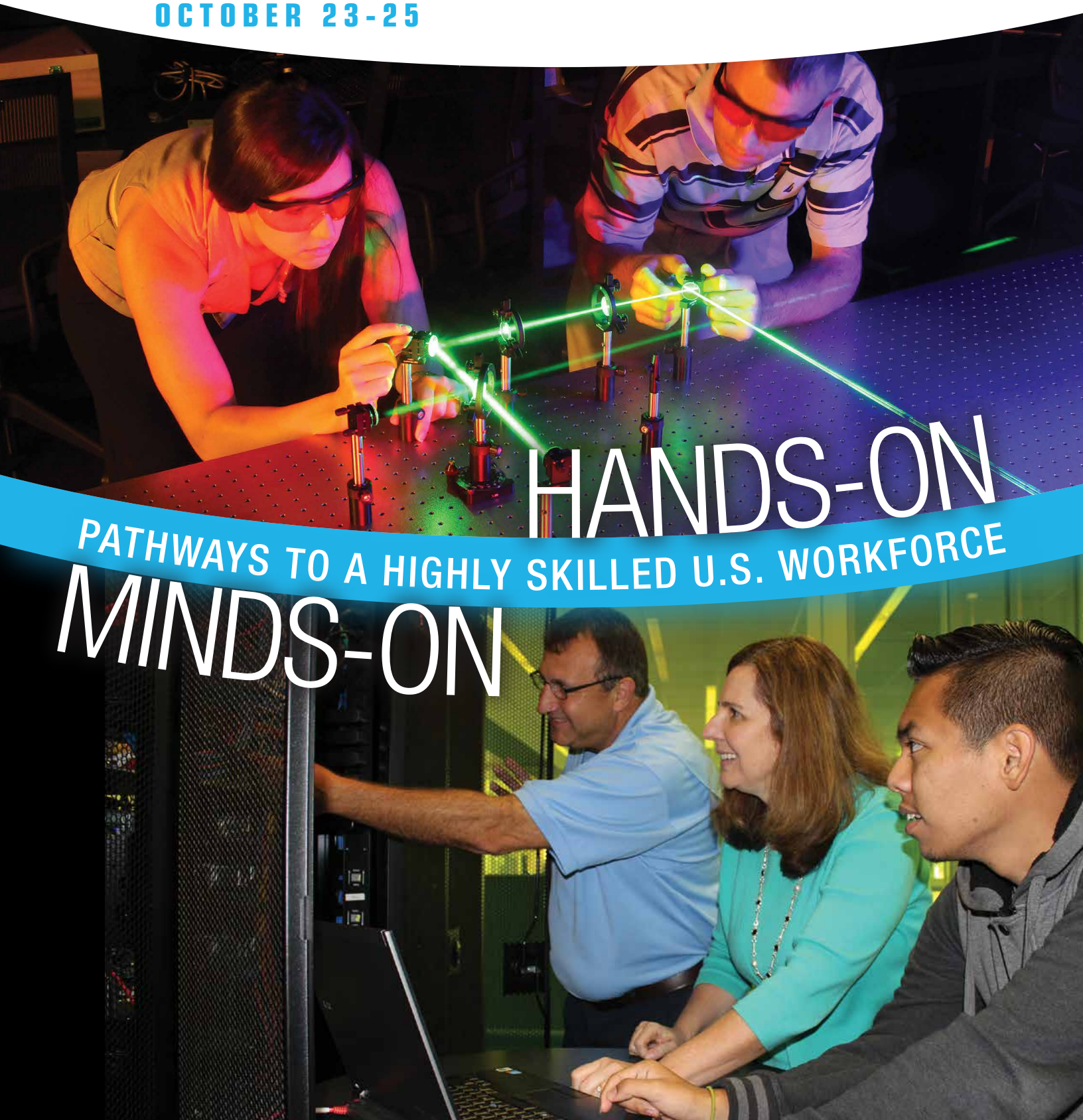
2017 ATE PRINCIPAL INVESTIGATORS CONFERENCE

OCTOBER 23-25

AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

NSF

Conference Program



This publication is based upon work supported by the National Science Foundation under grant number DUE 1601014 to the American Association of Community Colleges. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

As the voice of the nation's community colleges, the American Association of Community Colleges (AACC), delivers educational and economic opportunity for 12 million diverse students in search of the American Dream. Uniquely dedicated to access and success for all students, AACC's member colleges provide an on-ramp to degree attainment, skilled careers, and family-supporting wages. Located in Washington, D.C., AACC advocates for these not-for-profit, public-serving institutions to ensure they have the resources and support they need to deliver on the mission of increasing economic mobility for all.

GENERAL INFORMATION

HANDS-ON, MINDS-ON: PATHWAYS TO A HIGHLY SKILLED U.S. WORKFORCE

Twenty-Fourth National ATE Principal Investigators Conference

October 23–25, 2017 ■ Omni Shoreham Hotel ■ Washington, DC

Contents

Hotel Information

Omni Shoreham Hotel (Conference site)
2500 Calvert Street, NW
Washington, DC
202-234-0700

The Dupont Circle Hotel (Overflow Property)
1500 New Hampshire Avenue, NW
Washington, DC
202-483-6000

Hotel Shuttle Information

The conference will operate a shuttle service between the Dupont Circle Hotel and the Omni Shoreham Hotel. Shuttles will pick-up and drop-off in front of each property every 30 minutes during peak conference times. Please see the conference registration desk and signage in the hotel lobby for the shuttle schedule.

Registration Hours

ATE Registration Desk, West Conference Foyer

Monday:	10:00 am – 8:00 pm
Tuesday:	7:00 am – 5:00 pm
Wednesday:	7:30 am – 12:00 pm

Badge Identification

Each person who registers for the ATE Conference must wear their name badge for entry into sessions, meal events, receptions, and the exhibit hall.

Accessibility Information

All meeting rooms can be accessed through the elevators in the West area of the hotel with the exception of the Regency and Ambassador Ballrooms. A wheelchair lift is located next to the Ambassador Ballroom main entrance and can be taken down to the Regency level for entry to both Ambassador and Regency Ballrooms. Restrooms with wheelchair access are located on both Level 1B and 2B (inside of the Health Club); on the lobby level; and in Robert's Restaurant.

Live Twitter Stream #2017ATEPI

SCHEDULE-AT-A-GLANCE

MONDAY, OCTOBER 23, 2017	
PRECONFERENCE ACTIVITIES	
10:00 am – 8:00 pm	**Conference Registration** West Conference Foyer
1:00 – 7:30 pm	**Attendee Networking Lounge** Committee
1:00 – 5:00 pm	**Workshop A: Getting Started** *Advance Registration and Ticket Required* Palladian
1:00 – 5:00 pm	**Workshop B: Moving It On Up** *Advance Registration and Ticket Required* Diplomat
1:00 – 4:00 pm	**Workshop C: Integrating Research and Professional Skills in the Community College Curriculum** *Advance Registration and Ticket Required* Ambassador
1:00 – 5:00 pm	**Workshop D: Tools to Recruit and Retain – Spatial Representation of Student and Community Demographics** *Advance Registration and Ticket Required* Hampton
1:00 – 4:00 pm	**Workshop E: Effective Strategies for Evaluation Reporting** *Advance Registration and Ticket Required* Empire
1:30 pm	**ATE Student Meet & Greet** *Open to ATE Students Only* Executive Room
3:30 – 6:00 pm	**Showcase I Set-Up** Exhibit Hall
4:30 – 5:30 pm	**Engaging with Legislators – Sharing the Impact of the Community College Role in STEM Technician Education and Workforce Development** *Open to All Attendees – No Ticket Required* Congressional
CONFERENCE OPENING	
6:00 – 7:15 pm	**Opening Plenary Session: The Power of Partnerships** Regency
7:30 – 9:45 pm	**Showcase I and Welcome Reception** Exhibit Hall
9:45 – 10:30 pm	**Showcase I Breakdown** Exhibit Hall

TUESDAY, OCTOBER 24, 2017	
7:00 am – 5:00 pm	**Conference Registration** West Conference Foyer
7:00 am – 5:00 pm	**Attendee Networking Lounge** Committee
7:30 – 8:45 am	**Showcase II Set-Up** Exhibit Hall
7:30 – 8:45 am	**Breakfast** Regency
7:30 – 8:45 am	**ATE Student/Alumni Recognition Breakfast** *By Invitation Only* Blue Room and Blue Room Pre
7:45 – 8:45 am	**Breakfast Roundtables** Ambassador
9:00 – 10:00 am	**Industry "Speed Networking" Session for ATE Students** *Open to ATE Students Only* Congressional
9:00 – 10:00 am	**Plenary Session: Community Colleges Build America's Skilled Technical Workforce** Regency
10:00 – 10:15 am	**Refreshment Break** Diplomat, Ambassador, and Empire Foyers
10:15 – 11:15 am	**Student Displays – Showcase II Set-Up** Exhibit Hall
10:15 – 11:15 am	**Concurrent Sessions**
	Session 1: Recruiting for Diversity – Lightning Round Palladian
	Session 2: Educators, Employers, and Employability Skills Diplomat
	Session 3: Preparing Students for the 21st Century Workforce through Undergraduate Research and Innovation Ambassador
	Session 4: Engineering Technology Education in the U.S. – Report of an NAE Study Empire
11:30 am – 1:45 pm	**Showcase II and Lunch** Exhibit Hall
1:45 – 2:30 pm	**Showcase II Breakdown** Exhibit Hall
2:00 – 3:00 pm	**Panels and Birds of a Feather Sessions**
	Apprenticeships – Growing Innovative Opportunities for Students *Panel: Track 1* Palladian
	Small Unmanned Aerial Systems (UAS) and the Cross-Discipline Usage *Panel: Track 1* Empire
	New Technologies and Emerging Careers in Renewable Energy and Energy Efficiency *Panel: Track 1* Diplomat

SCHEDULE-AT-A-GLANCE

TUESDAY, OCTOBER 24, 2017	
2:00 – 3:00 pm	**Panel and Birds of a Feather Sessions (continued)**
	Integrating Professional Skills into Technology Curriculum *Birds of a Feather: Track 1* Council
	Converting to a Competency-Based, Hybrid, Open-Lab Instructional Model *Birds of a Feather: Track 1* Forum
	Hands-On Technician Training with VR – Faster, Safer, Better, and Less Costly! *Birds of a Feather: Track 1* Regency
	Overcoming Barriers to Increase Enrollment and Completion *Panel: Track 3* Blue Room Pre
	Rural Arizona Colleges Collectively Engage K-14 Students in STEM *Panel: Track 3* Governors
	Recruiting for Diversity – Discussion Round *Birds of a Feather: Track 3* Congressional B
	Best Practices in Discovery-Based Research at Two-Year Undergraduate Colleges *Panel: Track 3* Executive
	Effective Strategies for Evaluation Reporting *Panel: Track 4* Capitol
	Strengthening Evaluation Use in Professional Development Programs *Birds of a Feather: Track 4* Senate
	PathTech LIFE: Informing Targeted Research and Best Practices *Birds of a Feather: Track 4* Cabinet
	Leveraging Partnerships to Maximize Workforce Impact and Return on Investment *Panel: Track 5* Blue Room* *Please enter the Blue Room through Robert's Restaurant.
	Partnerships as a Path to Sustainability: Stay on the Yellow Brick Road? *Panel: Track 5* Congressional A
	NSA CAE – Regional and National Resource Centers *Birds of a Feather: Track 5* Calvert
	Top Ten Things that Student Veterans Would Like Faculty to Know *Panel: Track 6* Ambassador
3:00 – 3:15 pm	**Refreshment Break**

TUESDAY, OCTOBER 24, 2017	
3:15 – 4:15 pm	**Panel and Birds of a Feather Sessions**
	Emerging Trends in Mechatronics Education *Panel: Track 1* Diplomat
	Preparing the Autonomous Navigation and Unmanned Aircraft Systems Workforce of the Future *Birds of a Feather: Track 1* Empire
	Cyber Cornucopia *Birds of a Feather: Track 1* Palladian
	Continuing the Dialogue on Engineering Technology Education in the U.S. *Birds of a Feather: Track 1* Congressional B
	ATE Careers for Veterans: Discharge Planning and the Civilian ATE Workforce *Panel: Track 1* Ambassador
	Enhancing STEM Education through Project-Based Learning and Research *Panel: Track 1* Executive
	Utilizing Additive Manufacturing at Your Institutions *Panel: Track 1* Governors
	HyFlex Courses: Learner Choice, Equivalency, Reusability, and Accessibility *Birds of a Feather: Track 1* Forum
	Broadening Female Participation in ATE: Hear from Successful Two-Year Colleges *Panel: Track 3* Calvert
	When Evaluation Results Indicate It Is Time to Pivot *Panel: Track 3* Capitol
	Badges and Micro-credentials for Skills Assertion in CTE *Birds of a Feather: Track 3* Senate
	IT Pathways: Building, Sustaining, and Improving IT School-to-Career Routes *Birds of a Feather: Track 3* Council
	Exploring Approaches to Teaching 21st Century Skills in Academia *Birds of a Feather: Track 5* Blue Room Pre
	Industry Partnerships: Sharing Challenges, Impacts, and Strategies *Panel: Track 5* Blue Room* *Please enter the Blue Room through Robert's Restaurant.
	Life After ATE: Strategic Planning for Program Continuity following Grant Sunset *Panel: Track 5* Congressional A
	What, When, and How: Archiving with ATE Central *Birds of a Feather: Track 6* Cabinet

