STUDENT CONFERENCE ACTIVITIES

WEDNESDAY, OCTOBER 7, 2020

7:00 AM – 5:00 PM  Conference Registration

11:00 AM – 2:00 PM  Student Track: Robotic Team Check In & Robotics Prep (Exhibit Area)

Each team must check in their robot anytime during this scheduled time. Each team is to report with their robot with team members so that a team picture can be taken.

Each team will be assigned a table in the conference foyer area among the conference exhibitors to continue fine-tuning their robots and at the same time display their robot for conference attendees viewing and judging.

2:00 PM – 2:30 PM  Break

2:30 PM – 3:30 PM  Student Track: Student Division Opening Meeting with Guest Speaker

Asking all student division members to attend. Students will hear from a guest speaker, receive updates to the conference student schedule, and how to get involved with this conference as well as future conferences.

Hosts: Amy Frank, ATMAE Student Division President & Joshua Stevens, ATMAE Student Division Vice-President

4:00 PM – 6:00 PM  Exhibits Open

4:00 PM – 6:00 PM  Student Track: Robotics Prep and Judging (Exhibit Area)

Public viewing and judging will happen at your team table in the conference foyer among exhibitors. Teams are to be available at their table. During this time, judges will come to your assigned table and ask your team questions and to view your robot design. Teams are encouraged to bring a college table covering, display their robot, and be ready to share details with judges concerning your design and development, teamwork, budget planning, parts list, project management, share schematics, pictures, 3D models, and basically anything your team can share and display to impress the judges.

5:00 PM – 6:00 PM  Opening Reception and Robotics Viewing

Get an up-close preview of the robots that will be competing in the 2020 ATMAE Conference Robotics Competition! Stop by and visit with the teams to learn more about each robot’s construction materials, speed, capabilities, and design.

6:00 PM – 7:00 PM  Opening Event with Keynote Speaker: Kevin Nolan, President & CEO, GE Appliances

Attend the opening session to receive a warm welcome from Sarah Davasher-Wisdom, President & CEO of the Greater Louisville, Inc., Metro Chamber of Commerce followed by Kevin Nolan’s keynote address on connecting education & industry for workforce development.

Kevin Nolan bio is available at https://pressroom.geappliances.com/bios/kevin-nolan

7:30 PM  Student Track: Student Night Out
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THURSDAY, OCTOBER 8, 2020

7:00 AM – 5:00 PM  Conference Registration

7:00 AM – 8:30 AM  Division Member Breakfast Meeting Led by Division Leadership

Division Members will meet over breakfast to discuss activities, goals and best practices.

8:30 AM – 11:30 AM  Student Track: Introduction to Arduino Workshop

Presenter:
William J. McClung, MS, PE, Teaching Instructor, East Carolina University, Department of Technology Systems

Presenter will provide participants with a basic background on the Arduino Microcontroller. Students are required to bring WiFi-enabled personal laptop/tablet. Each student will be provided an Arduino Uno microcontroller and a small assortment of small electrical components to include but not limited to LEDs, resistors, switches, Servos, batteries and jumper wires. The course will begin with a short overview of the Arduino and its rise in popularity and its relevance to the IIOT. The course will provide the students with a list of resources to support their learning efforts. Each student will be provided instructions of how to download a free copy of the Arduino IDE for programming to their computer prior to this workshop. The instructor will lead the students through a group of short exercises where the students will assemble simple circuit and program the Arduino to perform simple tasks. Throughout, the program, participants will see multiple examples and applications for the Arduino in education, research, data collection and even commercial and industrial applications.

Limited to 25 registrants
Cost: $70 member; $85 non-member (students will keep all materials provided)

8:30 AM – 5:30 PM  Exhibits Open

10:00 AM – 10:15 AM  Refreshment Break

10:30 AM – 12:00 PM  Breakout Sessions

10:30 AM – 12:00 PM  Workshop: Getting Your Great Research Published: Best Practices for Smooth Submission to the Journal of Technology, Management, and Applied Engineering (JTMAE)

Presenters:
Dr. Gretchen Mosher, Associate Professor, Iowa State University & Chair of JTMAE Board
Dr. Randy Peters, Department Chair, AETM, Indiana State University & JTMAE Chief Editor

The goal of this workshop is to familiarize potential authors with JTMAE policies, and procedures to increase the ease of submission, and eventual publication by ATMAE members. We will provide an overview of:

- The types of manuscripts accepted by JTMAE
- Editing and formatting
- The process of submission and review
- Handling reviewer’s remarks, and responding professionally
- Communicating with the Editorial Panel
- Acceptance and publication timeline
12:00 PM – 2:00 PM **Lunch and Robotics Competition**

