
Purdue University Indianapolis

Poster Chair  
**Ben Zoghi**  
Texas A & M University  
Opening Reception Coordinators  
**Pat Hall and Nancy Kruse**  
University of Tulsa

AV Coordinator & Photographer  
**Craig Gunn**  
Michigan State University

Companions Coordinator  
**Robert Krute**

Financial and Exhibits Chair  
**Linda Krute**  
North Carolina State University

### **Sponsors**

All Campus  
Grand Valley State University  
North Carolina State University  
Purdue University  
RoMan Manufacturing  
Texas Instruments

### **EXPO Exhibitors**

ABET  
Advanced Technology Education (ATE) Community  
All Campus  
American Society for Engineering Education (ASEE)  
ASTM International  
CIEC 2020  
Cooperative and Experiential Education Division (CEED)  
College-Industry Partnership Division (CIP)  
Continuing Professional Development Division (CPD)  
Engineering Technology Division (ETD)  
National Science Foundation (NSF)  
North Carolina State University  
Purdue University  
Solid Professor  
Texas Instruments  
University of Minnesota Law School

**CIEC Conference App** – Eventus

### **Sponsoring Organizations**

#### **American Society for Engineering Education (ASEE)**

Founded in 1893, the American Society for Engineering Education is a nonprofit organization of individuals and institutions committed to furthering education in engineering and engineering technology. It accomplishes this mission by promoting excellence in instruction, research, public service, and practice.  
<https://www.asee.org>

#### **College-Industry Partnership Division (CIP)**

The College Industry Partnerships Division views academia from a unique perspective focusing on the requirements of industry. Our view of engineering education enables us to focus on issues pertinent to the practicing engineer and to incorporate them in curricula to better prepare engineering students to contribute to the issues and challenges facing industry in the future. This division cosponsors the annual Conference for Industry and Education Collaboration (CIEC), as well as participating extensively in the ASEE Annual Conference. <http://cip.asee.org/>

## **Conference for Industry and Education Collaboration (CIEC)**

The Conference for Industry and Education Collaboration is organized and supported by four divisions of ASEE: Cooperative and Experiential Education Division (CEED), College-Industry Partnerships (CIP), Continuing Professional Development Division (CPDD) and the Engineering Technology Division (ETD). The divisions share the management responsibilities of the CIEC conferences. <https://www.asee.org/ciec2019>

## **Continuing Professional Development Division (CPDD)**

This division is a focal point for persons charged with responsibility for maintaining the competence of individuals working in industry, education, and government. An active membership has nurtured an ongoing interchange of ideas, involvement, and information transfer of benefit to those concerned with developing continuing education programs for engineers and engineering managers. The division cosponsors the annual Conference for Industry and Education Collaboration. Members participate in special interest groups that are organized around specific topical interests and receive the division's newsletter. <https://cpd.asee.org/>

## **Cooperative and Experiential Education (CEED)**

The Cooperative and Experiential Education Division strives to develop high principles and maintain the integrity of cooperative and experiential education throughout academia and industry. The general goals of the division are to foster a better understanding of the importance of cooperative and experiential education, improve recruiting and related services to employers, and promote cooperative and experiential education in engineering and engineering technology to business and industry both national and international. The division also emphasizes professional standards and accreditation of co-op programs. Members are encouraged to participate and become involved in various CEED committees. <http://ceed.asee.org/>

## **Corporate Member Council (CMC)**

The Corporate Member Council's mission is to foster, encourage and cultivate the dialogue between industry and engineering educators.

<https://www.asee.org/member-resources/councils-and-chapters/corporate-member-council>

## **Engineering Technology Division (ETD)**

The Engineering Technology Division (ETD) of the American Society for Engineering Education (ASEE) has as its principal function the support of individual member interests related to the field of engineering technology. Its membership is composed of public and private two and four-year engineering technology educators from all over the world, as well as representatives from industries that employ engineering technology graduates. A number of engineering educators are also members. <https://www.engtech.org/>

## **Abbreviations**

<b>ASEE</b>	American Society for Engineering Education
<b>CIP</b>	College-Industry Partnership Division
<b>CIEC</b>	Conference for Industry and Education Collaboration
<b>CPDD</b>	Continuing Professional Development Division
<b>CEED</b>	Cooperative and Experiential Education Division
<b>CMC</b>	Corporate Member Council
<b>ETD</b>	Engineering Technology Division



Jeff Wilkie is an engaging speaker and serves as faculty member for the University of Tulsa's ELITE program. In this role, Jeff conducts programs in the area of change management, leadership through chaos and other topics related to the power of transformative change. Participants will receive concrete steps and ideas to help them with current or future organizational or personal change.

Ticket Required: \$50

Moderator: Patricia Hall, University of Tulsa

Presenter: Jeff Wilkie, Hogan Taylor

**5:00-6:00 p.m.**

**Riverview**

**CIEC 221**

**Welcome for New Attendees**

All individuals who are attending CIEC for their first time are invited to this special session. Representatives from the CIEC 2019 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.

Coordinator: Tamra Swann, Mississippi State University

**7:00-9:00 p.m.**

**Queen Anne Ballroom**

**CIEC 2019 Opening Reception**

**A Taste of New Orleans**

All conference participants and registered companions are invited to attend the CIEC 2019 opening reception for an evening of good food and good conversation. No tickets required. Cost is included in participant and companions registration.

**Wednesday, January 30  
CIEC 2019 Conference Begins**

**7:00-8:45 a.m.**

**Iberville AB**

**CIEC 311**

**All Conference Continental Breakfast**

Join us for your morning coffee and pastries. Just one beignet will get your motor started for a day rich with presentations and networking opportunities.

**9:00-10:30 a.m.**

**Queen Anne Ballroom**

**CIEC 321 Plenary Session: Unmasking Engineering Education**

If you removed the "masks" from 50 engineering students and 50 professional engineers over 30, would they be more alike or different? Why in this era of globalization and technology are universities **still striving** to recruit more students from different backgrounds and industries **still struggling** to succeed in creating a more diversified workforce? If we did this same experiment with "unmasking" engineers in 20 years, would we see the same results? This panel will discuss the challenges and opportunities of a creating more diversified engineering student body and workplace for the organizations they represent and the benefits to the individuals involved.

Moderator: Bevelee Watford, Associate Dean, Virginia Tech

Panelist:

Stephanie Adams, Dean, Old Dominion University

Felicia Boyd, Head of University Relations, Siemens

Mark Easley, University Marketing Manager US East, Texas Instruments

Stephanie Farrell, ASEE President and Rowan University

Jeff Serpas, DTLP Global Program Manager, General Electric

Keith Moo-Young, Professor and Former Chancellor, Washington State University

**10:00-11:00 am**

**CIEC 331**

***Morning Refreshments with Ms. LeaLea***

***Orleans B***

All registered companions are invited to a special session with Ms. LeaLea VanWinkle-Gisler, VIP Manager at the Hotel Monteleone. LeaLea is a hospitality professional with more than 20 years in management and operations. She loves the Hotel Monteleone, its history, staff and services, as well as the city of New Orleans. You will not want to miss her relaxed, informative presentation on the history of New Orleans and how to enjoy the city. This is a great way to plan your tour of the city and learn more about the historic conference hotel. Morning refreshments will be served.