SCHEDULE-AT-A-GLANCE

TUESDAY, OCTOBER 24, 2017	
4:30 – 5:00 pm	**Demonstration Sessions**
	Military Occupational Speciality (MOS) Pathways *Demonstration: Track 1* Congressional B
	Designing the Next Generation of Teaching and Learning Environments *Demonstration: Track 1* Blue Room Pre
	Collecting Field Data with a Smart Device *Demonstration: Track 1* Empire
	Virtual Machines and Simulations to Accelerate Student Learning *Demonstration: Track 1* Governors
	Team-Based Learning Actively Engages Students and Improves Soft Skills *Demonstration: Track 1* Cabinet
	Digital Games and Simulations for a Math and GIS Program *Demonstration: Track 3* Capitol
	Engaging Students Using Remote Access *Demonstration: Track 3* Executive
	Using Story and an Interactive Movie to Immerse Students in a Regulated Workplace *Demonstration: Track 3* Calvert
	Engaging STEM Students Using Affordable Virtual Reality Frameworks *Demonstration: Track 3* Diplomat
	Skeptical Thoughts to Emerging Minds Using the Innovative BYO Video Tool *Demonstration: Track 3* Congressional A
	Intersection of Virtual Reality and Personalized Learning in Education *Demonstration: Track 4* Blue Room* *Please enter the Blue Room through Robert's Restaurant.
	Get Online and Get Connected with an ATE Microsite *Demonstration: Track 5* Palladian
	Moving Your Project or Center Dashboard into the Cloud *Demonstration: Track 6* Ambassador

WEDNESDAY, OCTOBER 25, 2017	
7:30 am – 12:00 pm	**Conference Registration** West Conference Foyer
7:30 – 10:00 am	**Attendee Networking Lounge** Committee
7:30 – 8:45 am	**Continental Breakfast** Regency Ballroom
7:30 – 8:45 am	**Showcase III Set-Up** Exhibit Hall
7:45 – 8:45 am	**Breakfast Roundtables** Ambassador
9:00 – 10:00 am	**Plenary Session: STEM Pathway Towards Research and Innovation – and the Lessons Learned** Regency Ballroom
10:15 am – 12:30 pm	**Showcase III and Lunch*** **Lunch Buffet Opens at 11:00 am* Exhibit Hall
12:30 – 1:15 pm	**Showcase III Breakdown** Exhibit Hall
12:45 – 3:00 pm	**ATE Center Directors' Meeting** Palladian

ATE CENTRAL

ATE Central can help you...

- Showcase your **valuable resources** and **events**
- Extend your **outreach efforts** and **social media presence**
- Track the **impact** of your center or project **activities**
- Connect with **collaborators** and **mentoring opportunities**
- Archive materials and deliverables for **longevity** and **extended impact**

Get your 2017 PI Conference app at
http://atecentral.net/piapp
Or by searching your app store for "2017 ATE conference"

Tools and services for you from ATE Central...

ATE Microsite Service: Put information about your project or center online ASAP, with a minimum investment of your time and effort

ATE Archiving Service: Archive your curriculum, professional development materials, and other deliverables to make sure that the valuable resources you've created continue to be available and in use

ATE PI Conference App: Plan your schedule, manage new contacts, and get the most out of the annual PI meeting with this mobile application

For more information please visit us during the showcase sessions or at
http://atecentral.net

ATE Central is funded by the National Science Foundation under award 1261744

GUIDE TO CONFERENCE SESSIONS

Please refer to the conference schedule for specific session times and room locations.

BREAKFAST ROUNDTABLES: Breakfast roundtables are a forum for interactive discussion of a topic among a small group of 5–12 people. They are designed as informal sessions and attendance is first-come, first-served, and limited to a maximum of 12 people, including the moderator, seated around one table.

BIRDS OF A FEATHER SESSIONS: The discussion session format offers an interactive venue for ATE grantees to share promising practices and lessons learned with other members of the ATE community, to network, share insights, and explore ways to collaborate. Discussion moderators serve as facilitators of interactive, substantive discussions and small group activities. Please note that the capacity for Birds of a Feather sessions range from 30–40 people.

CONCURRENT SESSIONS: Concurrent sessions include formal presentations and/or panel discussions that address topics pertaining to the conference theme and the needs of the ATE community.

DEMONSTRATION SESSIONS: Demonstration sessions are formal 30-minute presentations that show how to use or apply a pedagogical tool, concept, or model. Presenters will walk attendees through a step-by-step explanation of the tool, concept, or model; its strengths and weaknesses; and how it can best be applied or implemented. Please note the capacity for demonstration sessions ranges from 30–40 people.

PANEL SESSIONS: Panel sessions provide additional venues for formal presentation. Presenters may facilitate an exchange of ideas or share promising practices to provide greater insight into the issues outlined in the session tracks (listed below). Please note that the capacity for panel sessions ranges from 50–60 people.

SESSION TRACKS: The sessions scheduled on Tuesday, October 24, feature topics pertaining to the conference theme and are organized by the following tracks:

- **Track 1. Hands-On, Minds-On: Educating Technicians for the Workforce of Today and Tomorrow**
  Examples of topics in this category include: evidence-based teaching strategies; undergraduate research; competency-based learning; work-based learning; stackable credentials; credit for prior work experience; internships; apprenticeships; bridge programs; addressing emerging career fields/technologies; career pathways; and assessment strategies and resources.
- **Track 2. Developing STEM Leaders in Innovation**
  Examples of topics in this category include: methods and models for professional and faculty development, faculty externships, leadership development, new PI succession planning, and mentoring programs.
- **Track 3. Engaging Students for Success in STEM**
  Examples of topics in this category include: interactions with secondary school CTE programs; dual enrollment; career awareness/outreach; working with guidance counselors and career coaches; summer camps; direct student interaction with industry; and strategies for recruiting and retaining underrepresented students.
- **Track 4. Advancing Innovation through STEM Research and Evaluation**
  Examples of topics in this category include: strategies for conducting institutional and educational research; partnering with four-year colleges on student learning outcomes; strategies for sustaining and scaling programs; strategies for capturing reliable impact data; and evaluation.
- **Track 5. Broadening the Impact of ATE by Engaging Partners**
  Examples of topics in this category include: creating and leveraging partnerships with business and industry, college administrators, secondary schools, funders, local/state government, and/or the community; addressing workforce development needs through collaboration with business/industry; and outreach and marketing to external constituents.
- **Track 6. Sharing Proven Practices in Grants Management and Program Administration**
  Examples of topics in this category include: project and fiscal management; meeting evaluation and accountability challenges; strategies for sustaining and scaling programs; creating and leveraging partnerships; working with college administration; preparing annual reports; and dealing effectively with unforeseen project changes.

SHOWCASE SESSIONS: The showcase sessions provide grantees an opportunity to exhibit their projects and share information with other programs, NSF program directors, and guests at the conference. ATE projects and centers present displays that capture the purposes and products of their programs. The displays are divided into three sessions: one center showcase and two project showcases. The conference's main meal events are coordinated as part of the showcase sessions.

Note: ATE students will highlight their program of study and/or career path as part of the project showcase sessions. Please take the time to visit the student booths during the project showcases and show your support of their efforts.

■ PRECONFERENCE ACTIVITIES

10:00 am – 8:00 pm
Conference Registration
West Conference Foyer

1:00 – 7:30 pm
Attendee Networking Lounge
Committee

This room is open to conference attendees for informal networking and conversation, as well as offers a place to plug in your computer and charge your handheld devices.

1:00 – 5:00 pm
Workshop A: Getting Started
Advance Registration and Ticket Required
Palladian

David Campbell, V. Celeste Carter, L. Rashawn Farrior, Janelle Gosey, Ginna Ingram, Jennifer Springman, *National Science Foundation, Alexandria, VA*

Dennis Faber, *Mentor-Connect, Ocean Pines, MD*

Rachael Bower, *ATE Central, University of Wisconsin–Madison, Madison, WI*

Emma Perk, Kelly Robertson, *The Evaluation Center, Western Michigan University, Kalamazoo, MI*

This workshop is recommended for all principal investigators, co-principal investigators, and other team members involved in newly awarded projects and centers in FY17. Others who may find the workshop useful include new awardees in FY16 and other project personnel from prior years who have recently become involved in ATE projects and centers. The workshop will be divided into three parts: (1) ATE Program Issues. Topics to be covered include reporting requirements such as annual and final reports, working with NSF program officers, changes in project personnel or scope, data collection, FastLane and other reporting systems, use of Advisory Boards and National Visiting Committees, preparing project highlights for NSF and others, Institutional Review Boards (IRBs), and many other relevant topics. (2) Financial Management and Grant Management Issues. This section will focus on financial accounting issues and discuss in detail problems often seen in monitoring visits such as participant support, time and effort accounting, subawardees, record keeping, changes in scope, overload, and use of consultants. (3) Evaluation. This segment will address building in evaluation from the start of your project or center. The ATE program conducts an annual survey of all projects and centers that have been active for more than one year. Additional evaluation topics to be addressed include, but are not limited to, evaluation design, methods and instrumentation, resources for learning about productive evaluation, the roles of internal and external evaluators, and evaluation challenges.

1:00 – 5:00 pm
Workshop B: Moving It On Up
Advance Registration and Ticket Required
Diplomat

Jonathan Beck, *Northland Community and Technical College, MN*

John Frala, *Rio Honda College, Whittier, CA*

Tom Higgins, *City Colleges of Chicago–Harold Washington, Chicago, IL*

Dan Horine, *Virginia Western Community College, Roanoke, VA*

Peter Maritato, *Suffolk Community College, Selden, NY*

Ken Mays, *Central Oregon Community College, Bend, OR*

Pam Silvers, *Asheville-Buncombe Technical Community College, Asheville, NC*

Elaine Craft, *Mentor-Connect, Florence-Darlington Technical College, Florence, SC*

Elizabeth Teles, *National Science Foundation, Alexandria, VA*

This workshop will focus on strategies that projects relatively new to ATE might use to "move it on up" to larger ATE-supported efforts or S-STEM projects. It will use materials initially created from a roundtable discussion at the 2016 ATE Conference and further developed by ATE program officers and PIs. A wide variety of examples will be used to demonstrate the many ways that PIs have graduated from small grants to more comprehensive efforts. One or more specific proposals that have been funded will be "mock reviewed" and discussed. The workshop will be facilitated by ATE program officers and grantees who have moved from initial small grants to larger efforts.

1:00 – 4:00 pm
Workshop C: Integrating Research and Professional Skills in the Community College Curriculum
Advance Registration and Ticket Required
Ambassador

Linnea Fletcher, *AC2, Austin Community College, Austin, TX*

Deb Newberry, *Nano-Link, Dakota County Community College, Rosemount, MN*

Karen Wosczyna-Birch, *Regional Center for Next Generation Manufacturing, Tunxis Community College, Farmington, CT*

John Birch, *The Birch Group, Farmington, CT*

Student Presenters: ***Erica Duncan, Tara Clancy***, *Del Mar College, Corpus Christi, TX*

***Victor Khamthongha**, Dakota County Technical College, Rosemount, MN*

***Elena Bolotova**, Tunxis Community College, Farmington, CT*

***Milliechel Ramirez**, Asnuntuck Community College, Enfield, CT*

Industry is no longer hiring employees solely based on technical skills. Industry is looking for employees who also have 21st century skills such as critical thinking, problem solving, and creativity as well as the ability to communicate effectively and work in teams. It is the challenge of community colleges to not only prepare students from a technical perspective but to also equip them with a library of nontechnical skills that will propel their career. Integration of these nontechnical skills into standard courses or programs is one approach for providing students with these skills as well as providing opportunities that are outside of the formal classroom and laboratory. Use of industry or academic-based research projects allow students to plan, organize, and execute tasks; work as a team; and learn project management and communication skills. This workshop will discuss various approaches, lessons learned, and share the pros and cons from programs implementing these activities. Participants will have an opportunity to brainstorm ideas for implementation into specific classes or programs of interest to them.

1:00 – 5:00 pm

Workshop D: Tools to Recruit and Retain – Spatial Representation of Student and Community Demographics

Advance Registration and Ticket Required

Hampton

***Vince DiNoto**, National Geospatial Technology Center of Excellence, Louisville, KY*

Demographics play a major role in the understanding of people based upon where they live. Demographics influence the very fabric of everyday lives, including how well students do in an educational environment. Unlike four-year higher education institutions, in which the students move to the institutional location, two-year college students are residential to their communities. This hands-on workshop will explore the concepts of student demographics and how to determine the demographical characteristics of students for the institution or program. The concepts to be covered include: (1) geocoding (linking addresses to locations), (2) tabular joining (combing a table with a polygon shape), (3) spatial joining (counting the number of students in an area), and (4) data selection (query). The workshop will utilize free open source software, data from the U.S. Census Bureau, and address-based information. Participants will need to have a laptop with the ability to connect to Wi Fi and a free geospatial software package, which will be provided prior to the workshop. Helpful hints will also be provided to assist in cleaning up data prior to using it in a demographical analysis.

1:00 – 4:00 pm

Workshop E: Effective Strategies for Evaluation Reporting

Advance Registration and Ticket Required

Empire

***Lori Wingate, Lyssa Wilson Becho**, The Evaluation Center, Western Michigan University, Kalamazoo, MI*

All ATE projects and centers must be evaluated and the results of these evaluations must be reported to NSF and other key stakeholders. ATE principal investigators, project and center staff, and evaluators who attend this workshop will learn: (1) what information should be included in evaluation reports (and what to leave out!), (2) simple strategies to enhance the utility and impact of reports through visual design, and (3) how to turn reporting requirements into opportunities to enhance dissemination and demonstrate intellectual merit. Participants will receive practical tools they can use in their projects to maximize the impact of their evaluations and evaluation reports.