ATMAE is known across the country for bringing the leading university and college robotics teams together for this captivating competition! This year, Warehouse 4.1, an ATMAE warehouse, is introducing new receiving, and storing robots. The upper management of the ATMAE warehouse wants to upgrade their just-in-time implications to help streamline movement of the stored shipments. During every 3-minute shift, the warehouse needs to deliver nine containers of three different weight barrels, three different weight cube crates, and three different weight spherical containers from the storage racks to specific locations for processing within the facility. You don't want to miss this exciting competition! Attendees will even be able to place a vote for your favorite robot. The winner will be recognized during the Awards Luncheon on Friday.

*Host: Amy Frank, ATMAE Student Division President and Joshua Stevens, ATMAE Student Division Vice President.*

2:00 PM – 3:00 PM **Robotics Competition: Robot Tag**

ATMAE’s robotic teams will be back for this exciting, fast moving, head to head competition. Teams will attempt to capture a flag from other teams for this single elimination competition.

2:00 PM – 3:00 PM **Breakout Sessions**

3:00 PM – 3:30 PM **Break**

3:30 PM – 5:30 PM **Poster Presentation Session (Students and Professionals)**

This session offers opportunities to learn more about abstracts selected for oral and poster presentations for professionals and students (undergraduate and graduate level) of Technology, Technology Management, Applied Engineering and other technology programs.

3:30 PM – 5:30 PM **Student Track: Technology IQ Challenge**

Test your technology, management, and applied engineering know-how in this Jeopardy-style, single-elimination competition. Race for the buzzer with questions on manufacturing, communication, construction, safety, electronics, energy, quality, and management. Intended for undergraduates only. Sign up at the ATMAE registration desk by 10:00 am Thursday, October 8th. All registered competitors must attend and check-in at 3:30 pm for information on the rules and release of the competition rounds.

*Host: Dr. Heshium Lawrence, University of Texas at Tyler and Past Chair ATMAE Board of Directors*

5:30 PM – 6:30 PM **Breakout Sessions**
STUDENT CONFERENCE ACTIVITIES

FRIDAY, OCTOBER 9, 2020

7:30 AM – 2:00 PM  Conference Registration

8:00 AM – 9:30 AM  ATMAE Breakfast and Business Meeting

Members are invited to hear reports from the ATMAE Board Officers of the Association, and to propose and discuss matters of importance to the Association. The agenda for the Annual Business Meeting will be shared with members prior to the meeting and copies made available at the registration desk. For more information about the rules and procedures of the Annual Business Meeting, see ATMAE Bylaws.

9:00 AM – 11:30 AM  ATMAE Certification and Assessment Exams

Proctor
Dr. Mark Miller, Professor & Chair, Department of Technology, University of Texas at Tyler & Chair, ATMAE Board of Certification

ATMAE is providing the opportunity for students, and professionals to take a certification exam while attending the conference. ATMAE recommends earning at least one of the professional certifications that are offered for graduates of two-year technical and four-year technology/applied engineering programs to improve marketability, or for professionals looking to invest in their career growth. Each exam’s content is representative of the task, skills, and knowledge needed to successfully perform the job in which the certification is documenting. Exam content is developed by individuals who currently perform that job or manage, supervise, train, and/or educate individuals for that particular job.

We offer the following certification exams:
- Certified Controls Engineer (CCE)
- Certified in Engineering Graphics (CEG)
- Certified Manufacturing Specialist (CMS)
- Certified Technology Manager (CTM)
- Certified Technical Professional (CTP)
- Certified Lean Six Sigma (CLSSYB, CLSSGB, CLSSBB, CLSSMBB)
- Microelectro Mechanical Systems Foundation Certification (MFC)

Please contact Karen Miles, ATMAE Program Director to schedule your exam in advance at admin@atmae.org (requires one-week notice). ATMAE Certifications are professional recognition. Certification requires passing an exam, fulfilling eligibility criteria, submitting an application and paying all fees. See Certification Eligibility, Fees and Policies.