Coordinator: Robert Krute, CIEC Companions Chair

**10:30-10:50 am**

**CIEC 341**

***Conference Refreshment Break***

***Queen Anne Parlor***

**11:00 am – 12:30 pm**

**CEED 312**

***Students' Transition between Cooperative Education and the  
Developing Professional Issues in Engineering***

***Iberville A  
University***

**Moderator:** Rich Nobles, University of Cincinnati

***Students Transition between Cooperative Education and the University***

**Presenter:** Mary Ann Andrade, University of Louisville

The benefits of co-ops have been explored thoroughly in relation to both students and employers, as well as universities seeking to establish more connections with the business world. Participants in co-ops often reflect higher starting salaries and a higher level of job satisfaction, having experienced the work and been thoroughly prepared for full-time employment. However, in a study examining the transition from co-ops to full-time employment, though it was not specifically asked of them, thirty percent of students reported that the transition from their co-op back to their university hindered their academic motivation. This study will explore students' transition from their co-op experience to their full time enrollment at their university and the impact this experience has on their lives.

***Developing Professional Issues in Engineering***

**Presenters:** Iraz Medhi and Josie Flanagan, Northeastern University

This interactive session will discuss bridging the gap between cooperative education and professional issues in the workplace in order to best prepare students for post-graduation readiness. It introduces attendees to course curriculum that encourages both reflective and prospective practices.

**11:00 am – 12:30 pm**

**CIP 313 *Approaches for Increasing Diversity in Industry and Academia***

***Bienville C***

Our population is constantly evolving, which makes the issue of diversity and inclusion that much more important on a global scale. Industry and academia must address the needs of these underrepresented communities and transition from the traditional form of diversity to support all audiences. This session will

explore the new definition of diversity and the power we have as individuals to break down barriers within our respective organizations. We will also explore various methods that can be used to foster an equal and unifying message toward our diverse population.

Moderator: Mahesh Aggarwal, Gannon University

Presenters:

Aisha Lawrey, ASME

Stephanie Farrell, ASEE President and Rowan University

**11:00 am – 12:30 pm**

**Queen Anne A**

**CPDD 314 Internal Marketing: Preparing for Changes in Administration**

Having the support of the President and Provost of Online and Continuing Education programs is critical to success. In keeping with the conference theme of “Unmasking Engineering Education,” this presentation will share the approach of the WPI Online and Corporate Education team to unmask the work of their department. Learn more about how WPI generated the support of their new President, Provost and Dean of Graduate Studies. This interactive session will highlight what worked, as well as what continues to be an opportunity and generate ideas for how we can all market our programs internally.

Moderator: Meghan Balding, University of Southern California

Presenters: Stacy Chiramonte and Rachel LeBlanc, Worcester Polytechnic Institute

**11:00 am – 12:30 pm**

**Riverview**

**ETD 315 Industry and Education Integration - Co-Sponsored with CIP**

An important philosophy of engineering technology education is to prepare students with the skills needed by organizations who hire ET graduates. It is important to promote cooperation these organizations and engineering technology program to better match the supply of professionals with demand from industry. This session explores how ET programs interact with their industry partners and other constituencies. Best practices related to industry and education integration will be discussed.

Moderator: Thomas J. Dobrowski, Purdue University Northwest

Comparing Water Repelling Penetrants on Antique Masonry

Mason Caubarreaux, Cory Franklin, Luz Arrieta-Jimenez, Linda Strauss and Jafar F. Al-Sharab, Northwestern State University. Jason Church and Mary Striegel, National Center for Preservation Technology and Training. Adeal Sobhe Matuk, Rutgers University

Utilizing Industry Professionals in a Senior Capstone Project

Thomas J. Dobrowski, Purdue University Northwest

Providing Students with Practical Experience in Quality Control through Industry Partnerships

Paul McPherson, Purdue University

Earn and Learn: Best Practices of a True Apprenticeship

Nabin Sapkota, Northwestern State University of Louisiana and Laurie Morrow, Central Louisiana Technical Community College

CMM Training to Fill the Skills Gap in the Advanced Manufacturing Industry

Immanuel A. Edinbarough, Jesus A. Gonzalez-Rodriguez and Adriana Olvera, University of Texas Rio Grande Valley  
Anabel Pineda-Briseño, 2Tecnologico Nacional de Mexico-Instituto Tecnológico de Matamoros (TecNM/ITM)



**1:00 am – 12:30 pm**  
**ETD 325**

**ECETDHA Board Meeting**

**Orleans D**

Meeting of the officers for the Electrical and Computer Engineering Technology Department Heads Association (ECETDHA). ECETDHA promotes the advancement, understanding, and appreciation of electrical, electronics, and related engineering technology programs at all levels.

Moderator: Nasser Alaraje, Michigan Technological University

**12:45-1:45 p.m.**  
**CIEC 351**

**CIEC Awards Luncheon**

**Queen Anne Ballroom**

Award winners from CIEC 2018 and special award winners from ETD, CPDD and CEED will be recognized at this special luncheon. Come and help us honor these winners. Luncheon tickets are included in your registration.

Hosts: David Schmueser, 2019 CIEC Board Chair

Award Presentations: Rita Burrell, CIEC 2019 Asst. General Conference Chair and Keith Johnson, CIEC 2018 General Conference Chair

Paul Jewell, CPDD Biedenbach Award

Sarah Kostanski, CEED Student of the Year

Maureen Schomaker, CEED Professional and Educational Awards

**2:00-4:00 p.m.**

**CIEC 361 CIEC EXPO and Poster Set Up Time**

**Iberville BCD**

Exhibitors are invited to set up their exhibit space in Iberville rooms in preparation for Thursday's EXPO. Poster presenters may also place their posters on the designated stand.

Exhibits Chair: Linda Krute, North Carolina State University

Poster Chair: Ben Zoghi, Texas A & M University

**Wednesday Afternoon Sessions**

**2:00 – 3:30 p.m.**

**Iberville A**

**CEED 322 Increasing Retention of Underrepresented Engineering Students AND Using Participatory Action Research to Examine the Experiences of Undergraduate Women in Engineering**

Moderator: Maureen Barcic, University of Pittsburgh

**Increasing Retention of Underrepresented Engineering Students**

Presenter: Ryan Hassler, Penn State University, Berks

Recent research suggests that only between 1 and 2.5% of secondary students show interest in STEM related careers and only 60% of students who enter college with an intended engineering major actually earn an engineering degree. Of those who do complete the degree, only about 12% are from underrepresented populations, which creates an engineering workforce comprised of only about 13% females, 5% African-American and 6% Latinos. This study examines how an NSF funded four-week summer bridge program (Engineering Ahead) attempts to answer the urgent need for increasing retention of underrepresented students in engineering.

**Using Participatory Action Research to Examine the Experiences of Undergraduate Women in Engineering**

Presenter: Brittany Arthur, University of Cincinnati

Despite a continuous effort to increase women in undergraduate STEM majors, women are still lagging in enrollment in engineering majors, with the National Science Foundation (2016) reporting a decrease in students enrolling in engineering majors overall. With organizations such as the National Research Council (2007), releasing a call to action, stressing that the science and technology fields must be strengthened to maintain economic and social prosperity. The current project utilizes Participatory Action Research as a theoretical framework to better understand the experiences of undergraduate women in engineering and use this information to take action and create real, positive change.

**2:00 – 3:30 p.m.**

**Bienville C**

***CIP 323 New Models for Industry and Education Collaboration***

Industry and academic partnerships are often difficult to establish and maintain. These two presentations will discuss new approaches in creating partnerships between academia and industry.