1:30 pm

ATE Student Meet & Greet

Open to ATE Students Only

Executive Room

For any ATE students arriving early to the conference, AACC is coordinating an informal meet and greet opportunity—including a guided tour of the Omni Shoreham Hotel, information on its rich history, and a visit to its infamous ghost suite. Join us for some light refreshments, and an opportunity to meet fellow students and AACC staff. Following the hotel tour, interested students can self-organize into groups to go out and explore Washington, DC—and an AACC staff member will be on-hand to offer guidance on where to go and to answer questions about the area. Student groups can then head out on their own and return to the Omni Shoreham prior to the conference opening session at 6:00 pm.

3:30 – 6:00 pm

Showcase I Set-Up

Exhibit Hall

4:30 – 5:30 pm

Engaging with Legislators – Sharing the Impact of the Community College Role in STEM Technician Education and Workforce Development

Open to All Attendees – No Ticket Required

Congressional

***Jim Hermes**, American Association of Community Colleges, Washington, DC*

As the annual ATE Conference ends on a Wednesday this year, conference participants have the unique opportunity to plan visits to engage with their legislators to share the impact of their important contributions in preparing STEM technicians for the U.S. workforce. Congressional members and their staff meet with constituents every day. Visiting a Congressional member provides a personal touch, an opportunity for questions, and immediate feedback. Join AACC's Associate Vice President for Government Relations, Jim Hermes as he shares insights on effective techniques for communicating and arranging for visits with members of Congress and their staff. In addition, he will discuss some of the do's and don'ts involved in getting your message to the right people on Capitol Hill and guidelines for conducting an effective meeting.

■ CONFERENCE OPENING

6:00 – 7:15 pm

Opening Plenary Session

Regency

***V. Celeste Carter**, Co-Lead ATE Program Director, National Science Foundation, VA*

***David Campbell**, Co-Lead ATE Program Director, National Science Foundation, VA*

***Robin Wright**, Division Director, Division of Undergraduate Education, National Science Foundation, VA*

***Mary Graham**, Board Chair, American Association of Community Colleges; President, Mississippi Gulf Coast Community College, MS*

***W. James Lewis**, Deputy Assistant Director, Education and Human Resources Directorate, National Science Foundation, VA*

***Joan Ferrini-Mundy**, Chief Operating Officer, National Science Foundation, VA*

The Power of Partnerships

Keynote Speaker:
***Judith F. "Judy" Marks**, CEO, Siemens, USA, and CEO, Dresser-Rand, A Siemens Business*

Graduates of STEM technician education programs are prepared to succeed. They have the skills that industrial innovators like Siemens are looking for in the 21st century. If we can expand partnerships between community colleges and companies, then we can expand access to opportunity and the American dream. Together, we produce a win-win: even better student outcomes and a highly skilled U.S. workforce.

7:30 – 9:45 pm

Showcase I and Welcome Reception

Exhibit Hall

9:45 – 10:30 pm

Showcase I Breakdown

Exhibit Hall

7:00 am – 5:00 pm
Conference Registration
West Conference Foyer

7:00 am – 5:00 pm
Attendee Networking Lounge
Committee

This room is open to conference attendees for informal networking and conversation, and offers a place to plug in your computer and charge your handheld devices.

7:30 – 8:45 am
Showcase II Set-up
Exhibit Hall

7:30 – 8:45 am
Breakfast
Regency

7:30 – 8:45 am
ATE Student/Alumni Recognition Breakfast
By Invitation Only
Blue Room and Blue Room Pre

7:45 – 8:45 am
Breakfast Roundtables
Ambassador

9:00 – 10:00 am
Industry "Speed Networking" Session for ATE Students
Open to ATE Students Only
Congressional

Facilitators: ***Deborah Boisvert, Lou Piazza****, BATEC, University of Massachusetts–Boston, Boston, MA*

Speed networking is a process designed to facilitate introductions between business/industry representatives and student participants. This session will afford student participants the opportunity to meet accomplished business professionals from a variety of backgrounds and companies. It promises to be an enjoyable, fast-paced, and informative experience as students are given an opportunity to learn and practice interview and communication skills.

9:00 – 10:00 am
Plenary Session
Regency

Robin Wright*, Division Director, Division of Undergraduate Education, National Science Foundation, VA*

Community Colleges Build America's Skilled Technical Workforce

James P. Lombella*, President, Asnuntuck Community College, CT*

Nicole Smith*, Research Professor and Chief Economist, Center on Education and the Workforce, Georgetown University, DC*

Victor R. McCrary*, Member, National Science Board; Vice President for Research and Economic Development, Morgan State University, MD*

Moderator:
V. Celeste Carter, *Lead ATE Program Director, National Science Foundation, VA*

To remain competitive on a global scale, foster greater innovation, and provide a foundation for shared prosperity, the U.S. needs a workforce with the right mix of skills to meet the diverse needs of the economy. According to a recent National Academy of Sciences (NAS) report on "Building America's Skilled Technical Workforce," evidence suggests that as a nation, the U.S. is not adequately developing or sustaining a workforce with the skills needed to compete in the 21st century. Hear from a panel of workforce and economic development, and education leaders as they discuss the challenges, perceptions, and promising strategies that are needed to improve student success and completion rates, develop highly skilled workers, and coordinate pertinent education and training opportunities that meet employer needs. Learn why the NAS report and its findings are important to the work of the ATE community and can serve to frame and leverage new and ongoing STEM technician education and reform efforts.

10:00 – 10:15 am
Refreshment Break
Diplomat, Ambassador, and Empire Foyers

10:15 – 11:15 am
Student Displays – Showcase II Set-up
Exhibit Hall

10:15 – 11:15 am
■ CONCURRENT SESSIONS

Session 1: Recruiting for Diversity – Lightning Round
Palladian

Kevin Cooper, *RCNET, Indian River State College, Fort Pierce, FL*

Rory Cooper, *Human Engineering Research Laboratories, University of Pittsburgh, Pittsburgh, PA*

Sharon Gusky, *Northwestern Connecticut Community College, Winsted, CT*

Greg Kepner, *MPEC, Indian Hills Community College, Ottumwa, IA*

Donna Lange, *DeafTEC, Rochester Institute of Technology, Rochester, NY*

Ken Mays, *Central Oregon Community College, Bend, OR*

Pam Silvers, *Asheville-Buncombe Technical Community College, Asheville, NC*

Rachael Bower, *ATE Central, University of Wisconsin–Madison, Madison, WI*

Join experts from the ATE community and learn about proven strategies and practices related to the recruitment and retention of students from underrepresented groups in this informative lightning round session. Seven presenters will each spend six minutes (and a few slides) providing participants with an overview of strategies designed to engage and retain a wide array of diverse students. A brief question and answer period will allow attendees to interact with presenters, share their own best practices related to recruitment or retention, and expand on information provided during the more formal portion of the presentation.

Session 2: Educators, Employers, and Employability Skills
Diplomat

Matt Glover, *Le-Vel, Dallas, TX*

Tom Miller, *Western Industrial Tooling, Inc., Redmond, WA*

Donald McCoy, *Donald McCoy and Associates, Durham, NC*

Phillip Davis, *Del Mar College, Corpus Christi, TX*

Hope Cotner, John Chamberlain, *Center for Occupational Research and Development, Waco, TX*

Merrilea J. Mayo, *Center for Curriculum Redesign, North Potomac, MD*

The Necessary Skills Now project paired educators and employers to develop integrated projects infusing employability skills into advanced manufacturing and cybersecurity instruction. The project team quickly learned that sustained educator and employer collaboration is essential not only to identifying gaps in employability skills development but to identifying effective instructional methods to mitigate those gaps. Meanwhile, the 21st Century Skills Collaboration has delved into measurement issues such as: What measures of 21st century/employability skills are available? Are the measures and concepts consistent across industry and academia? Which interventions have scientific proof that they are effective? Join this session for a robust panel conversation with industry professionals about three of the most commonly identified employability skill deficiencies—teamwork, verbal communication, and dependability/work ethic—and the implications for technician instruction. Participants will leave with insights from employers and access to new teaching resources.

Session 3: Preparing Students for the 21st Century Workforce through Undergraduate Research and Innovation
Ambassador

Linda Lung, *National Renewable Energy Laboratory, Golden, CO*

Kenneth Walz, *CREATE-SC, Madison Area Technical College, Madison, WI*

Viknesh Sivanathan, *Howard Hughes Medical Institute, Chevy Chase, MD*

Kim Nelson, *National Science Foundation, Alexandria, VA*

Student Presenters: ***Alex Dobbs***, *National Renewable Energy Laboratory, Golden, CO*

SESSION TRACKS

Track 1: Hands-On, Minds-On: Educating Technicians for the Workforce of Today and Tomorrow
Track 2: Developing STEM Leaders in Innovation
Track 3: Engaging Students for Success in STEM
Track 4: Advancing Innovation through STEM Research and Evaluation
Track 5: Broadening the Impact of ATE by Engaging Partners
Track 6: Sharing Proven Practices in Grants Management and Program Administration

Ashley Scholes, *Madison Area Technical College, Madison, WI*

Daniel Nasr Azadani, *Del Mar Community College, Corpus Christi, TX*

Engaging students in project-based research and innovation offers tremendous potential for enriching the academic experience while preparing students for the workforce. This session will examine three different model platforms for supporting student research and innovation, and will feature exemplary student presenters from each to share their story and experience. Speakers and presenters will highlight opportunities available through the U.S. Department of Energy Internship Programs, the Community College Innovation Challenge, the SEA-PHAGES program of the Howard Hughes Medical Institute, and through student honors programs at two-year colleges.

Session 4: Engineering Technology Education in the U.S. – Report of an NAE Study

Empire

Mel Cossette, *MatEdu, Edmonds Community College, Lynnnwood, WA*

Dan Hull, *OP-TEC, Waco, TX*

Greg Pearson, *National Academy of Engineering, Washington, DC*

Members of a National Academy of Engineering (NAE) committee and the staff lead/principal investigator will present results of a study of engineering technology (ET) education in the United States. The project collected educational and occupational data and conducted surveys of ET program leaders and employers of engineering technicians and technologists. The presenters will discuss findings and recommendations, including those related to ET's relationship to traditional engineering; issues of supply and demand; and educational and employment pathways.

11:30 am – 1:45 pm

Showcase II and Lunch

Exhibit Hall

1:45 – 2:30 pm

Showcase II Breakdown

Exhibit Hall

2:00 – 3:00 pm

PANEL AND BIRDS OF A FEATHER SESSIONS

Apprenticeships – Growing Innovative Opportunities for Students

Panel: Track 1

Palladian

Michelle Norgren, *VESTA, Missouri State University, Springfield, MO*

Barbara Murray, *Office of Apprenticeship, U.S. Department of Labor, Washington, DC*

Guy St. John, *Oceaneering International Inc., Norfolk, VA*

William Alter III, *Missouri State University, Springfield, MO*

The NSF ATE and the DOL Apprenticeship USA programs have a common goal to provide a knowledgeable and highly skilled workforce for 21st century industries, and to achieve this goal through partnerships between industry and educational institutions. Registered apprenticeships blend on-the-job learning with a focused education program that addresses specific needs of an industry sector. The Southeast Maritime and Transportation Center (SMART), and the Viticulture and Enology Science and Technology Alliance (VESTA), recognized the benefits and are collaborating with industry and educators to develop apprenticeships for jobs in their industry sectors.

Small Unmanned Aerial Systems (UAS) and the Cross-Discipline Usage

Panel: Track 1

Empire

Jonathan Beck, *Northland Community and Technical College, Thief River Falls, MN*

Wing Cheung, *Palomar College, San Marcos, CA*

Chris N. Carter, *Virginia Space Grant Consortium, Hampton, VA*

Vince DiNoto, *National Geospatial Technology Center of Excellence, Louisville, KY*

The panel will discuss the different UAS programs that are part of the ATE community and how these devices are changing the landscape in many different fields of study. UAS devices are becoming a main tool in precision agriculture, crowd control, volumetric measurements in mining, usage by first responders, insurance, and geospatial technologies. The use of different sensors capable of gathering specific electromagnetic wavelengths provides information that would otherwise be invisible to the human eye.

2:00 – 3:00 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

New Technologies and Emerging Careers in Renewable Energy and Energy Efficiency

Panel: Track 1

Diplomat

Peter Crabtree, *Laney College, Oakland, CA*

Kenneth Walz, Ted Wilinski, *Madison Area Technical College, Madison, WI*

This session will address new technologies and market forces driving demand for technicians in energy related fields and how program design and development is impacted by these trends. Panelists will focus on discussing the convergence of sustainability goals, information technology, energy creation, and management in the workplace. The session will also examine the importance of hands-on learning for program success.

Integrating Professional Skills into Technology Curriculum

Birds of a Feather: Track 1

Council

Karen Wosczyna-Birch, *Regional Center for Next Generation Manufacturing, Tunxis Community College Farmington, CT*

John Birch III, *MET^2 Program, Farmington, CT*

Wendy Robicheau, *Connecticut Community Colleges, Hartford, CT*

Feedback from industry often includes commentary on the lack of professional skills in employees. This discussion will focus on how the Regional Center for Next Generation Manufacturing's survey of local manufacturing workforce needs is being used to develop curriculum for the Mechanical and Manufacturing Engineering Technologies for Energy and Sustainability ATE Project. Attendees will discuss how to complete a DISC behavioral profile—which is an important tool for teambuilding—as well as how to work with others.

Converting to a Competency-Based, Hybrid, Open-Lab Instructional Model

Birds of a Feather: Track 1

Forum

Sarah Stubblefield, Tom Wylie, *Northwest State Community College, Archbold, OH*

Northwest State Community College was awarded an NSF ATE (2015) grant and a TAACCCT (2014) grant, both of which focused on moving traditional applied industrial technology courses to a competency-based, hybrid, open-lab instructional model. The new 8-week model has the same or more content than the 16-week model had, requiring 100 percent skills mastery. This team will share their experiences and lead a discussion on the challenges of integrating a competency-based learning model into a traditional two-year college.