9:30 AM – 11:30 AM  Student Track – Career Roundtables

Students come expand your professional network by participating in the ATMAE Career Round Tables activity. Industry representatives will be available to share insights on what skills are important in their fields, provide advice for career development, and answer your questions regarding career readiness!
9:45 AM – 10:45 AM  **Safety Measures to Save Commercial Aviation in the Era of COVID-19**

**Moderator:**
Dr. Mike Fisch, Associate Professor, College of Aeronautics and Engineering, Kent State University

**Panelists:**
Dr. I. Richmond Nettey, Professor, College of Aeronautics and Engineering, Kent State University
Dr. Rui "Ray" Liu, Assistant Professor, College of Aeronautics and Engineering, Kent State University
Dr. Chang-Geun Oh, Assistant Professor, College of Aeronautics and Engineering, Kent State University,

The panelists will review the devastating impact of the Coronavirus and associated COVID-19 pandemic on commercial aviation, specifically, airlines and commercial service airports. Then discuss, and review safety measures that will save commercial aviation followed by Q&A from the audience.

11:00 AM – 12:00 PM  **Breakout Sessions**

11:30 AM – 12:00 PM  **Student Division Meeting**

Calling all student division members to attend this meeting to give the leadership feedback on this year’s conference, and hear ideas and plans for next year’s conference.

12:15 PM – 2:00 PM  **ATMAE and IAJC Awards Luncheon**

The winners of the Robotics Competition, Student Poster Competition, Student Chapter of the Year and Student Scholarships are announced. We will also recognize ATMAE and IAJC members that have made outstanding achievements in academic and industry excellence.

2:00 PM – 4:00 PM  **IAJC Breakout Sessions**

2:00 PM – 6:00 PM  **Workshop: ATMAE Certified Controls Engineer (CCE) Exam Preparation and Completion**

**Presenters:**
Dr. John R. Haughey, Assistant Professor, Millersville University of Pennsylvania
Dr. John R. Wright, Jr., Professor & Automation & Intelligent Robotics Engineering Technology Program Coordinator, Millersville University of Pennsylvania

ATMAE is proud to offer the first and only professional Certified Controls Engineer (CCE) certification program designed for automation and controls professionals! This rigorous open-book exam, developed in collaboration from ATMAE’s Board of Certification and EECT Division membership, has been validated by industry and academia content experts to include 120 questions across 14 related content areas that make up the CCE’s Body of Knowledge (BoK). These content areas include automated systems, electronics fundamentals, controls, instrumentation, programming fundamentals, robotic systems, electrical power systems, safety systems, networking fundamentals, fluidics, financial justification, industrial maintenance, mechanical advantage, and energy management. This workshop will provide participants with an overview of the certification program, a detailed description and classification of the 14 content areas covered, as well as offer guided analysis and evaluation of multiple practice problems across the BoK. After the workshop, participants will have the opportunity to sit for the 2-hour CCE exam. This workshop intends to assist participant with the successful completion of the new CCE exam. Attendees are required to bring a WiFi-enabled personal laptop/tablet to complete CCE exam. **Limited to 25 registrants.**

**Cost:**
**Member includes workshop and exam fee:**
Professional Member (industrial/academic): $100; Student Member: $55

**Non-member includes workshop, exam fee, and 1-year ATMAE Membership:**
Professional Non-Member (industrial/academic): $200; Student Non-Member: $80

*Note there is an additional fee for annual CCE certification (if exam is passed): Professional: $50 and Student: $25*
Workshop: Six Sigma Black Belt Using Minitab

Presenter:
Dr. Mahmoud Al-Odeh, Associate Professor of Operations Management, Bemidji State University

The workshop supports the ASQ Six Sigma Black Belt Body of Knowledge, and will cover advanced topics in the Six Sigma DMAIC methodology. This is an interactive session, in which you will spend most of your training time working through interactive practice exercises using Minitab. Several examples will be used in the session to support the diversity of ATMAE fields. This training is designed to help faculty become familiar with Minitab to use it in their Quality Management classes. Prerequisite: familiarity with the basics of DMAIC methodology. This workshop requires using Minitab software (sold separately). For this training, you may use the Free 30-Day Trial (offered by Minitab). Participants are required to bring WiFi-enabled personal laptop/tablet. The instructor will contact participants in advance with instructions for this workshop.

Workshop limited to first 12 registrants.

The following topics will be covered:

1. Introduction to the DMAIC model for process improvement activities.
2. Overview on how to select the best chart based on the collected Data.
3. Developing basic quality charts e.g. Pareto, Histogram, Stem-and-Leaf, and Boxplot using Minitab.
5. Creating attributes charts P & C charts using Minitab.
6. Conducting process capability studies using Minitab.
7. Interpreting the results of process capability studies.
8. Testing hypotheses using Minitab statistical tool e.g. ANOVA.

Cost:
Professional Industry Member: $500; Non-Member: $550
Professional Academic: $350; Non-Member: $400
Student Member: $150; Non-Member: $200