Moderator: Terri Schulz, Project Lead the Way

Presentations and Presenters:

The Automation Alley Industry 4.0 Partnership: A New Model of Education and Industry Collaboration, David Pistrucci and Darrell Kleinke, University of Detroit Mercy

A Professional Development Program for Industry, Nikos Kiritsis, McNeese State University

Experimental Learning for Industrial Engineers, Tom Devall, Auburn University

**2:00-3:30 p.m.**

**Orleans B**

***CIP 353 ROI: Structuring Win/Win Partnerships in Industry-Academia Engagements***

There are many different types of collaborations between industry and academia. Structuring them so that each party realizes a clear benefit is central to a strong and positive relationship. This session will address some of the key points in forming win/win partnerships across research, capstone, recruiting, continuing education, start-ups and more. Additionally, several successful models will be discussed.

Moderator: Lori Glover, MIT

Presenters:

Jenny Stein, Accenture

Linda Bernardi, Consensus

Clena Marie Abuan, BP

Reginald McGregor, Rolls-Royce

Jeffrey Olin, BBVA/Compass Bank

**2:00 – 3:30 p.m.**

**Queen Anne A**

***CPDD 324 Managing Change: Evolving Marketing and More with a CRM***

In considering where you are as a unit, you often look at how you can improve processes and become more efficient. In the fall of 2017, Purdue purchased a new Customer Relationship Management software (CRM) to provide consistency and transparency across the department. While the CRM system helps them to accommodate anticipated growth, they implemented it in early 2018 in the first phase to meet their marketing needs. They found this system to help with metrics and provide improved Return on Investment (ROI) tracking. In this session, the presenters will discuss their CRM implementation and how it provides a competitive advantage.

Moderator: Douglas Ernie, University of Minnesota

Presenters: Phillip Conrad and Matthew Wagner, Purdue University

**2:00 – 3:30 p.m.**

**Vieux Carre**

**ETD 335 International Preparedness for ET Students**

Organizations of all types now operate in a global environment. It is therefore essential that programs provide students with educational opportunities that will enhance their perception and understanding of the world. It is common for employers to look for ET graduates who had exposure to various cultures other than their own. This session shares best practices from programs which have integrated international opportunities into their curriculum.

Moderator: Immanuel Edinbarough , University of Texas Rio Grande Valley

Presentations and Presenters:

Diversity in Engineering Technology Students

Elizabeth Dell, Rochester Institute of Technology

Anne Lucietto, Purdue University

Elaine Cooney, Indiana University Purdue University Indianapolis

Liza Russell, Purdue University

Emily Schott, Purdue University

Promoting International Preparedness in Engineering Technology Capstone Projects

Immanuel A. Edinbarough, Jesus A. Gonzalez -Rodriguez and Adriana Olvera, University of Texas Rio Grande Valley. Anabel Pineda-Briseño, Tecnológico Nacional de Mexico/Instituto Tecnológico de Matamoros

Advantages of Studying Abroad: So Why Aren't Students Enrolling?

Patricia Fox and Charles McIntyre, Indiana University Purdue University Indianapolis

**2:00 – 3:30 p.m.**

**Riverview**

**ETD 345 Industry Partnerships**

Strong collaborations between universities and industry have long played a major role in high-quality engineering technology education, in research and in preparing students to enter the workforce. Industry partnerships take many forms in addition to advisory boards. These partnerships can range from internships to research for both students and faculty. This session explores some of the partnership ET programs have developed with industry.

Moderator: James Cecere, Penn State Harrisburg

Presentations and Presenters:

Preparing Engineering Professionals to Meet Industry Expectations

Ashok Agrawal, ASEE

Partnering with an Advisory Boards

James Cecere, Penn State Harrisburg

Concept to Commercialization-Fostering Innovation through University Resources

Niaz Latif, Mohammad Zahraee, Deborah Blades and Mont Handley, Purdue University Northwest

The Industry Advisory Board Event “A Decade of Best Practices”

Charles McIntyre, Indiana University Purdue University Indianapolis

Susan Labas, van Zelm Engineers

Leveraging Industry Partnership for Experiential Learning and Laboratory Improvement

Afshin Zahraee, Lakshman Mapa and Mohammad Zahraee, Purdue University

Northwest

**3:00-3:50 p.m.**

**Comfort Break**

**4:00-5:30 p.m.**  
**CEED 332**

***Developing Grit***  
***When you Pay Attention, Everything is Your Teacher***

***Iberville A***

**Moderator:** Brittany Arthur, University of Cincinnati

***Developing Grit***

**Presenters:** Karen Kelly and Julie Nguyen, Northeastern University

Today's high school students are faced with the pressure to be perfect: earn a 4.0 GPA and a 1600 on the SAT to get into their dream college. However, once students attend college, they often experience their first major "failure" that they have never experienced before. This session will review the techniques employed in the Introduction to Cooperative Education and Professional Issues in engineering courses to help students develop more grit and resilience. In this session, we will be unmasking failure and bringing this issue to the forefront.

***When You Pay Attention, Everything is Your Teacher***

**Presenter:** Bernadette Friedrich, Michigan State University

This interactive session will provide participants with concrete examples of activities and initiatives that can be implemented in their experiential education programs to increase students understanding of their experiences beyond the technical expertise. By creating assignments to cultivate mindfulness we are encouraging our students to better understand their likes & dislikes, strengths & weaknesses, needs & desires, in relation to their future goals.

**4:00-5:30 p.m.**  
**CIP 333**

***Industry and Education Partnerships***

***Riverview***

An important philosophy of engineering technology education is to prepare students with skills needed by organizations who hire ET graduates. It is important to promote cooperation between these organizations and engineering technology programs to better match the supply of professionals with demand from industry. This session will explore how ET programs interact with their industry partners and other constituencies and examine best practices related to industry and education partnerships.

**Moderator:** David Schmueser, Clemson University

**Presenters and Presentations:**

Innovating Graduate Automotive Engineering Education-Creating a System Engineering Based Approach for the Deep Orange Program Based on Project-Focused Learning

Chris Paredis, Clemson University International Center for Automotive Research

Overview of Dassault Systemes SIMULIA & CATIA Academic Certification Programs

Charlie Wilcox, Dassault SIMULIA Academics

The International Engineering Model that Develops Global Engineers with Key Industry Partnerships.

Brian Schwarz, University of Connecticut

Case Study for Industry-University Collaboration: Enhancement of Electrostatic Powder Paint Curing Process.

Noah Glick and Iqbal Shareef, Bradley University

**4:00-5:30 p.m.**  
**CPDD 334 Administration of Small Continuing  
Professional Development Programs**

**Queen Anne A**

How do you duplicate another school's assessment, marketing and technology successes with your small program staff? This session brings together leaders in those areas to provide helpful hints or "baby steps" for initiating success they have had in their own offices. Join us for suggestions on how to initiate change and growth in these areas which can be difficult to focus on when you are just trying to get the day-to-day tasks accomplished. Be prepared to ask questions and take notes to initiate your own office changes.

Moderator: Dee Newell, Mississippi State University

Presenters:

Rachel LeBlanc, Worcester Polytechnic University

Marty Ronning, University of Maryland

Kim Scalzo, State University of New York

Tamra Swann, Mississippi State University

**4:00-5:30 p.m.**  
**ETD 355 Student Success Initiatives**

**Vieux Carre**

Many engineering technology programs have adopted emerging Student Success Initiatives. The objective of these initiatives is to better prepare students for the professional world, and increase freshman retention and persistence to graduation. In this session, you will learn about some of these effective student success initiatives.