Hands-On Technician Training with VR – Faster, Safer, Better, and Less Costly!

Birds of a Feather: Track 1

Regency

Linda H. Baxley, *Eastern Iowa Community College, Davenport, IA*

Jamie Justice, *EON Reality, Irvine, CA*

Attendees will learn about the uses of 3D interactive, animation, and simulation knowledge transfer solutions in technology training curricula from partners of the Advanced Technology Environmental and Energy Center (ATEEC) who are experts in the field of augmented and virtual reality (AR/VR) for education. Discussion topics include the use of AR/VR as effective training for technicians, accesing training materials, and knowing what hardware is needed for implementation as well as what costs are entailed.

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Track 6: Sharing Proven Practices in Grants Management and Program Administration

2:00 – 3:00 pm

PANEL AND BIRDS OF A FEATHER SESSIONS

Overcoming Barriers to Increase Enrollment and Completion

Panel: Track 3

Blue Room Pre

Samantha Travis, *Chattanooga State Community College, Chattanooga, TN*

Kevin Cooper, Jo Ann Balsamo, *RCNET, Indian River State College, Fort Pierce, FL*

Math is often a barrier to entry for technician programs across ATE fields, specifically among minority and low socio-economic groups. Although possessing the technical aptitude required in the field, deficiencies in math skills lead to underrepresentation in technical programs and the workforce. Panelists will discuss a novel approach to overcome the math barrier for underserved populations and increasing enrollment through targeted recruitment efforts.

Rural Arizona Colleges Collectively Engage K-14 Students in STEM

Panel: Track 3

Governors

John Morgan, *Yavapai College, Prescott, AZ*

Phil McBride, *Eastern Arizona College, Thatcher, AZ*

Reetika Dhawan, *Arizona Western College, Yuma, AZ*

Caroline VanIngen-Dunn, *Science Foundation Arizona, Phoenix, AZ*

In this session, eight independent rural Arizona colleges will discuss how they developed their capacity—in three years as a network—to successfully form partnerships and engage an increasing number of students along a K-14 spectrum, using strategies such as K-12 summer STEM camps on college campuses to virtual college-level physics and calculus instruction between institutions. Learn how these institutions effectively adjusted to unforeseen circumstances resulting in best practices and aggregated impact data showing results.

Recruiting for Diversity – Discussion Round

Birds of a Feather: Track 3

Congressional B

Rory Cooper, *Human Engineering Research Laboratories, University of Pittsburgh, Pittsburgh, PA*

Sharon Gusky, *Northwestern Connecticut Community College, Winsted, CT*

Greg Kepner, *MPEC, Indian Hills Community College, Ottumwa, IA*

Ken Mays, *Central Oregon Community College, Bend, OR*

Pam Silvers, *Asheville-Buncombe Technical Community College, Asheville, NC*

Rachael Bower, *ATE Central, University of Wisconsin–Madison, Madison, WI*

In follow-up to the Tuesday morning Lightning Round on Recruiting for Diversity, join experts from the ATE community, at the table level, to take a deeper dive into learning about proven practices and lessons learned related to the recruitment and retention of underrepresented students. Participants will have the opportunity to share their own stories, learn from others, and discuss strategies for implementation.

Best Practices in Discovery-Based Research at Two-Year Undergraduate Colleges

Panel: Track 3

Executive

Linnea Fletcher, *AC2, Austin Community College, TX*

Carole M. Twichell, *Collin College, Plano, TX*

J. Robert Hatherill, Daiyuan Zhang, *Del Mar College, Corpus Christi, TX*

Bridgette Kirkpatrick, *Collin College, Plano, TX*

Jim Hewlett, *CCURI, Finger Lakes Community College, Canandaigua, NY*

This panel will address the advantages, problems, and solutions associated with integrating inquiry-based research into lower-division biology and biotechnology courses. Panelists will describe their colleges' different projects and the ways that they have fit research into the curriculum. Issues of integration, scale-up, and encouraging "buy-in" will be covered. Panelists will stress the importance of holding a student research day and administering assessment surveys to improve the program and increase institutional and student awareness, as well as share resources for implementation through the Community College Undergraduate Research Initiative (CCURI).

2:00 – 3:00 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

Effective Strategies for Evaluation Reporting

Panel: Track 4

Capitol

Emma A. Perk, Kelly Robertson, Lyssa Becho, Lori Wingate, *The Evaluation Center, Western Michigan University, Kalamazoo, MI*

All ATE projects and centers must be evaluated and the results of these evaluations must be reported to NSF and other key stakeholders. ATE principal investigators, project and center staff, and evaluators who attend this session will learn (1) what information should be included in evaluation reports (and what to leave out!) and (2) simple strategies to enhance the utility and impact of reports through visual design.

Strengthening Evaluation Use in Professional Development Programs

Birds of a Feather: Track 4

Senate

Mel Cossette, *MatEdu, Edmonds Community College, Lynnnwood, WA*

Arlen Gullickson, *Western Michigan University, Kalamazoo, MI*

Participants will learn what is expected in professional development evaluations and why, who should be involved, what obstacles will likely occur, and how to address challenges and resolve them. Participants will first complete a short checklist to orient them and gain their initial perspectives. After completing the checklist, each table of participants will discuss two questions and try to reach consensus in their answers. The discussion tables will then report out to the full room to provide for a melding of cross-table perspectives.

PathTech LIFE: Informing Targeted Research and Best Practices

Birds of a Feather: Track 4

Cabinet

Edward Fletcher, Lakshmi Jayaram, Will Tyson, *University of South Florida, Tampa, FL*

PathTech LIFE seeks to understand how student learning, interests, family, and employment (LIFE) experiences impact enrollment and retention. Session moderators will present their survey findings and breakout participants for discussion. The session will provide attendees the opportunity to get involved with PathTech LIFE; learn about successful strategies for survey dissemination and completion, and multiple research methods to better understand pathways in advanced technology; and to discuss how targeted research findings can be applied to program development and administration.

Leveraging Partnerships to Maximize Workforce Impact and Return on Investment

Panel: Track 5

Blue Room*

**Please enter the Blue Room through Robert's Restaurant.*

Andrew Bell, *Ivy Tech Community College of Indiana, Indianapolis, IN*

Rick Vaughn, *Rio Salado Community College, Tempe, AZ*

Tony Dalessio, *Erie Community College, Williamsville, NY*

Barbara Lopez, *University of New Mexico, Albuquerque, NM*

Panelists from three community colleges will highlight how they have leveraged ATE centers to create partnerships with four-year universities and industry to optimize emerging micro- and nanotechnology workforce education. Panelists will discuss how they have used and modified materials from the Nanotechnology Applications and Career Network (NACK), the Southwest Center for Microsystems Education (SCME), and others to augment their programs. Discussion questions will address scaling efforts and suggestions for applying best practices for effective collaborations.

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2:00 – 3:00 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

Partnerships as a Path to Sustainability: Stay on the Yellow Brick Road?

Panel: Track 5

Congressional A

Delmer Smith, Nancy Louwagie, *Normandale Community College, Bloomington, MN*

Roberto Ruiz, *Lawrence Livermore National Lab, Livermore, CA*

Marlann Patterson, *University of Wisconsin–Stout, Menomonie, WI*

This session explores key factors that affect building out a distributed education model for technical education. Normandale Community College provides hands-on technical education via telepresence—and has partnered with six institutions, reached 146 students, and are moving from a proof-of-concept model to a sustainable level of course enrollment. Panelists will discuss the costs and benefits of partnerships; the impact of a distributed, yet face-to-face, education model on instructors and students; and the challenges of scaling.

NSA CAE – Regional and National Resource Centers

Birds of a Feather: Track 5

Calvert

Corrinne Sande, *Whatcom Community College, Bellingham, WA*

Alex Seminario, *Northern Virginia Community College, Alexandria, VA*

Daniel Stein, *Office of Cybersecurity, Education, and Awareness, U.S. Department of Homeland Security, Washington, DC*

The National Security Agency (NSA) and the Department of Homeland Security (DHS) jointly sponsor the National Centers of Academic Excellence in Cyber Defense (CAE-CD) program. To assist colleges that are aspiring toward the Center of Academic Excellence (CAE) designation, nine colleges have been named CAE Regional Resource Centers. These centers provide assistance to colleges in their region and help to build the overall cybersecurity community. In addition, four colleges have been named CAE National Resource Centers. These centers provide mentoring and other services nationwide. Come to this session to learn how your college can participate in this initiative and earn the highly coveted Center of Academic Excellence in Cyberdefense designation.

Top Ten Things that Student Veterans Would Like Faculty to Know

Panel: Track 6

Ambassador

Donna Lange, *DeafTEC, Rochester Institute of Technology, Rochester, NY*

Hira Paulin, *Copper Mountain Community College, Joshua Tree, CA*

Terence C. Nelson, Mike Sauter, *Saddleback Community College, Mission Viejo, CA*

Military veterans transitioning from service to community college bring experiences that can be incredible assets to a classroom along with others that can be barriers to success. Hearing loss, a commonly overlooked disability in the veteran population, is often one of these barriers. This panel will discuss findings of focus groups conducted with student veterans with hearing loss that provide insight to the unique educational needs of these students and best practices for their success.

3:00 – 3:15 pm

Refreshment Break

3:15 – 4:15 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

Emerging Trends in Mechatronics Education

Panel: Track 1

Diplomat

Doug Pauley, *Central Community College, Grand Island, NE*

Margie Porter, *College of Lake County, Grayslake, IL*

Dan Horine, *Virginia Western Community College, Roanoke, VA*

Hunter Moore, *Piedmont Virginia Community College, Charlottesville, VA*

Marilyn Barger, *FLATE, Hillsborough Community College, Tampa, FL*

Mechatronics is the heart of automation in many industry sectors including advanced manufacturing, food processing, precision agriculture, mining, energy production, scientific research, public utilities, transportation, materials handling, and more. This panel will share how ATE projects are working to meet the growing needs in this spectrum of industries for mechatronics, automation, and/or robotic technicians. Learn how these projects are improving their own programs and sharing successful strategies to meet industry's workforce and emerging technology needs.

Preparing the Autonomous Navigation and Unmanned Aircraft Systems Workforce of the Future

Birds of a Feather: Track 1

Empire

Phillip Davis, *Del Mar College, Corpus Christi, TX*

David Webb, *Virginia Western Community College, Roanoke, VA*

Cherie Aukland, *Thomas Nelson Community College, Hampton, VA*

Jonathan Beck, *Northland Community and Technical College, Thief River Falls, MN*

Vince DiNoto, *National Geospatial Technology Center of Excellence, Louisville, KY*

This session will discuss the challenges and opportunities in training technicians across a wide range of disciplines to meet the rapidly emerging demand for workers in autonomy and unmanned aircraft systems (UAS). Technicians with skills in this area are needed in many employment sectors including geospatial, construction, emergency response, natural resources management, precision agriculture, infrastructure inspection, transportation, and more. Session facilitators will discuss best practices for preparing the future workforce and share products and outcomes from four different projects. A small UAS DACUM, new courses, results from a national conference, and engaging industry are some of the topics.

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3:15 – 4:15 pm

PANEL AND BIRDS OF A FEATHER SESSIONS

Cyber Cornucopia

Birds of a Feather: Track 1

Palladian

Elizabeth Hawthorne, Cynthia Roemer, *Union County College, Cranford, NJ*

Blake Urbach, *Preferred Program Evaluations, Orlando, FL*

Debasis Bhattacharya, *University of Hawaii, Maui College, Kahului, HI*

Gary Clark, Lawrence McWherter, *Columbus State Community College, Columbus, OH*

This Birds of a Feather session will feature three projects that are all working to address the nation's critical workforce shortage in cybersecurity. Come ready to discuss relevant issues related to cybersecurity education including topics such as developing academic pathways and associate degrees that prepare students for entry- and mid-level careers in cybersecurity; teaching cybersecurity across disciplines; targeting women and underrepresented students; integrating experiential education and service learning into cyber forensics programs; degree assessments; and aligning cybersecurity education with the National Initiatives for Cybersecurity Education (NICE) workforce framework.

Continuing the Dialogue on Engineering Technology Education in the U.S.

Birds of a Feather: Track 1

Congressional B

Mel Cossette, *MatEdu, Edmonds Community College, Lynnnwood, WA*

Dan Hull, *OP-TEC, Waco, TX*

Greg Pearson, *National Academy of Engineering, Washington, DC*

This session continues the dialogue from the Tuesday morning concurrent session on "Engineering Technology Education in the U.S. – Report of an NAE Study." Come and discuss at the table level, engineering technology's relationship to traditional engineering, issues of supply and demand, and educational and employment pathways. Discussion questions include: What might be considered the pluses and minuses of an engineering technology (ET) education? What can be done to improve public awareness of education and careers in ET?

ATE Careers for Veterans: Discharge Planning and the Civilian ATE Workforce

Panel: Track 1

Ambassador

Kate Alcott, *Northeast Advanced Technological Education Center (NEATEC), Albany, NY*

Ned David Young, *Sinclair Community College, Dayton, OH*

Steven Budd, *New England Advanced Technology Education Center, Utica, NY*

This session describes the outcomes of two ATE centers in focused outreach to active military personnel. The Northeast Advanced Technological Education Center (NEATEC) will describe its work with soldiers nearing discharge by offering hands-on career awareness and skills training in nanotechnology related fields as well as connections to the employers who are hiring them. The National Center for Supply Chain Automation (NCSCA) will describe its success in connecting new veterans to technical careers in supply chain automation by developing crosswalks between military occupations and formal education at the community college.

Enhancing STEM Education through Project-Based Learning and Research

Panel: Track 1

Executive

Linda Lung, *National Renewable Energy Laboratory, Golden, CO*

Kenneth Walz, *CREATE-SC, Madison Area Technical College, Madison, WI*

Student Presenters: ***Alex Dobbs, Breanne Hammet, Manal Yunes***, *National Renewable Energy Laboratory, Golden, CO*

Ashley Scholes, John Schwarzmeier, *Madison Area Technical College, Madison, WI*

Engaging students in project-based research and innovation offers tremendous potential for enriching the academic experience while preparing students for the workforce. This panel will expand on the discussion from the Tuesday morning concurrent session to take a closer look at the work being done by students in the area of renewable energy research and development. Students will share the results of their work to advance renewable energy, and will share their stories about how this experience has impacted their academic and professional careers.

3:15 – 4:15 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

Utilizing Additive Manufacturing at Your Institutions

Panel: Track 1

Governors

Thomas Singer, *Sinclair Community College, Dayton, OH*

Eric Flynn, *Gateway Community College, New Haven, CT*

Ed Tackett, *University of Louisville, Louisville, KY*

Karen Wosczyna-Birch, *Regional Center for Next Generation Manufacturing, Tunxis Community College, Farmington, CT*

Ismail Fidan, *Tennessee Technological University, Cookeville, TN*

Additive manufacturing has seen a steady rise in popularity in industry, education, and even in homes. This session will focus on how attendees use additive manufacturing in their STEM education programs as well as collaboration with industry to assess and meet local workforce needs in additive manufacturing. Newly developed MOOCs and studio modules on various additive manufacturing topics will be highlighted. The discussion will also focus on the types of spaces, equipment, and materials used by attendees.

HyFlex Courses: Learner Choice, Equivalency, Reusability, Accessibility

Birds of a Feather: Track 1

Forum

Amanda Rosenzweig, *Delgado Community College, New Orleans, LA*

In the HyFlex course design, students can choose to attend face-to-face synchronous class sessions or complete course learning activities online without physically attending class. HyFlex can provide student engagement as they see and hear the material. Since HyFlex is online and face-to-face, there are comprehension checks towards objectives from learning activities integrated between these two formats. The same objective is being measured with similar difficulty regardless of delivery mode. Come discuss how this type of format can support a student's needs in and out of the classroom and the implications for teaching and learning built on the HyFlex model.

Broadening Female Participation in ATE: Hear from Successful Two-Year Colleges

Panel: Track 3

Calvert

Mark Evans, *Athens Technical College, Athens, GA*

Kenneth Mays, *Central Oregon Community College, Bend, OR*

Adele Wright, *Columbus State Community College, Columbus, OH*

Donna Milgram, *National Institute for Women in Trades, Technology, and Science, Alameda, CA*

Learn how three community colleges boosted female enrollment and/or student retention in STEM courses in less than one year. Athens Technical College increased female enrollment from 1 to 15 women out of 17 students in emerging technologies. Central Oregon Community College increased student completion from 38 to 68 percent in automotive technology; and Columbus State Community College increased female enrollment from 11 to 20 female students on average in engineering graphics courses.

When Evaluation Results Indicate It Is Time to Pivot

Panel: Track 3

Capitol

Rebecca Zarch, *SageFox Consulting Group, Amherst, MA*

Kirk Knestis, *Hezel Associates, LLC, Syracuse, NY*

John Cosgrove, *Cosgrove and Associates, St. Louis, MO*

Michael Lesiecki, *Luka Partners, Phoenix, AZ*

Most projects are proposed with a clear goal, which guides a theory of change and work plan. Sometimes, evaluation results uncover project flaws. These flaws may be due to design and/or implementation challenges. There may also be unanticipated outcomes. Evaluators will present case examples of projects that have had a significant pivot in design or implementation approach due to evaluation results, which will be followed by discussion.

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3:15 – 4:15 pm

PANEL AND BIRDS OF A FEATHER SESSIONS

Badges and Micro-credentials for Skills Assertion in CTE

Birds of a Feather: Track 3

Senate

***Bruce Emerson**, Central Oregon Community College, Bend, OR*

Badges and other micro-credentials are being used in a variety of contexts to validate and affirm hard and soft skills for career technical education (CTE) students. This session is an opportunity to explore how such tools might be used in a range of settings in your learning community. Strengths and weaknesses of these tools will be discussed.

IT Pathways: Building, Sustaining, and Improving IT School-to-Career Routes

Birds of a Feather: Track 3

Council

***David Bouvin**, Chipola College, Marianna, FL*

***Marcia A. Mardis**, Florida State University, Tallahassee, FL*

***Flora P. McMartin**, Broad Based Knowledge, Richmond, CA*

Information technology is a dynamic field in which graduates must be able to immediately meet employers' priorities. To make this connection, IT program faculty and administrators need to understand pathways from school-to-career for student recruitment, curriculum assessment, employer engagement, and alumni connections. In this discussion session, attendees will learn strategies resulting from an active NSF ATE research project and share their own successes and lessons learned in identifying and strengthening IT pathways in their college communities.

Exploring Approaches to Teaching 21st Century Skills in Academia

Birds of a Feather: Track 5

Blue Room Pre

***Merrilea Mayo**, Center for Curriculum Redesign, North Potomac, MD*

***John Chamberlain, Hope Cotner**, Center for Occupational Research and Development, Waco, TX*

This is a brainstorming session on cultivating 21st century skills, commonly referred to as employability skills. Join us for roundtable discussions on industry needs and decide whether current teaching approaches address those needs. Share teaching approaches you've found effective for addressing employability skills development in your own courses. Session facilitators will discuss recent efforts by ATE projects to tackle the subject, then divide into topical groups to share, debate, and look for opportunities to collaborate around this increasingly important set of skills. At the end of the session, facilitators will distribute lists of funders interested in furthering work on 21st century skills.

Industry Partnerships: Sharing Challenges, Impacts, and Strategies

Panel: Track 5

Blue Room*

**Please enter the Blue Room through Robert's Restaurant.*

***Ann Beheler**, Collin College, Frisco, TX*

***Mary Nelson**, Salt Lake Community College, West Jordan, UT*

***Michelle Norgren**, VESTA, Missouri State University, Springfield, MO*

***Chrys Panayiotou**, Indian River State College, Fort Pierce, FL*

***Mary Slowinski**, Bellevue College, Bellevue, WA*

Effective industry partnerships are often crucial to ATE project and center success but initiating, managing, and sustaining these relationships can be daunting. Join us for a spirited discussion with four seasoned PIs, representing four of the eight partnership models established by the Working Partners research project, to learn how they have successfully traversed this terrain. Panelists will discuss the challenges, impacts, and implementation successes they have experienced in partnering with industry. Audience questions and contributions are encouraged.

3:15 – 4:15 pm

■ PANEL AND BIRDS OF A FEATHER SESSIONS

Life After ATE: Strategic Planning for Program Continuity following Grant Sunset

Panel: Track 5

Congressional A

Thomas C. Tubon Jr., *Madison Area Technical College, Madison, WI*

James Guenther, *Delgado Community College, New Orleans, LA*

Russ Read, *Forsyth Technical Community College, Winston-Salem, NC*

Sandra G. Porter, *Digital World Biology, Seattle, WA*

The session will focus on best practices to ensure that grant funded deliverables and projects are continued beyond the close of federal funds. Panelists will highlight the need for establishing partnerships within academia, industry, government, and the community to sustain program deliverables and provide resources that emphasize public-private partnerships. This session will provide case studies and examples from panelists for developing partnerships that create opportunity and resources above and beyond the initial funded grant objectives.

What, When, and How: Archiving with ATE Central

Birds of a Feather: Track 6

Cabinet

Kendra Bouda, Corey Halpin, *ATE Central, University of Wisconsin–Madison, Madison, WI*

This session outlines ATE Central's archiving service and explores best practices for preparing and submitting your deliverables for archiving. Those new to ATE are invited to learn about the archiving requirement and begin the planning process, while long-standing community members are encouraged to share their own archiving experiences, update existing plans with the help of our staff, discuss workflow strategies, and more!

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4:30 – 5:00 pm

DEMONSTRATION SESSIONS

Military Occupational Speciality (MOS) Pathways

Demonstration: Track 1

Congressional B

***Corrinne Sande**, Whatcom Community College, Bellingham, WA*

CyberWatch West has developed a tool to help community colleges and other educational institutions translate military skills, training, and the experience of veterans into course equivalencies in IT and cybersecurity programs. The tool is a military occupational specialty (MOS) crosswalk that matches specific military occupations to courses commonly offered in IT or cybersecurity programs at colleges, providing a standard way to offer credit for prior learning to veterans.

Designing the Next Generation of Teaching and Learning Environments

Demonstration: Track 1

Blue Room Pre

***John Sands**, Moraine Valley Community College, Palos Hills, IL*

This session will demonstrate the use of a virtual environment to teach and learn emerging technologies including Infrastructure as a Service (IaaS); and the configuration, operation, and securing of the Internet of Things (IoT). Staff members from the national Center for Systems Security and Information Assurance (CSSIA) will demonstrate the latest version of their Virtual Teaching and Learning Center. The center has recently expanded to include cloud based switching, routing, wireless, and security management.

Collecting Field Data with a Smart Device

Demonstration: Track 1

Empire

***Vince DiNoto**, National Geospatial Technology Center of Excellence, Louisville, KY*

Field data collection of research attributes and position are important in numerous fields, including environmental science, history, ecology, alternative energy technologies as well as geospatial technology—which all require position measurements. Using a smart device (phone or tablet), these positions and attributes can be determined and recorded in real-time with cloud servers. In addition, high precision GPS/GNSS antennas can be connected wirelessly to the smart device to increase accuracy to one centimeter. The process will be demonstrated.

Virtual Machines and Simulations to Accelerate Student Learning

Demonstration: Track 1

Governors

***Bill Chaplin, Thomas Wylie**, Northwest State Community College, Archbold, OH*

Northwest State uses virtual computer technology to accelerate student learning in their programmable logic controller (PLC) and automation courses. Students are issued their own virtual machine (computer), with all the Rockwell PLC software and custom designed PLC virtual simulators, so students have 24/7 access to all the software, and can perform all their labs from home. Attendees will learn how this technology works and will see a demonstration of the virtual machine and simulation during the session.

Team-Based Learning Actively Engages Students and Improves Soft Skills

Demonstration: Track 1

Cabinet

***Bridgette Kirkpatrick, Carole M. Twichell**, Collin College, Plano, TX*

This session will introduce team-based learning (TBL) as a successful flipped classroom approach in bioscience courses. The session will show how TBL is used in a classroom to make better use of time and increase student engagement. These concepts will be demonstrated with activities during the session, modeling how TBL is carried out while providing information about the pedagogical practice. Resources and sample activities will be provided.

Digital Games and Simulations for a Math and GIS Program

Demonstration: Track 3

Capitol

***Ching-Song D Wei**, Borough of Manhattan Community College, CUNY, New York, NY*

Participants will play three algebra games developed as part of a GIS mathematics summer bridge program that will be fun for everyone—even for non-mathematicians! The games are suitable for beginning and elementary algebra, as well as pre-calculus. One game shows how GIS is connected to disaster preparedness and how GIS is related to the underlying mathematics. Participants will leave with free links to games and game instructions to share with their students and colleagues.

4:30 – 5:00 pm

■ DEMONSTRATION SESSIONS

Engaging Students Using Remote Access

Demonstration: Track 3

Executive

Tony Dalessio, *Erie Community College, Williamsville, NY*

Robert Ehrmann, *Pennsylvania State University, University Park, PA*

Matthias Pleil, *University of New Mexico, Albuquerque, NM*

Kristine Schroeder, *North Seattle College, Seattle, WA*

The Remotely Accessible Instruments for Nanotechnology (RAIN) Network has grown to include more than 15 community colleges and universities across the nation. The results of a K-12 impact study using RAIN and problem-based learning will be shared. Session attendees will also experience a real-time remote access demonstration to one of the RAIN sites. The potential applicability of this network sharing approach to other technology areas will also be discussed.

Using Story and an Interactive Movie to Immerse Students in a Regulated Workplace

Demonstration: Track 3

Calvert

Jeanette Mowery, Lisa Seidman, *Madison Area Technical College, Madison, WI*

Bio-Link and Pellet Productions have collaborated to produce an innovative interactive movie, *Making the Call: Quality in Biomanufacturing*, designed to engage students in the culture of the regulated workplace. The demonstration will introduce participants to this exciting resource, which interweaves technical content with story, an educational game, and human interest to immerse the viewer in the biomanufacturing environment. The interactive movie and ancillary materials, including a participant/facilitator guide, are freely available and will be shared.

Engaging STEM Students Using Affordable Virtual Reality Frameworks

Demonstration: Track 3

Diplomat

Magesh Chandramouli, *Purdue University Northwest, Hammond, IN*

This demonstration illustrates the successful design and implementation of low-cost virtual reality (VR) frameworks for different STEM instructional applications. Financial constraints associated with equipment, space, and infrastructure significantly constrain STEM institutions from implementing interactive strategies to promote active learning and problem-based learning (AL/PBL). Graphics-based interaction with materials engages students and promotes problem solving skills. This demonstration also covers the concept of multimodal-VR frameworks that promote the use of graphics modules in three VR modes: immersive, augmented, and desktop.