Moderator: Moin Uddin, East Tennessee State University

Presentations and Presenters:

Engineering or Technology? Which Fits Best?

Raymond Floyd, Northwest College Wyoming

Why Can't Johnny Write?

Raymond Floyd, Northwest College Wyoming

Integrating Technical Standards into ET Curriculum to Meet ABET standards and Industry Needs

Paul McPherson, Margaret Phillips and Kyle Reiter, Purdue University

Faculty Learning from the Advisors for Students' Retention and Persistence to Graduation

Mohammad Moin Uddin and Keith Johnson, East Tennessee State University

**4:00-5:30 p.m.**  
**ETD 365 ETD Board Meeting**

**Orleans D**

Robert Weissbach, ETD Chair, will lead a discussion among continuing and newly elected board members about ETD Projects and initiatives for 2019. All ETD members are invited.

Moderator: Robert Weissbach, Indiana University Purdue University Indianapolis

**Special Events**

**CEED 342 Awards Reception 6:00-8:00 p.m.**

Join members of the CEED Division as they meet with the 2019 awards winners at Arnaud's Restaurant, 813 Bienville Street. Members of CEED, award winners and their families are invited.

***CIP 343 College-Industry Partnership Division Hospitality 6:00–8:00 p.m.***

CIPD Board members are hosting a hospitality event for all Corporate Member Council members, CIEC 2019 sponsors, CIPD members, and special guests at their annual hospitality event from 6:00-8:00 p.m. in the Criollo Restaurant Private Dining Rooms.

***CPDD 344 Continuing Professional Development Division and IACEE Hospitality 6:30-9:00 p.m.***

Members of the CPD Division, IACEE and other conference participants who have reserved and/or paid for a ticket for the Mississippi River Jazz Dinner Cruise aboard the historic Creole Queen paddleboat should be at the Creole Queen entrance, 1 Poudras Center, by 6:15 p.m. Individuals arriving late may not be guaranteed admissions to the boat after it has left the ramp.

If you have any questions, contact the event coordinator, Terri Gaffney at [terrig@uidaho.edu](mailto:terrig@uidaho.edu).

**Thursday, January 31  
Division Breakfasts and Business Sessions  
7:30-8:30 a.m.**

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. Come and meet the leaders and members of these divisions.

***CEED Breakfast and Business Meeting Queen Anne Ballroom***

All CEED members and new attendees are encouraged to attend.  
Coordinator: Craig Gunn, Michigan State University, CEED Chair

***CIP Breakfast and Business Meeting***

***Royal D***

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 activities. Coordinator: Ben Zoghi, Texas A& M University, CIPD Chair

***CPDD Breakfast and Business Meeting***

***Riverview***

All CPDD members and new attendees are invited to attend. New officers will be elected and introduced.  
Coordinator: Marty Ronning, University of Maryland, CPDD Chair

***ETD Breakfast and Business Meeting***

***Royal AB***

Join the ETD leadership as they discuss pertinent division information as well as upcoming events and activities. All ETD members and interested parties are encouraged to attend. Coordinator: Robert Weissbach, Indiana University Purdue University Indianapolis, ETD Chair

***CMC Breakfast and Business Meeting  
(7:30-9:00 a.m.)***

***Queen Anne B***

Members of the Corporate Member Council will hold their business meeting during this session. Coordinator: Howard Appleman, Boeing, CMC Chair

## Thursday Morning Sessions

**9:00 – 10:30 a.m.**

***Iberville A***

***CEED 412 CEED Industry Roundtable***

Join us for a unique opportunity to hear from leading engineering industries. This interactive session will include a discussion of strategies to develop and strengthen relationships with companies.

Moderator: Maureen Schomaker, University of Cincinnati

Presenters:

Marzell Brown, Rockwell International

Reginald McGregor, Rolls-Royce

Amy McMullen, Lincoln Electric

**9:00 – 10:30 a.m.**

***Bienville C***

***CIP 423/ETD 425 Advancing Innovation Skills: Case Studies from Motor25sport Program Networks – Co-Sponsored with ETD***

Motorsport engineering is a very unique STEM related discipline that encompasses several engineering fields including mechanics, electronics, aerodynamics, design, data acquisition/analysis, and logistics. To meet the needs for trained professionals, a number of colleges and universities now offer degree programs or options that are specific to motorsports. Most degree programs offer hands-on opportunities to work directly in the motorsport industry through internships by fielding student racing teams. This session explores how universities are incorporating this exciting area into their curriculum.

Moderator, David Schmueser, Clemson University

Presenters:

The Clemson University Motorsport Program: A Focus on Student Skills Development for Design Integration  
Robert Prucka, Clemson University International Center for Automotive Research

Michelin Motorsports: Race to Win. Race to Learn

Jeffery Anderson, Michelin North America Engineering Center

**9:00 – 10:30 a.m.**

***Queen Anne A***

***CPDD 414 Creating and Sustaining International Partnerships***

There is an increasing interest in expanding internationally for universities who have not done so; but there is much resistance. Barriers include legal, policy, perception, and risk associated with the brand. And yet, the Internet allows anyone in the world to extend content overseas. How can universities create programs and opportunities to pilot and experiment overseas despite the risks? This session will share experiences and best practices with programs that have been run successfully, share the successes of the programs, and how the barriers were overcome.

Moderator: Julayne Moser, Purdue University

Presenters:

Paul Marca, Stanford University

Cheng Wang, Chuanglian Education Group

**9:00-10:30 a.m.**

***Vieux Carre***

***ETD 415 Learning Environments I***

Because of the unique nature of Engineering Technology programs, faculty have developed new and innovative teaching methods and strategies. The session's presenters will present their innovative teaching and curriculum development strategies which have significantly increased student engagement and training.

Moderator: Jafar Al-Sharab, Northwestern State University

Implementation of Quality Enhancement Plan (QEP) through Experiential Learning at the Engineering Technology Department, Northwestern State University  
Jafar Al-Sharab, Northwestern State University

Experiential Learning, Action Research, and Metacognitive Reflection in the Senior Capstone  
Charles Feldhaus, John Buckwalter and Elizabeth Wager, Indiana University Purdue University Indianapolis

Robotics Retrofit: Renovating Outdated Robotics Platforms to Meet Current Curriculum Requirements Driven by Industry Demand  
Gregory Lyman, Jeffery Wilcox and Rowdy Sanford, Central Washington University

One Part Online Technology mixed with One Part Old School Instruction: How One Construction Program Enhances Student Learning through a Recipe of Blended Learning  
Peter Rogers and Clinton Martin, Georgia Southern University

**10:30 -11:00 a.m.**

**Iberville BCD**

**CIEC 411 Morning Refreshment Break Sponsored by All Campus**

**CIEC 421 Exhibits and Poster Session**

**Iberville BCD**

**Visit with the CIEC Exhibitors to learn more about their products or services and check out the 2019 Posters. The EXPO will be open until 4:00 p.m.**

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

**Iberville A**

***CEED 432 Co-op and Disabilities—Continuing the Conversation AND The Career Compass Professional Development Program***

Moderator: Nancy Chase, University of Dayton

***Co-op and Disabilities—Continuing the Conversation***

Presenters:

Beth Harrison, University of Dayton  
Heidi Milne, Sychrony Financial

Join us as we continue working toward building a vocabulary and dialogue surrounding student learning disabilities in the experiential workplace. As we increase our enrollment in both engineering classrooms and co-op experiences we are also in need of education on how to best address learning disabilities as presented in a co-op or internship experience.