Skeptical Thoughts to Emerging Minds Using the Innovative BYO Video Tool

Demonstration: Track 3

Congressional A

Elaine Craft, Emery DeWitt, *Florence-Darlington Technical College, Florence, SC*

Anthony Manupelli, *Pellet Productions, Inc., Reading, MA*

The SCATE National Center for Expanding Excellence in Technician Education and Pellet Productions, Inc. will discuss the challenges of recruiting students into STEM technician education programs and help educators stimulate career interest by using a turnkey "build your own" (BYO) customizable video online tool. The repository of micro-content video snippets for building videos are available free of charge. Participants will see a demonstration of the customization user interface for building their own locally specific video to meet their student recruitment needs.

SESSION TRACKS

Track 1: Hands-On, Minds-On: Educating Technicians for the Workforce of Today and Tomorrow
Track 2: Developing STEM Leaders in Innovation
Track 3: Engaging Students for Success in STEM
Track 4: Advancing Innovation through STEM Research and Evaluation
Track 5: Broadening the Impact of ATE by Engaging Partners
Track 6: Sharing Proven Practices in Grants Management and Program Administration

4:30 – 5:00 pm

DEMONSTRATION SESSIONS

Intersection of Virtual Reality and Personalized Learning in Education

Demonstration: Track 4

Blue Room*

**Please enter the Blue Room through Robert's Restaurant.*

***Jeff Bertrand, Rebecca Hartley, Kapil Chalil Madathil**, Clemson University, Clemson, SC*

Virtual reality technology can be leveraged to create a personalized learning experience for educating a 21st century workforce. The dynamic nature of virtual learning content enables methods for focusing on each individual student's strengths while developing strategies to improve their weaknesses. Presenters will demonstrate the advantages of adopting such technology for workforce education.

Get Online and Get Connected with an ATE Microsite

Demonstration: Track 5

Palladian

***Edward Almasy**, ATE Central, University of Wisconsin-Madison, Madison, WI*

ATE Central's new ATE Microsite service allows ATE grantees to use a drag-and-drop interface to establish an online presence quickly and easily, with little or no technical expertise required and a minimum investment of time and energy. During this session the microsite service will be demonstrated, questions will be answered, and attendees can get their own microsite launched.

Moving Your Project or Center Dashboard into the Cloud

Demonstration: Track 6

Ambassador

***Michael Lesiecki**, Luka Partners, Phoenix, AZ*

Have you sought a way to engage your stakeholders by telling them your story through visual data? An online dashboard of your indicators, metrics and Key Performance Indicators (KPIs) is the answer. This demonstration will show you how to use Microsoft Business Intelligence to establish your project or center dashboard, and create it online so you can access it anytime from anywhere.

CONFERENCE SCHEDULE WEDNESDAY ■ OCTOBER 25

7:30 am – 12:00 pm
Conference Registration
West Conference Foyer

7:30 – 10:00 am
Attendee Networking Lounge
Committee

This room is open to conference attendees for informal networking and conversation, and offers a place to plug in your computer and charge your handheld devices.

7:30 – 8:45 am
Continental Breakfast
Regency

7:30 – 8:45 am
Showcase III Set-Up
Exhibit Hall

7:45 – 8:45 am
Breakfast Roundtables
Ambassador

9:00 – 10:00 am
Plenary Session
Regency Ballroom

V. Celeste Carter, *Lead ATE Program Director, National Science Foundation, VA*

Evan Heit, *Division Director, Division of Research and Learning, National Science Foundation, VA*

STEM Pathway Towards Research and Innovation – and the Lessons Learned

Keynote Speaker:
Jin Kim Montclare, *Associate Professor, Department of Chemical and Biomolecular Engineering, New York University, NY*

Inspiration from nature's ability to create structurally complex and highly functional biomolecular machines through evolution has led to the design and construction of tailor-made, intelligent biomaterials. This session will touch on the potential and practical applications of this research, and how it will impact the future of STEM fields in areas such as biotechnology, nano-electronics, and medicine. In addition, the session will profile a STEM pathway to research, innovation, and entrepreneurship; share experiences, insights, and lessons learned; and discuss ways to inspire future generations of STEM practitioners, including women and underrepresented students.

10:15 am – 12:30 pm
Showcase III and Lunch*
**Lunch Buffet Opens at 11:00 am*
Exhibit Hall

12:30 – 1:15 pm
Showcase III Breakdown
Exhibit Hall

12:45 – 3:00 pm
ATE Center Directors' Meeting
Palladian

WHO: Teams of 3 to 5 community college students with an interest in STEM, innovation and entrepreneurism, and in making a difference, a faculty mentor and an industry partner.

WHEN: Submit from **Oct. 18, 2017, to Feb. 14, 2018, by 11:59 p.m. EST.**
Required Innovation Boot Camp for student finalists and their faculty mentor in Alexandria, Va., **June 11-14, 2018.**

WHERE: www.nsf.gov/communitycollege.

WHY: To foster the development of crucial innovation and entrepreneurial skills, gain confidence, network, win prizes and learn skills to make real-world change.

Questions? Contact the CCIC Team at innovationchallenge@nsf.gov.

Follow the Challenge: #CCIChallenge

7:45 – 8:45 am
Ambassador Ballroom

Table 1. What You Wanted to Know about NSF and ATE

Many PIs are new to the National Science Foundation (NSF) and have questions about how NSF operates, how award decisions are made, and how reviewers are chosen. Program directors from the ATE program will be on-hand to respond to general questions posed by roundtable attendees.

Table 2. Providing a Private College Experience at a Public College Price

Colleen Molko, *National Center for Supply Chain Automation, Norco, CA*

The National Center for Supply Chain Automation has partnered with its host, Norco College, to provide students with a private college experience at a public college price. This roundtable discussion will focus on ways in which technician education can be delivered to meet the needs of both students and industry, and will highlight the employment success that has been achieved by engaging industry in all aspects of the program.

Table 3. Geospatial Advancements and Changes

Vince DiNoto, *National Geospatial Technology Center of Excellence, Louisville, KY*

This roundtable discussion will include the following topics: (1) what is new with the GeoTech Center, including regional conference offerings; (2) discussion of the Geographic Information Systems Professional (GISP) practice exam; (3) and updates on geospatial intelligence, and the Geospatial Technology Competency Model (GTCM). Participants will engage in a dynamic exchange on the changes occurring in geospatial technology.

Table 4. Creating Industry-Endorsed Personnel Certificates for the Tech Workforce

Osama Awadelkarim, Bob Ehrmann, *NACK Support Center, Pennsylvania State University, University Park, PA*

Evaluation of employee knowledge and qualifications is a challenging task. Micro-nanotechnology education programs around the country are collaborating with industry and government in a NACK-led effort to address this issue by creating a series of industry-endorsed stackable credentials based on the ASTM basic skill standards for nanotechnology education and workforce development. This roundtable will provide an update on this work in progress initiative and lead discussion as to the applicability of this approach to other technology areas.

Table 5. Creating Pathways to Big Data Careers – Update

Joyce Malyn-Smith, *Education Development Center, Waltham, MA*

Ryan Murphy, *Sinclair Community College, Dayton, OH*

Community college faculty, representing partnerning colleges, will provide program, and course and curriculum updates to the Creating Pathways for Big Data careers initiative. In addition, session moderators will share a gap analysis strategy used to engage local employers to help align their program offerings with employers' expectations for workplace success.

Table 6. Cyber Threats: Incorporating Cybersecurity in Manufacturing Curriculum

Beverly Hilderbrand, *CARCAM, Gadsden State Community College, Gadsden, AL*

Cross-training instructors and coordinating curricula within the computer science and industrial maintenance divisions is necessary to address today's cybersecurity threats. A CARCAM related program proposes cybersecurity training for industrial system technicians. This discussion should provide attendees insight into relevant curriculum for training industrial technicians in the field of cybersecurity, which can be implemented in current industrial maintenance degree and certificate programs.

Table 7. The Bioscience Industry Fellowship Program

Russ Read, *Forsyth Technical Community College, Winston-Salem, NC*

Instructors from multiple states participate in month-long boot camps at three community colleges with hands-on lab experiences. They shadow workers in various departments at a dozen different industrial and university hosting facilities with the purpose of visiting key local bioscience assets to demystify the bioscience industry. They also develop and deliver professional development presentations that can be used by instructors to further understand industry principles in the classroom.

Table 8. Mentoring Industry-Based Instructors to Support Student Success

Randy Libros, *Community College of Philadelphia, Philadelphia, PA*

Industry experts can bring a high level of knowledge into the classroom but may not have any formal teaching experience. We have mentored industry experts to expand their teaching expertise as part of our overall strategy for student retention and success. Mentoring focuses on pedagogy, navigating college systems, and assessment. This roundtable will be an opportunity to share approaches to the development of faculty who are primarily industry based.

Table 9. Lessons in Leadership, Motivation, and Project Management

James Guenther, *Delgado Community College, New Orleans, LA*

Delgado Community College received its first NSF ATE grant in 2016. Since that time, project leaders have realized that successful proposal execution is more than the mechanics of the plan. In order to succeed, the project needed new skills covering leadership, team motivation, and project management. This discussion is for both new and seasoned leaders, and is intended to share experiences and practices on what makes a good leader, and how to avoid the common pitfalls in managing ATE grant projects.

Table 10. Engaging Counselors and Educators in Career Briefing Sessions

Tara Sheffer, *Columbus State Community College, Columbus, OH*

Columbus State Community College's ATE projects in manufacturing, logistics engineering, cybersecurity, and alternative energy automotive have collaborated to implement novel and engaging career briefing sessions targeting high school counselors and educators. This roundtable will focus on two of Columbus State's collaborative events: a high-demand careers briefing session and an educator industry bus tour. Event planning, implementation, and evaluation will be discussed.

Table 11. Social Media as a Tool for Recruiting STEM Students

Joseph Ippolito, *Education Development Center, Inc., Waltham, MA*

Can social media be used effectively to recruit students into STEM programs? Learn from the experience of individuals who have designed, implemented, and analyzed social media campaigns aimed at increasing student enrollment in technical programs. College representatives from an NSF-funded social media research project will describe the challenges they have faced and will provide tips about choosing social media platforms, effective messaging, and collaborating with school marketing departments.

Table 12. Engaging Partners – Coordinating Networks

Steve Kane, *SpaceTec, Cape Carnaveral, FL*

Dana Schirer, *Wichita Area Technical College, Wichita, KS*

Mel Cossette, *MatEdu, Edmonds Community College, Lynnnwood, WA*

Terryll Bailey, *The Allison Group, Seattle, WA*

A new ATE area of opportunity is called ATE Coordination Networks. In this interactive roundtable, we will share ideas and answer questions on how we implemented novel networking strategies, collaborative technologies, and adapted and implemented industry relevant curricula and best practices across disciplinary and technical areas.

Table 13. Best Practices in Collaborating with Public-Private Partnerships

***Katie Adams**, MatEdU, Westminster, MD*

Attendees will learn best practices when collaborating with a federally funded, public-private partnership such as Lightweight Innovations for Tomorrow (LIFT). Using a modified case study method, participants will learn how an ATE center leveraged its subject matter expertise to create materials that both benefit the partnership and advance ATE's mission and reach. The roundtable moderator will discuss the process of defining the partnership, managing internal resources, utilizing student researchers, and creating an effective collaborative work process.

Table 14. New Cybersecurity Program with Local Legislatures, Industry, and Administration

***Peter Maritato**, Suffolk County Community College, Selden, NY*

This roundtable will provide an overview of successful strategies used to integrate local legislatures, industry, K–12, and college administration in the implementation and design of a newly approved cybersecurity degree program. Attendees will walk away with various techniques and outreach strategies to bring diverse stakeholders together in a united effort to launch a cybersecurity program from the ground up.

Table 15. Using Technology to Teach Engineering and Technology Courses

***Andrew Bell**, Ivy Tech Community College, Indianapolis, IN*

This roundtable will provide a forum to share how technology can be used to teach engineering and technical concepts. Technologies that could be discussed include: (1) Software – LabVIEW, Multisim, SolidWorks, and AutoCAD; (2) Hardware – MyRIO, MyDAQ, and Raspberry Pi; (3) Arduinos Methods – remote labs, virtual reality, and hybrid; and (4) Other items – IoT and 3D printing. Participants will have the opportunity to network with others to share best practices regarding the value of using these technologies.

Table 16. See It To Be It: Recruiting and Retaining Women in STEM

***Katie Surra**, Thaddeus Stevens College of Technology, Lancaster, PA*

The Skilled Women Get STEM Jobs project focuses on recruiting and retaining female students in the traditionally male-dominated water and environmental technology, electrical technology, and machine-tool and computer-aided manufacturing fields. This roundtable will focus on sharing strategies implemented as part of the project. Participants will be asked to share techniques they have found effective, be given the opportunity to share challenges they have encountered, and brainstorm potential solutions.

Table 17. CAE Centers Leading National Efforts to Prepare the Cybersecurity Workforce

***John Sands, Michael Gonzalez**, CSSIA, Moraine Valley Community College, Palos Hills, IL*

This session will provide examples of how ATE centers can lead national initiatives designed to improve pathways, and will share research and data collected through a collaborative process led by the CSSIA Center. The research and resulting report was provided to the National Institute of Standards and Technology (NIST) as part of a national request for information. This initiative is an example of how centers leverage partnerships for greater impact on STEM education and federal programs that fund these initiatives.

Table 18. The Rasor's Edge – The Future of Training for Waste Water Operators

***Joshua Castleberry**, Central Carolina Technical College, Sumter, SC*

Municipalities face numerous challenges in training and keeping qualified wastewater technicians, such as varying levels of experience, limited onsite professional development, wide geographic distribution for those in need of training, and risk of losing stores of institutional knowledge to retirement. This project used Cognitive Task Analysis (CTA) to create a simulated practice system (SPS) to offer a realistic and accurate operating experience. Come join in a discussion of the lessons learned during creation and implementation, and where to go next.

Table 19. Infusing IT: Interdisciplinary Aspects of Technician Education

Scott Wegeng, Gary Clark, Daniel Foor, Jeremy Banta, *Columbus State Community College, Columbus, OH*

Columbus State's projects in logistics engineering, alternative energy automotive, and data analytics seek to address skill gaps in technician education. Many of these skills have been created by the increased reliance upon advanced information technologies. This roundtable will discuss how an interdisciplinary approach to curriculum development can help address skill gaps in technician education and be used to enhance disciplines traditionally not associated with information technology.

Table 20. Embedding Authentic Industry Projects in Engineering Curriculum

Marina Bograd, Chitra Javdekar, *Massachusetts Bay Community College, Wellesley, MA*

Claire Duggan, Ibrahim Zeid, *Northeastern University, Boston, MA*

TRANSFORM is a collaborative project developing manufacturing career pathways for liberal arts majors. Bringing industry projects into the curriculum helps students understand their future workforce environment. We will discuss how we incorporated authentic industry projects in our curriculum, and the meaningful interactions among students, faculty, and industry resulting from this rich, contextualized learning environment. We will share our model, including interaction and lesson plans, and discuss ways to incorporate this transformative model into your curriculum.

Table 21. iCREAT and Mentoring High School Experience

Shamsi Moussavi, *Massachusetts Bay Community College, Wellesley Hills, MA*

David Jackson, *Boston College, Chestnut Hill, MA*

Come join a roundtable discussion on the model practice of offering mentoring (both virtual and hybrid) to high school juniors and seniors, as part of a multidisciplinary STEM course. The mentors are professionals in STEM (mostly computing and engineering) fields; and the goal of the project is to encourage students to pursue STEM fields and career paths. Hear and share experiences on best practices for successful mentoring of high school students.

Table 22. CSO Summit 2.0: Community Colleges Drive Regional Economic Development

Deborah Davis, Abbe Kesterson, *Bluegrass Community and Technical College, Lexington, KY*

Mary Nelson, *Salt Lake City Community College, West Jordan, UT*

Linnea Fletcher, *AC2, Austin Community College, Austin, TX*

John Carrese, *City College of San Francisco, San Francisco, CA*

In April 2017, Bio-Link and AC2 Bio-Link Centers hosted the CSO Summit 2.0 for those interested in partnering with industry to build and manage campus-based contract research/service organizations (CSOs); embedding entrepreneurial activities into STEM programs at community colleges; developing long-term sustainability models; and increasing the involvement of other ATE disciplines such as IT, engineering, and manufacturing. Join us to learn about how you can be a part of this effort going forward.

Table 23. Engaging Partners and Technology with the Netflix Free Trial Method

Eric Wooldridge, Elaine Kohman, *Somerset Community College, Somerset, KY*

One very challenging aspect of any project is the significant engagement of industry partners, especially when it comes to emerging technologies. This roundtable will discuss the steps taken to engage partners to get their "skin in the game," encouraging them to embrace new technology by becoming "hooked" on its applications. They will also be more likely to provide you with viable data and to hire technicians trained on the new technology.

Table 24. Researching IT School-to-Career Pathways in Rural Florida

Marcia Mardis, *Florida State University, Tallahassee, FL*

Flora McMartin, *Broad Based Knowledge, Richmond, CA*

David Bouvin, *Chipola College, Marianna, FL*

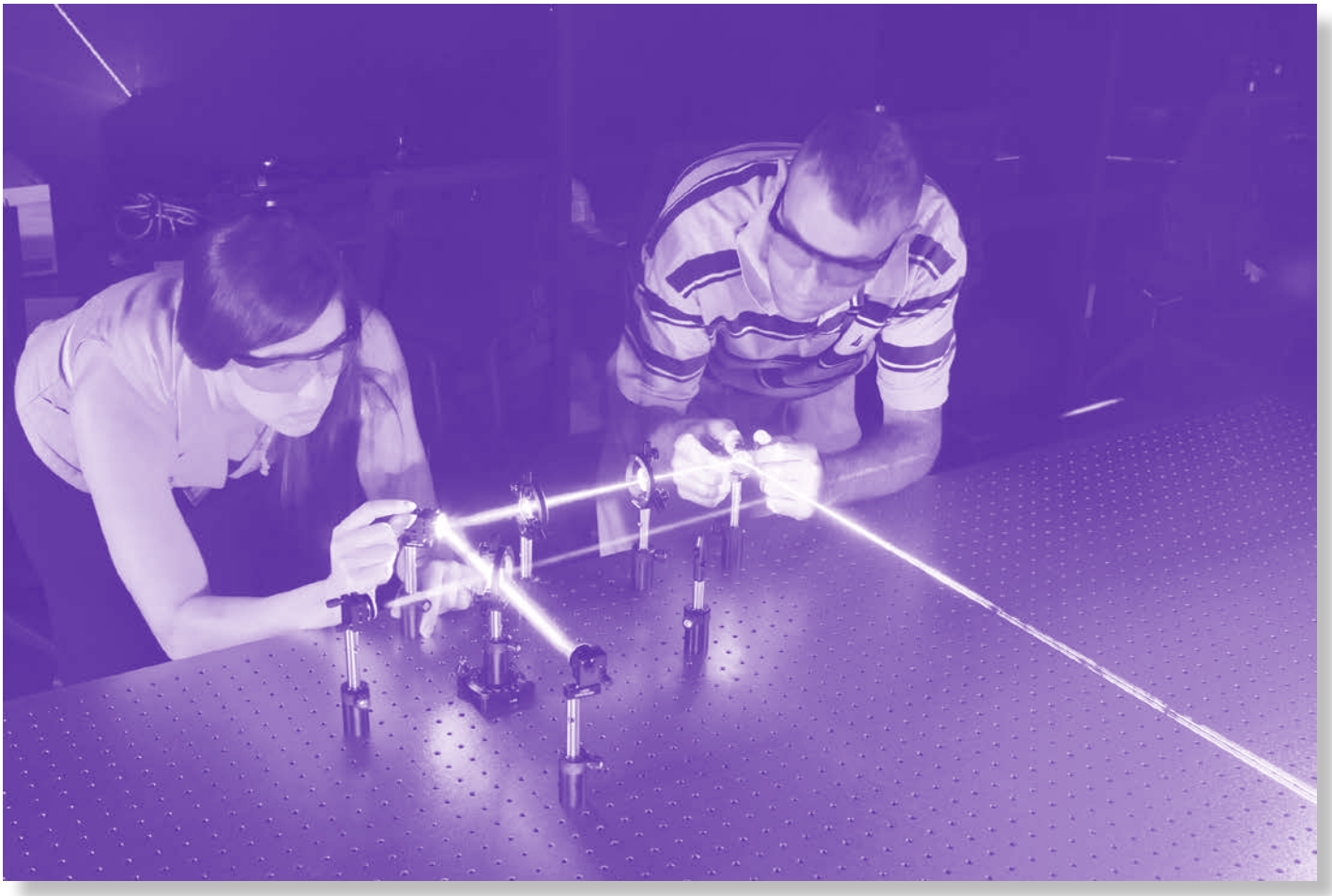
Information technology is a fast-growing professional field in all industry sectors across the U.S. However, little is known about how learners become engaged in IT or the factors that keep them interested and ultimately employed. In this roundtable, we will discuss the findings from a four-year ATE research project in which we explored these high-demand pathways in the rural Florida panhandle. Come to discuss recommendations and next steps for two- and four-year programs.

Table 25. Planning for Sustainability through Communities of Practice

Ann Beheler, Mark Dempsey, *National Convergence Technology Center, Collin College, Frisco, TX*

Ernest Friend, *Florida State College, Jacksonville, FL*

Robust communities of practice (COPs) offer unique benefits to their members from sharing resources, solving problems, and developing group best practices. ATE grants grow COPs, and when the group finds value in the relationships, the COP will endure after grant funding ends because of the mutual benefits. This roundtable will discuss how COPs are started, implemented, and sustained, and which strategies can best collect evidence of success.



7:45 – 8:45 am
Ambassador Ballroom

Table 1. What You Wanted to Know about NSF and ATE

Many PIs are new to the National Science Foundation (NSF) and have questions about how NSF operates, how award decisions are made, how reviewers are chosen, etc. Program directors from the ATE program will be on-hand to respond to general questions posed by roundtable attendees.

Table 2. NSFs Graduate Research Fellowship Program

Giselle Parker-Muller, *National Science Foundation, Alexandria, VA*

The purpose of the NSF Graduate Research Fellowship Program (GRFP) is to help ensure the vitality and diversity of the scientific and engineering workforce of the United States. The program recognizes and supports outstanding graduate students who are pursuing research-based masters and doctoral degrees in STEM or STEM education. The GRFP provides three years of support for the graduate education of individuals who have demonstrated their potential for significant research achievements. Learn how this opportunity applies to the ATE program.

Table 3. ATE Student Breakfast Networking

Mary Heiss, *American Association of Community Colleges, Washington, DC*

This student-only breakfast roundtable session will provide an informational setting for ATE students to network with one another. Student participants are welcome to come and share their educational and professional experiences and hear from other students about how they balance school, work, and life.

Table 4. Needed Math: An ATE-Funded Conference, January 2018

Michael Hacker, *Hofstra University, Hempstead, NY*

Paul Horwitz, *The Concord Consortium, Concord, MA*

Gerhard Salinger, *National Science Foundation (retired), Alexandria, VA*

This roundtable will discuss a "Needed Math" conference to be held in January 2018. The conference will enable 45 employers, ATE instructors, and mathematics educators to identify the mathematics that technicians in biotechnology, information/communications technology, and manufacturing technology need to be successful. The roundtable will disseminate conference plans, invite feedback, and (depending upon availability) extend conference invitations to ATE colleagues from within the three conference domains.

Table 5. UAS/Drone Discussion

Vince DiNoto, *National Geospatial Technology Center of Excellence, Louisville, KY*

This roundtable will feature an open discussion of the uses and the curriculum needs for small Unmanned Aerial Systems (UAS) programs. The discussion will include uses for this technology, FAA Part 107, insurance (risk management), competencies, and relationships with existing remote sensing and data management.

Table 6. Research Opportunities with the DOE and the National Renewable Energy Lab

Kenneth Walz, *Madison Area Technical College, Madison, WI*

Linda Lung, *National Renewable Energy Laboratory, Golden, CO*

The U.S. Department of Energy (DOE) engages students and faculty in research through the Community College Internship and the Visiting Faculty Programs. Join DOE representatives and past participants from the National Renewable Energy Laboratory (NREL) to learn more about these opportunities and how to get involved with hands-on research in the energy field.

Table 7. Advanced Design and Fabrication of Prosthetic and Medical Devices

Andy Zhang, Yu Wang, *CUNY New York City College of Technology, Brooklyn, NY*

In the 21st century, Internet of Things (IoT) technology will generate and exchange an enormous amount of data that provides beneficial services. We designed and implemented the prototype of an IoT-based biosensor network. This healthcare monitoring system can monitor the health of people remotely by using IoT technology, biosensors, and a real-time database. We will share our project architecture including inter-networking devices, biosensors, a flat database structure, client apps, and the direction of dataflow.

Table 8. Cybersecurity Instructional Modules for Introductory Computing Courses

Elizabeth K. Hawthorne, *Union County College, Cranford, NJ*

The overall goal of the Catalyzing Computing and Cybersecurity in Community Colleges project is to drive a substantial nationwide expansion of cybersecurity programs in other community colleges. To achieve this goal, cybersecurity instructional modules were developed for integration into existing introductory computing courses. Modules include applied cryptography, secure scripting, responsible software development, cybersecurity principles, cybersecurity and society, cyber threats and countermeasures, and protecting risky data. Participants will learn about and discuss how to adopt these modules.

Table 9. Enlightening High School Students to the Rewards and Benefits of a Career in STEM

Margaret Bryans, *Montgomery County Community College, Blue Bell, PA*

Approaches to engage high school (HS) students in STEM activities, promote STEM programs, and introduce the potential and rewards of STEM careers will be discussed. To strengthen the pipeline from HS to college program to industry technician, NBC2 introduced the BIOMAN Academy, an initiative to engage HS students through summer workshops with a strong hands-on lab component and focus on career paths. The details, outcomes, and potential for a broader application will be discussed.

Table 10. Building a Community of ATE Evaluators

Emma Perk, *EvaluATE, Western Michigan University, Kalamazoo, MI*

Evaluators, join us to discuss how best to strengthen the community of ATE evaluators. How can we work together and with EvaluATE to support one another and enhance communication, collaboration, and coordination across the ATE program? We will brainstorm ways to grow and deepen our connections and leverage our areas of expertise.

Table 11. How to Sustain a Center: Creating a Win–Win Proposition for All Stakeholders

Kapil Chalil Madathil, *Clemson University, Clemson, SC*

The Center for Aviation and Automotive Technological Education using Virtual E-Schools (CA2VES) has designed and developed high quality digital learning tools to support the needs of the advanced manufacturing industry. To help sustain its work and fulfill its mission into the future, CA2VES maintains a comprehensive portfolio of expertise, resources, and services readily available to colleagues and partners in education, government, and industry. This roundtable will discuss strategies used by CA2VES to support its long-term sustainability vision.

Table 12. Bridging the Gap: Bringing Biotechnology to the Rural Classroom

Ruth Wrightsman, *Flathead Valley Community College, Kalispell, MT*

This roundtable will discuss ways to bring biotechnology to rural high schools. Meet with high school teachers who have participated in the Flathead Valley Community College TeaM SCoRE Biotechnology ATE project who have added new biotechnology lab activities to their curriculum. We will discuss our workshop format, strategies used to support teachers, and the impacts of these activities on high school students.