***The Career Compass Professional Development Program***

Instilling integrity, courage, competence, and accountability in all undergraduate engineering students.

Presenter: Frank E. Falcone, Villanova University

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

**Bienville C**

***CIP 433 Industry Speaks with One Voice***

In this session you will hear a cross-section of industry professionals discuss the common skills and capabilities they are looking for from college engineering graduates. Each presenter will provide a very brief overview of their respective industry as a context for the needed skills. Save your questions for the Q & A session that will follow at the end of the presentations.



Moderator: Letha Hammon, Retired, DuPont

Panelists:

Howard Appleman, Boeing

Charles Baukal, John Zink

David Liaw, Northrop Grumman

Gil Morris, Siemens

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

**Queen Anne A**

***CPDD 424 The Changing Face of Higher Education***

The current business model of higher education continues to change to the new realities of significant competitive pressures from reduced state funding and declining student demographics. This presentation represents an exhaustive review of books and articles dating back 25 years written by college/university presidents, past-presidents, provosts, faculty, staff and others not related directly to higher education. These many works offer insight into others' perspectives of how to fix higher education; in other words, how to reduce inefficiencies and subsequently reduce attendant costs.

Moderator: JayCee Iannelli, University of Idaho

Presenter: Mitchell Springer, Purdue University

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

**Riverview**

***ETD 445 Expanding Traditional ET Programs into Healthcare Technology  
AND Energy Related Curriculum Developments***

***Expanding traditional ET Programs into Healthcare Technology***

Moderator: Barbara Christe, Indiana University Purdue University Indianapolis

Presenter: Danielle McGeary, VP of Healthcare Technology at AAMI

This session will offer participants unique insights into the applications of engineering technology to healthcare, with specific emphasis on the medical devices that are utilized to promote safe and effective patient care. The profession has rapidly evolved, driven by emerging technologies based on the electronic medical record, interoperability through networks, and cybersecurity. Simultaneously, significant engineering technician/technologist shortages are occurring in many domains, particularly in this discipline, as few colleges produce graduates with medical device technical expertise and many experienced workers retire. Pathways to promote coursework in this area utilizing partnerships with local hospitals and the professional society, the Association for the Advancement of Medical Instrumentation (AAMI), will be explored. This session will be an open forum to explore healthcare related issues.

***Energy Related Curriculum Developments***

Energy systems are an essential aspect of everyday life and therefore an important area for engineering technology study. Traditional energy generation methods are being expanded into a variety of alternative methods. Additionally, exciting advancements related to environmental and economic aspects related to energy systems are occurring. This session will be an open forum to explore energy related curriculum developments including integration into ET programs and the development of new degrees and options.

***Industrial Collaboration to Develop an Energy Assessment Course***

Moderator/Presenter:

David Goodman, Indiana University Purdue University Indianapolis

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

**Vieux Carre**

***ETD 455 Learning Environment II***

Because of the unique nature of Engineering Technology programs, faculty have developed new and innovative teaching methods and strategies. The follow-on session presenters will present additional innovative teaching and curriculum development strategies that have significantly increased student engagement and training.

Moderator: Elaine Cooney, Indiana University Purdue University Indianapolis

Multidisciplinary Undergraduate Research Project to Create Musical Effect Box

Elaine Cooney, Scott Deal, Andrew McNeely and Harry Chaubey, Indiana University Purdue University Indianapolis

Using Virtual Reality Welding to Improve Manufacturing Process Education

Angie Hill-Price, Texas A&M University

Bridge Building in the Colorado Rockies: A Mechanical Engineering Major's Perspective

Ryan J. Howe, Stanley P. Rader and Matthew P. Snyder

Drone Use in the Construction Industry Leads to Integration into the Current Civil and Construction Engineering Technology Curriculum

Joseph S. Sanson, Youngstown State University

**12:45-1:45 p.m.**

***Queen Anne Ballroom***

***Industry-Education Networking Luncheon***

Join your colleagues for a special luncheon designed to honor the 2019 CIEC Sponsors and the 2018 Corporate Member Council's Excellence in Engineering Education award winner, Keysight Technologies.

Moderator: Stephanie Farrell, ASEE President

Presenters:

Howard Appleman, CMC Chair

Doug Baney, Keysight Technologies

**Thursday Afternoon Sessions**

**2:00-3:30 p.m.**

***Iberville A***

***CEED 432 Co-op Housing Initiatives AND Micro-Experiential Learning***

Moderator: Robin Hammond, Arizona State University

***Co-op Housing Initiatives***

Presenter: Mary Andrade, University of Louisville

As enrollment increased in engineering at the University of Louisville, higher numbers of students were required to complete co-ops through the mandatory co-op program. This presentation will discuss our journey to help students connect with housing options, other commuters and identifying appropriate subleases. An overview and analysis of housing resources and possible solutions – bring your own solutions to share as well.

***Micro-Experiential Learning***

Presenter: Eran Peterson, University of Connecticut

InsideView is a program at the University of Connecticut that allows for students to participate in a structured visit of an area employer for one day during the winter break. Each year, 5-6 area employers, representing each of the Engineering disciplines at UConn are invited to host students for a tour of the facility, presentations, and networking. This workshop will provide a blueprint and highlight best practices to recreate this program with no cost to the university.

**2:00-3:30 p.m.**

**Bienville C**

***CIP 433 Starting and Maintaining Long Term University-Industry Partnerships***

A university's relationships with the corporate world occur through different channels and across a wide spectrum of activities, such as research collaboration, talent acquisition, sharing of facilities, intellectual property and capstone projects. These relationships require nurturing and updating by interested parties in both groups. In this moderated panel, the presenters will discuss the principal benefits they see in such relationships, the mechanisms by which they are maintained, and any concrete results they may have experienced.

Moderator: Ara Arabyan, University of Arizona

Panelist:

Rick Berkley, Michigan Tech University

Stephen Fleming, University of Arizona

Eric Gabbard, University of Louisville

Dan Klingberg, University of Louisville

**2:00-3:30 p.m.**

**Queen Anne A**

***CPDD 434 Continuing Education Systems and Tools for Success AND Empower Engage Your Students by Flipping Your Classroom***

Moderator: Kerri Poppler James, University of Maryland

***Continuing Education Systems and Tools for Success***

Presenters:

Yakut Gazi, Georgia Institute of Technology

Paul Marca, Stanford University

As continuing education (CE) leaders, we know too well that the acquisition and implementation of a technology, a partnership, a learning platform, or an administrative system is on average an 18-month endeavor. We also know that we need tools and systems to support successful continuing education experiences. So how can we be planning for systems that are in their infancy or perhaps don't yet exist? This session will discuss how CE units can think strategically about tools and systems (build versus buy) while also sharing examples of tools and systems such as marketing, platform(s), databases, AI tutoring systems, etc. that are currently in use at Georgia Institute of Technology and at Stanford University.

***Empower and Engage Your Students by Flipping Your Classroom***

Presenter: Tony Glockler, Solid Professor

Countless studies have shown that the desire to learn is innate, that as human beings we all have a basic need to learn in our DNA. The challenge is that learning and teaching are frequently at opposition to **each** other. Join this session to learn more about the science behind learning and how flipping your classroom and becoming a leader and guide to your students will engage them and accelerate their progress by tapping into their basic human need to learn. The presenter will discuss methods and tools for flipping your classroom.

**2:00-3:30 p.m.**

**Vieux Carre**

**ETD 465**

***Teaching Ethics***

Since the introduction of EC2000, ethics has gained a more prominent role in the accreditation process, because it is one of the student outcomes (3f: "an understanding of professional and ethical responsibility"). Educators scurried to meet this requirement, integrating ethics into technical classes and requiring standalone ethics courses. In the revised criteria, ethics is mentioned more often, as a constraint in the engineering design section as well as a student outcome. In the ET criteria, ethics is a student outcome (3Bh): "an understanding of and a

commitment to address professional and ethical responsibilities, including a respect for diversity.” This session explores three facets of teaching engineering ethics: resources and cases; the ethical decision-making process, and themes, specifically professional obligations regarding lying.

Moderator: Marilyn Dyrud, Oregon Institute of Technology

Introducing ET Students to Ethical Engineering Decision Process

Carmen Cioc, Richard Springman and Sorin Cioc, University of Toledo

Getting Started with Ethics

Marilyn A. Dyrud, Oregon Institute of Technology

Is It Ethical to Lie?

Raymond Floyd, Northwest College Wyoming

**2:00-3:30 p.m.**

***Riverview***

***ETD 475 Teaching Methodologies for Cybersecurity***

Cybersecurity encompasses techniques of protecting computers, networks, programs and data from unauthorized access or attacks that are aimed for exploitation. In today’s environment, this activity is essential. Studies show that 69% of organizations don't believe their antivirus can stop the threats they're seeing (Ponemon Institute). Worldwide cybersecurity spending is expected to reach \$96 billion in 2018 (Gartner). This session will discuss innovative methodologies being used to teach cybersecurity.

Moderator: Te-Shun Chou, East Carolina University

Blockchain Database for a Cyber Security Learning System

Sophia Armstrong, Te-Shun Chou and John Jones, East Carolina University

Overview of Learning Cybersecurity through Game Based Systems

Trollope Awojana and Te-Shun Chou, East Carolina University

An Interactive Learning System for Cyber Security Education

Te-Shun Chou, East Carolina University

Automatic Collection of Scoring Metrics in Competitive Cybersecurity Lab Environments

Nicholas Hempenius, Te-Shun Chou and Lee Toderick, East Carolina University

An Infrastructure Supporting a Game-Based Learning System for Information Security Topics

John Jones and Te-Shun Chou, East Carolina University

**3:30-4:00 pm**

**Afternoon Ice Cream Social with Exhibitors  
Sponsored by Texas Instruments**

***Iberville BCD***

**4:00-5:30 pm**

***Iberville BCD***

***CIEC 421 CIEC 2019 Poster Judging Session***

Posters will be judged during this session. All poster presenters should be present and available to answer questions from the judges.

Chair: Ben Zoghi, Texas A&M University

Judges: Charles Baukal, John Zink Corporation,  
Ara Arabyan, University of Arizona

Poster Presentations:

Developing Pathways to Industry

Richard Cozzens, Southern Utah University

A Case Study of Structural Industrial Pressure Vessel under Wind Load

Sanjida Haque, Seth Nowak, Robyn Callaghan, Mosfequr Rahman and Aniruddha Mitra, Georgia Southern University. Ashim Mukerjee and Rahul Prasad, Johnson Matthey

Evaluation of Paint/Primers on Weathered Wood

Aura Hernandez, Guadalupe Mendez, John Lindsey, Joshua Rivers, Bailey Walker and Jafar F. Al-Sharab, Northwestern State University. Jason Church and Mary Striegel, National Center for Preservation Training and Technology, Natchitoches, LA

Conceptualization and Implementation of an Alternative Cooling System on the Deep Orange 7 Concept Vehicle  
David Schmueser, Clemson University

Deep Orange 7: Development and Usability of a Novel Holographic 3-Dimensional User Interface Using Hand-Gesture Control for a Future Application by Older Adults”

Breno Schwambach, PhD Candidate, Clemson University

Who Really Understands Instrument Cluster Information

Breno Schwambach, PhD Candidate, Clemson University

Best Practices of Implementing an Engineering Lab Course of over 1,000 students

Mark Easley, Texas Instruments

**4:00-5:30 pm**

**Iberville A**

**CEED 442 Employee Mentorship Programs AND Case Interviewing**

**Moderator:** Craig Gunn, Michigan State University

**Employee Mentorship Program**

Presenter: Jessica Ormsby, Northeastern University

Using Scholossberg and Chickering’s “Moving-in, Moving-through and Moving-out” theoretical framework, current co-op and employee mentorship programs will be assessed for areas of strength and improvement. The benefits and challenges of mentorship programs will be explored and recommendations will be made for best practices in starting or improving mentorship programs in the engineering workplace.

**Case Interviewing: Not Just for Finance Students**

Presenter: Rebecca Webb, Northeastern University

Case interviews are no longer just for consulting firms. The increasing number of engineering students exploring roles outside of traditional pathways are hitting road blocks in the interviewing process as more and more companies are conducting case interviews. This session will unmask case interviews, giving practitioners the basics needed to help prepare their students including: what is a case interview, why case interviews are used, techniques that should be used to successfully complete a case interview, and popular resources to help students practice case interviews.

**4:00-5:30 pm**

**Bienville C**

**CIP 433 Navigating Campus and Industry Relationships**

College-industry partnerships are mutually beneficial to both parties. Long established relationships are nurtured and flourish with collaboration and talent exchanges through multiple connections and interchanges. In this session panelists experienced in building relationships to grow research centers, establish senior design programs, and fund engineering education initiatives will discuss their formative experiences. Discussion will center on how university staff can establish their niche and prove the value they can add to industry partnerships.

**Moderator:** Erin Hosteler, Penn State University, University Park

**Presenters:**

Helen Edson, Penn State University

Keith Stanfill, University of Tennessee

Rachel Monfredo, University of Rochester

**4:00-5:30 pm**

**Queen Anne A**

**CPDD 444 Global Trends in Continuing Professional Development for Engineers**

The International Association for Continuing Engineering Education (IACEE) supports and enhances lifelong learning in engineering around the globe. Located worldwide, the academic and professional members of IACEE are engaged in innovating professional higher education programs that provide the relevant content in appropriate mode of delivery to advance the knowledge of engineers and scientists, thus providing professional development to advance their careers. In this session IACEE members will compare the CPD scenarios in various world regions and critically analyze the continuing professional and online education trends in Asia, Australia, Europe, and North America.

Moderator: Kim Scalzo, State University of New York, USA

Panelist:

Ragna Ann Berge, Norwegian University of Science and Technology, Norway

Soma Chakrabarti, IACEE President, USA

Errol la Grange, CPDlive Pty, Ltd., Australia

Cheng Wang, Chuanglian Education Group, China

**4:00-5:30 pm**

**Vieux Carre**

**ETD 485 National Forum**

Workshops at both the ASEE Annual Conference and Engineering Technology Leaders Institute examined a range of possible initiatives to be undertaken by the ET National Forum. These initiatives are based on recommendations in the recent National Academy of Engineering study of the status of ET education and on two published position statements promulgated by the ASEE ETC. Because of that workshop, two issues were identified by the attendees as worthy of action:

- An in-depth investigation of the factors that make ET education more attractive to diverse and under-represented populations, and how those factors could be enhanced and expanded.
- Development of potential strategies that could be pursued to create opportunities to seek professional engineering registration by BS-ET graduates in all 50 states.

Team leaders and volunteer team participants were identified to pursue these initiatives. Those teams developed action plans and have carried out initial steps in the plans. This session will review the accomplishments of these teams and will moderate a wide-ranging discussion of the work done and where future activities should be focused.

Moderator: Ron Land, Penn State (retired)

**6:00-8:00 pm**

**ETD Hospitality**

The Engineering Technology Division Hospitality Event will be at the Deuce McAllister's Ole Saint. All ETD members are encouraged to attend to network with faculty and staff involved in engineering technology education and industry outreach.

Coordinator: Ken Rennels, Indiana University Purdue University Indianapolis (retired)

**Friday, February 1  
Breakfast Sessions and Events**

**9:00 am – 2:00 pm**

**Royal C**

**CIEC 501 Corporate Networking 101**

This unique session will include a “breakfast etiquette” session from 7:30 – 9:00 a.m. and complementary sponsored Corporate Networking 101 Practicum immediately following (9:00 am – 2:00 pm). Networking session and Luther Epting Golf Scramble including green fees and cart, club rental and transportation if needed and networking box lunch will be included. Ticket Required: \$60

Coordinator: Paul Plotkowski, Grand Valley State University

**7:30-8:45 a.m.**

**DIVISION BREAKFASTS**

All participants and division members are invited to attend one of the following breakfast sessions and help plan for next year’s CIEC conference in Orlando, FL. All new attendees are invited to join the group of their choosing.

**CEED 502 CEED Division Breakfast and Planning Session**

**Royal Salon**

Coordinators: Rich Nobles, University of Cincinnati and Lisa Massi, University of Central Florida

**CIPD 503 CIPD Division Breakfast and Planning Session**

**Royal A**

Join the College-Industry Partnership Division and help plan for next year’s conference.

Moderator: Mahesh Aggarwal, Gannon University

**CPDD 504 CPDD SIG Breakfast and Roundtable  
(7:30 a.m. – 12:00 pm)**

**Riverview**

Networking with peers is the most important benefit of attending CIEC, according to our CPDD colleagues. Meet with one of the Special Interest Groups (SIGs). They include Administration, Delivery, Faculty, Industry, International, and Marketing. This session will be the capstone of our conference sessions with the opportunity for all to discuss their program’s questions and concerns about current engineering education issues and trends, as well as generating ideas for workshops and sessions for CIEC 2020.

Moderators:

Mark Schuver, Purdue University

Tamra Swann, Mississippi State University

**ETD 505 ETD Breakfast and Planning Session**

**Queen Anne A**

Join the ETD leadership and 2020 CIEC Program Chair as they plan the content of next year’s conference. All ETD members and interested parties are encouraged to attend.

Moderator: Alok K. Verma, Old Dominion University

**9:30 am–5:30 pm**

**Royal D**

**CPDD 514 IACEE Executive Committee Meeting**

**9:00-10:30 am**

**Royal A**

**CIP 513 CIP Board Meeting**

Members of the Board will meet to discuss the business of the division. All members and interested individuals in becoming active in this division are invited to attend.

Chair: Mahesh Aggarwal, Gannon University

**9:00-10:30 am**  
**ETD 515 JET Board Meeting**

**Orleans D**

Editorial Board meeting of the Journal of Engineering Technology (JET). JET is a refereed journal published semi-annually, in spring and fall, by the Engineering Technology Division (ETD) of the American Society for Engineering Education (ASEE).

Moderator: Susan Scachitti, Purdue University Northwest

**9:00-10:30 am**  
**ETD 525 Curriculum Innovation Driven by Industry Input**

**Vieux Carre**

New and experienced faculty both will be able to benefit from this session where faculty with an exemplary record of industry assisted course and curriculum development success will share their experience and lessons learned. Examples of actual collaborative classroom curricula will be presented.

Moderator: Walter Buchanan, Texas A&M University

Improving Engineering Management Graduate Student Success through Advisory Board Partnerships  
Saeed D. Foroudastan and Carey Snowden, Middle Tennessee State University

A Real Exploration of Euler's Imaginary  $i$ : Isomorphism and Applications to AC Circuit Theory  
Andrew Grossfield, Vaughn College of Technology

Curriculum Innovation Driven by Industry Inputs: Case Studies  
Mingli He, Debora Gilliard and Rebecca Trammell, Metropolitan State University of Denver

Adopting the Cādence® Design System for an Engineering Technology Program  
Christopher LeBlanc, University of New Hampshire

Building a Better Engineering Technology Graduate  
William Shapiro, Indiana University Purdue University Indianapolis

**10:30 am – 12 Noon**  
**ETD 535 Planning for the Future: Changes to ABET Criteria**

**Queen Anne Ballroom**

The Engineering Technology Area Delegation has proposed changes to the required student outcomes for ETAC-ABET accreditation. These changes are planned for the 2019-20 accreditation cycle. This session will compare the revised (1-5) outcomes to the current (a-k) and recommend how programs can leverage their existing assessment plans.

Moderator: Elaine Cooney, Indiana University Purdue University Indianapolis  
Tom Hall, Chair Elect, ETAC of ABET

**10:30 am – Noon**  
**ETD 545/CIP 523 Workshop**

**Royal B**

**Internships, Capstone Projects, Engineering Centers, and Other Methods to Work with Industry**

A wide range of innovative practices and examples related to how engineering technology programs work with industry will be highlighted. University, industry, and student perspectives will be shared, and emerging methodologies will be discussed.

Moderator: Walter Buchanan, Texas A&M University

Issues Associated with Capstone Courses and Growing/Expanding Engineering Technology Programs  
Joseph Morgan and Jay Porter, Texas A&M University

Building a Filtration and Control System for Auto-Parts Corrosion Oil Immersion System



Maher Shehadi, Purdue Polytechnic at Kokomo

Experimental and Analytical Comparison of Internally Finned Pipe with Unfinned Pipe for Heating Applications

Maher Shehadi, Purdue Polytechnic at Kokomo

Experimental Investigation of Pipe Heating Enhancement using Different Number of Internal Fins

Maher Shehadi, Purdue Polytechnic at Kokomo

Collaboration on Engineering Technology Capstone Projects with the UNH University Instrumentation Center

T. Sean Tavares, Christopher LeBlanc and Shawn Banker, University of New Hampshire

**11:15-12:15 pm**

**Orleans D**

***CIEC 2020 Management Team Meeting***

Members of the 2020 CIEC Management Team will have a short meeting to prepare for the pre-conference planning meeting in the spring in Orlando.

2020 General Conference Chairs:

Linda Krute, North Carolina State University

Rita Burrell, Purdue University

**1:00 – 4:00 pm**

**Queen Anne Ballroom**

***ETD/CIP 550 Workshop: Patents as a Research, Business and Career Tool***

Free “legal advice” from lawyer. An interactive discussion about patents as a business, research and career tool. From the discussion, you will learn to help, counsel and mentor students to:

- Use patents to conduct research;
- Target companies for research partnerships;
- Find a \$fulfilling\$ career via patents; and
- Understand patent basics (business value of patents, the cost and process to obtain a patent, patentable subject matter.

Presenter: Christopher M. Turoski, Director of Patent Programs, University of Minnesota Law School

Ticket Required: \$50

**CIEC 2019 Conference Concludes**

**Please join us next year in Orlando, Florida**

## CEED Program at a Glance

### Cooperative and Experiential Education Division

#### Tuesday, January 29

8:00 am – 12:00 pm      CEED Board Meeting      Royal D

#### Wednesday, January 30

11:00 - 12:30 pm      The Students Transition between Cooperative  
and the University      Iberville A  
Developing Professional Issues in Engineering

12:30 – 1:45 pm      CIEC Awards Luncheon      Queen Anne Ballroom

2:00 – 3:00 pm      Increasing Retention of Underrepresented  
Engineering Students      Iberville A  
Using Participatory Action Research to Examine  
The Experiences of Undergraduate Women in  
Engineering

3:30 – 3:55 pm      Comfort Break

4:00 – 5:30 pm      Developing Grit      Iberville A  
When You Pay Attention, Everything is your Teacher

6:00 – 8:00 pm      CEED Awards Reception      Arnaud’s Restaurant

#### Thursday, January 31

7:30 – 8:30 am      CEED Breakfast & Business Meeting      Queen Anne Ballroom

9:00 – 10:30 am      CEED Industry Roundtable      Iberville A

11:00 – 12:30 pm      Co-op and Disabilities—Continuing the  
Conversation      Iberville A  
The Career Compass and Professional  
Development Program

10:30 am – 4:00 pm      EXPO – Exhibits and Posters      Iberville BCD

12:45 – 1:45 pm      Networking Luncheon      Queen Anne Ballroom

2:00 – 3:30 pm      Co-op Housing Initiatives      Iberville A  
Micro Experiential Learning

3:30 – 4:00 pm      Ice Cream Social in EXPO      Iberville BCD

4:00 – 5:30 pm      Employee Mentorship Program      Iberville A  
Case Interviewing: Not Just for  
Finance Students

#### Friday, February 1

7:30 – 8:45 am      CEED Breakfast & Planning Session      Royal Salon

# CIP Program at a Glance

## College-Industry Partnership Division

### Wednesday, January 30

11:00 am – 12:30 pm	Approaches for Increasing Diversity in Industry and Academia	Bienville C
12:45 – 1:45 pm	CIEC Awards Luncheon	Queen Anne Ballroom
2:00 – 3:30 pm	New Models for Industry and Education Collaboration	Bienville C
2:00 – 3:30 pm	ROI: Structuring Win/Win Partnerships in Industry-Academia Engagements	Orleans B
3:30 – 3:55 pm	Comfort Break	
4:00 – 5:30 pm	Industry and Education Partnerships	Bienville C
6:00 – 8:00 pm	CIP Hospitality	Criolo Restaurant

### Thursday, January 31

7:30 – 8:30 am	CIP Breakfast and Business Meeting	Royal D
7:30 – 9:00 am	CMC Breakfast and Business Meeting	: Queen Anne B
9:00 – 10:30 am	Advancing Innovation Skills: Case Studies from Motorsports Program Networks	Bienville C
10:30 am – 4:00 pm	EXPO – Exhibits and Posters	Iberville BCD
11:00 am – 12:30 pm	Industry Speaks with One Voice	Bienville C
2:00 – 3:30 pm	Starting and Maintaining Long Term University-Industry Partnerships	Bienville C
3:30 – 4:00 pm	Ice Cream Social in EXPO	Iberville BCD
4:00 – 5:30 pm	Navigating Campus and Industry Relationships	Bienville C

### Friday, February 1

7:30 – 8:45 am	CIP Breakfast and Planning Session	Royal A
9:00 – 10:30 am	CIP Board Meeting	Royal A
10:30 am – Noon	Internships, Capstone Projects, Engineering Centers and Other Methods to Work with Industry	Royal B
1:00 – 4:00 pm	ETD/CIP Workshop <i>Patents as a Research, Business and Career Tool</i>	Queen Anne Ballroom

# CPDD Program at a Glance

## Continuing Engineering Education Division

### Tuesday, January 29

8:00 am– 12 pm	CPDD Board Meeting	Royal C
1:30-4:30 pm	CPDD Workshop: S0 What Happened? Best Practices for Changed Management	Royal B

### Wednesday, January 30

11:00 - 12:30 pm	Internal Marketing: Preparing for Changes in Administration	Queen Anne A
2:00 – 3:30 pm	Managing Change: Evolving Marketing and More with a CRM	Queen Anne A
3:30 – 3:55 pm	Comfort Break	
4:00 – 5:30 pm	Administration of Small Continuing Professional Development Programs	Queen Anne A
6:15 – 9:00 pm	CPDD and IACEE Hospitality	Creole Queen

### Thursday, January 31

7:30 – 8:30 am	CPDD Breakfast and Business Meeting	Riverview
9:00 – 10:30 am	Creating and Sustaining International Partnerships	Queen Anne A
10:30 am – 4:00 pm	EXPO – Exhibits and Posters	Iberville BCD
11:00 am – 12:30 pm	The Changing Face of Higher Education	Queen Anne A
12:45 – 1:45 pm	Networking Luncheon	Queen Anne Ballroom
2:00 – 3:30 pm	Continuing Education Systems and Tools for Success Empower and Engage Your Students By Flipping Your Classroom	Queen Anne A
3:30 – 4:00 pm	Ice Cream Social in EXPO	Iberville BCD
4:00 – 5:30 pm	Global Trends in Continuing Professional Development for Engineers	Queen Anne A

### Friday, February 1

7:30 am – 12 Noon	CPDD Special Interest Groups Breakfast And Planning Session	Riverview
9:30 am – 5:30 pm	IACEE Executive Committee Meeting	Royal D

# ETD Program at a Glance

## Engineering Technology Division

### Wednesday, January 30

11:00 am – 12:30 pm	Industry and Education Integration	Riverview
11:00 am – 12:30 pm	ECETDHA Board Meeting	Orleans D
2:00 – 3:30 pm	International Preparedness for ET Students	Vieux Carre
2:00 – 3:30 pm	Industry Partnerships	Riverview
3:30 – 3:55 pm	Comfort Break	
4:00 – 5:30 pm	Student Success Initiatives	Vieux Carre
4:00 – 5:30 pm	ETD Board Meeting	Orleans D

### Thursday, January 31

7:30 – 8:30 am	ETD Breakfast and Business Meeting	Royal AB
9:00 – 10:30 am	Learning Environments I	Vieux Carre
9:00 – 10:30 am	Advancing Innovation Skills: Case Studies From Motorsports Program Networks	Bienville C
10:30 am – 4:00 pm	EXPO – Exhibits and Posters	Iberville BCD
11:00 am – 12:30 pm	Expanding Traditional ET Programs into Healthcare Technology	Riverview
	Energy Related Curriculum Developments	
11:00 am – 12:30 pm	Learning Environments II	Vieux Carre
12:45 – 1:45 pm	Networking Luncheon	Queen Anne Ballroom
2:00 – 3:30 pm	Teaching Ethics	Vieux Carre
2:00 – 3:30 pm	Teaching Methodologies for Cybersecurity	Riverview
3:30 – 4:00 pm	Ice Cream Social in EXPO	Iberville BCD
4:00 – 5:30 pm	National Forum	Vieux Carre
6:00 – 8:00 pm	ETD Hospitality	Duece McAllister's Ole Saint

### Friday, February 1

7:30 – 8:45 am	ETD Breakfast and Planning Session	Queen Anne A
9:00 – 10:30 am	JET Board Meeting	Orleans D
9:00 – 10:30 am	Curriculum Innovation Driven by Industry Input	Vieux Carre
9:00 – 10:30 am	Planning for the Future: Changes to ABET Criteria	Queen Anne Ballroom
10:30 am – Noon	Internships, Capstone Projects, Engineering Centers and Other Methods to Work with Industry	Royal B
1:00-4:00 pm	ETD/CIP Workshop <i>Patents as a Research, Business and Career Tool</i>	Queen Anne Ballroom