Table 13. Optimizing Effectiveness of ATE Support Centers

Matthias Pleil, *University of New Mexico, Albuquerque, NM*

This roundtable will bring together NSF ATE Support Centers for a discussion on best-known methods and practices to optimize the effectiveness of support centers' efforts. The Support Center for Microsystems Education (formerly the Southwest Center for Microsystems Education) will share its plans and experience with building partnerships with other ATE centers, industry, and learning institutions. Topics will also include how to maximize reach by sharing online resources and scaling materials.

Table 14. Undermined Opportunities: Faculty Externships for Better Curriculum Alignment

Desiré Whitmore, *Irvine Valley College, Tustin, CA*

G. Ron Darbee, *Lawrence Livermore National Laboratory, Livermore, CA*

Learn about working with industry partners to develop fully immersive faculty externships. Photonics faculty at two schools worked with the Lawrence Livermore National Lab (LLNL) to develop a model for a Faculty Externship Experience, where the faculty shadowed LLNL technicians over several weeks to learn what skills are most in demand, and discussed how to best align our curriculum to meet their needs.

Table 15. Competency-Based Education: Challenges and Promise

Jean Bower, *Salt Lake Community College, Salt Lake City, UT*

Salt Lake Community College is converting its biotechnology program to a competency-based, open-lab format. While students won't enroll in the revised program until Fall 2018, a great many lessons about the logistics of such a switch have already been learned. Attend this roundtable to discuss the challenges involved (e.g., financial aid, faculty load, messaging to students), and the great potential of a flexible, self-paced program for both workforce and transfer students.

Table 16. Engaging Science and Business Partnerships for the Wine Industry

Lynn Krielow Chamberlain, *Pacific Northwest Wine Education Collaborative, Grandview, WA*

Tomas Ybarra, *Yakima Valley Community College, Grandview, WA*

Washington State ranks second in national premium wine production with 900+ wineries, 350+ wine grape growers, and a $2.067 billion dollar total economic impact. Yakima Valley College, South Seattle College, and Wenatchee Valley College share resources and work in partnership with the Washington Winegrower Association, industry growers, vintners, policymaker leaders, secondary schools, and state agencies to create opportunities for job enhancement, professional development, professional certification, and college degrees in the winery and vineyard science and business. Come and discuss strategies and lesson learned in engaging science and business partners.

Table 17. Strategies for Writing a Successful Annual Project Report

Tara Sheffer, Steve Levin, *Columbus State Community College, Columbus, OH*

Lana Rucks, *The Rucks Group, Dayton, OH*

For many first-time grantees and seasoned principle investigators nothing is more daunting and intimidating than opening your inbox to discover an email titled "Annual Project Report is NOW DUE." Over the last three years, Columbus State has developed proven strategies and timelines for tackling the annual report writing process. This roundtable will focus on providing best practices and avoiding common pitfalls of the annual report writing process.

Table 18. HHMI – Support Undergraduate Research Course

Viknesh Sivanathan, *Howard Hughes Medical Institute (HHMI), Chevy Chase, MD*

HHMI is partnering with two- and four-year institutions across the U.S. to offer undergraduate students an authentic research experience in the context of a Course-based Research Experience (CRE). The HHMI CRE, called SEA-PHAGES, is a fully developed and supported two-semester research course designed to replace the traditional introductory biology lab sequence.

Table 19. From Activities to Student Impact: Case Studies for Using Evaluation

Ann Beheler, Mark Dempsey, *National Convergence Technology Center, Collin College, Frisco, TX*

Gordon Snyder, *National Center for Optics and Photonics Education, Waco, TX*

Planning events and implementing strategies are essential parts of any ATE grant, but the work doesn't stop there. PIs must also evaluate the student impact through participant surveys and student metrics. This roundtable will share case-study examples—from the point of view of both grant staff and external evaluators—to share best practices and tools for gathering useful student impact data that measures success and can justify continued funding.

Table 20. American Society for Engineering Education – Career Development Programs and Opportunities

Ashok Agrawal, *American Society for Engineering Education (ASEE), Washington, DC*

Faculty and administrators at higher education institutions face the need for continuous evolution due to technological innovations, globalization, and changing demographic. This is especially true and critical for those engaged in ATE focused programs. ATE PIs must hone their professional repertoire to keep abreast with these changes. Join this roundtable conversation with Dr. Ashok Agrawal, Managing Director of Professional Services at ASEE, to learn about the array of professional development opportunities ASEE offers to the STEM education community.

EvaluATE

evalu-ate.org

Advancing excellence through evaluation

See evaluation come to life

Our webinars showcase practical examples and demonstrations that demystify the evaluation process. These live, interactive learning events feature the expertise of experienced evaluators and successful project leaders. Information-rich handouts summarize key points and include links to learn more.

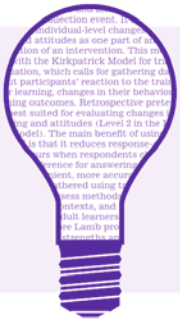
Use data for ATE research, development, and evaluation

The annual survey of ATE grantees has generated almost 20 years' worth of data about ATE project and center activities and achievements and the students and faculty served through ATE programming. You can use the results to learn about the program and for your own research, proposal development, and evaluation purposes.

Improve your evaluation work now

Our resource library houses an array of checklists, templates, guides, and other resources to help you improve your evaluation work immediately. Tools such as the ATE evaluation planning checklist, logic model template, and data collection planning worksheet help shorten the evaluation learning curve.

Learn from your peers



The EvaluATE-curated blog features the wisdom, experiences, and perspectives of a wide range of ATE community members, including project leaders, evaluators, researchers, and grants specialists. Blog authors share their real-world examples and lessons learned so that you can benefit from their evaluation experience and get ideas for your own practice.

EvaluATE is the evaluation support center for the National Science Foundation's Advanced Technological Education (ATE) program. We are supported by NSF under grant number 1600992.

PLENARY SPEAKERS

October 23 –
Opening Plenary Session

Judith F. "Judy" Marks is the CEO of Siemens USA, a global powerhouse focusing on the areas of electrification, automation, and digitalization with 50,000 U.S. employees and approximately 60 manufacturing sites. On May 26, 2017, Judy was also appointed CEO of Dresser-Rand, A Siemens Business.

Marks joined Siemens in 2011, serving for over four years as the President and CEO of Siemens Government Technologies (SGT), Inc.

In 2015, she took over the leadership of the Siemens Dresser-Rand integration as a result of the Siemens acquisition of the Houston-based company. She was simultaneously appointed as Executive Vice President, Global Solutions, at Dresser-Rand, part of Siemens Power and Gas Division. In that role, Marks oversaw the development and deployment of comprehensive global projects and programs to meet client needs and drive growth in the oil and gas industry. She then served as Executive Vice President of New Equipment Solutions at Dresser-Rand.

From 2011 through 2015, Marks led SGT, based in Washington, DC. In that role, she worked with all Siemens divisions delivering Siemens products, services, technologies, and solutions to all branches of the U.S. government.

Marks came to Siemens from Lockheed Martin, where she served as President of two operating entities for more than eight years in Transportation and Security Solutions and Distribution Technologies focused on developing, integrating, and delivering advanced solutions and services to federal customers worldwide. She also served as Vice President of Strategy and Business Development for the company's Electronic Systems Business Area.

Prior to joining Lockheed Martin, Marks spent the first 10 years of her career at IBM Federal Systems Company, which was then acquired by the Loral Corporation and Lockheed Martin. In total, she served 27 years with Lockheed Martin and its predecessor companies. Her experience spans multiple disciplines including positions in systems engineering, engineering management, business development, capture management, subcontract management, program management, and executive management.

She serves on the Board of Visitors for the University of Maryland's College of Computer, Mathematical, and Natural Sciences. She is Chairman of the Board of Directors of the Siemens Foundation, which provides grants and other financial support towards technology education and workforce initiatives in the U.S. Additionally, she is a Director of Hubbell Incorporated, an international manufacturer of quality electrical and electronic products.

Marks earned a Bachelor's degree in electrical engineering from Lehigh University.

October 24 –
Tuesday Plenary Session

James P. Lombella is the President of Asnuntuck Community College in Enfield, CT. He began his career as the founder of a retail and service company and, following a successful start-up, he joined Jen Coat, Inc. where he was appointed to the position of Quality Control and Internal ISO 9000 Lead Auditor. Following Jen Coat, he spent time in two successive companies, Plastipak Packaging Company and the Pepperidge Farm division of the Campbell Soup company, as an Operations Manager in each company.

Lombella joined Asnuntuck in 2009 in the Advanced Manufacturing Technology Center (AMTC) as an Adjunct Credit Instructor while assisting to lead the development of the guidelines for the S.M.A.R.T. (Skills for Manufacturing and Related Technologies) grant for the State of Connecticut.

From 2010 through 2012, he was the Director then Associate Dean of Workforce Development and Continuing Education, where he supervised the operations of Workforce Development, Continuing Education, Business and Industry and the Marketing division of the college. In 2012, he became the CFO/Dean of Administration, which he maintained in a dual role while serving as the Interim President and Chief Executive Officer from May of 2013 to May 2014.

On May 30, 2014, the Board of Regents for Higher Education announced that Lombella was selected to be the fourth President of Asnuntuck Community College. Lombella currently serves as a steering committee member for New England's Knowledge Corridor, a member of the Rotary Club of Enfield, CT, a board member for the Asnuntuck Community College Foundation, Inc., and a member/college representative for the North Central Connecticut Chamber of Commerce. He also serves on the Board of Directors of Capital Workforce Partners.

Lombella participated as a panelist for the National Association of Workforce Development Professionals (NAWDP) regional Conference in 2011. He was also a panelist for the 2015 "State of the Region" Conference of New England's Knowledge Corridor, discussing the findings and recommendations of the New England Council and Deloitte Consulting LLP report entitled *Advance to Advantageous: The Case for New England's Manufacturing Revolution*. Lombella is also a member of Kappa Delta Pi, International Honor Society in Education.

Lombella is a proud first generation, community college graduate who also holds a Master of Management degree from Cambridge College, Cambridge, MA, and received his Doctor of Education at the Abraham S. Fischler School of Education at Nova Southeastern University.

Victor R. McCrary is the first Vice President for Research and Economic Development at Morgan State University, Baltimore, MD. He is a change agent and serial innovator responsible for developing a comprehensive research strategy, fostering cross-disciplinary research, expanding research programs via engagement with federal and state agencies ($32M in fiscal year 2016), increasing the university's intellectual property portfolio, and positioning Morgan State as Maryland's public urban research university. Previously, he was the Business Area Executive for Science and Technology at The Johns Hopkins University Applied Physics Laboratory (APL), where he directed investments totaling over $60M for basic and applied research projects targeted for national security and space applications. In 2005, McCrary was selected to the rank of Principal Professional Staff at the Johns Hopkins University Applied Physics Laboratory. He is a former national president of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), and a Fellow of the American Chemical Society.

McCrary serves on numerous committees including the subcommittee for the U.S. Air Force Institute of Technology (AFIT); the Intelligence Science and Technology Experts Group of the National Academies of Sciences, Engineering, and Medicine; the advisory board for electrical and computer engineering at The Citadel; the board of the Maryland Innovation Initiative of the Maryland Technology Development Corporation (TEDCO); and the PubMed Central National Advisory Committee for the National Institutes of Health. He most recently was appointed to the advisory board of the Applied Research Laboratory at Pennsylvania State University.

He has authored or co-authored more than 60 technical papers and co-edited two books in his career at AT&T Bell Laboratories and the National Institute of Standards and Technology (NIST). He has received a number of honors and awards during his career including: Most Promising Black Engineer in 1990; co-recipient of the U.S. Department of Commerce's Gold Medal in 2000; the 2002 NOBCChE Percy Julian Award; in 2005, he was featured in Science Spectrum Magazine as one of the Top 50 Minorities in Science, and elected to the 2007 DVD Association's Hall of Fame. In 2011, he was honored as Scientist of the Year by the Annual Black Engineer of the Year Award–STEM Conference. In 2015 he received the Alumni Award for Research Excellence from The Catholic University of America, and Distinguished Alumni Award from Howard University in 2017.

PLENARY SPEAKERS

McCrary received his B.A. in Chemistry from The Catholic University of America; his M.S. in Engineering from the University of Pennsylvania; and his Ph.D. in Chemistry from Howard University.

McCrary was appointed by President Barack Obama to the National Science Board, which oversees the National Science Foundation, in October 2016.

Nicole Smith is a Research Professor and Chief Economist at the Georgetown University Center on Education and the Workforce where she leads the Center's econometric and methodological work. Smith has developed a framework for restructuring long-term occupational and educational projections. This framework forms the underlying methodology for *Help Wanted*, a report that projects education demand for occupations in the U.S. economy through 2020. She is part of a team of economists working on a project to map, forecast and monitor human capital development and career pathways.

Smith was born in Trinidad and Tobago and graduated with honors in Economics and Mathematics from the University of the West Indies (U.W.I.). She was the recipient of the Sir Arthur Lewis Memorial Prize for outstanding research at the Master's level at the U.W.I. and is co-recipient of the 2007 Arrow Prize for Junior Economists for educational mobility research. She received her Ph.D. in Economics from American University in Washington, DC.

Prior to joining the Center, Smith was a faculty member in Economics at Gettysburg College in Pennsylvania, and the University of the West Indies. Her current research investigates the role of education and socioeconomic factors in intergenerational mobility.

October 25 – Wednesday Plenary Session

Jin Kim Montclare is an Associate Professor in the Department of Chemical and Biomolecular Engineering at New York University's (NYU's) Tandon School of Engineering, with appointments in Biochemistry at the State University of New York (SUNY) Downstate Medical Center, Chemistry at NYU, and Biomaterials at NYU College of Dentistry. Montclare is performing groundbreaking research in engineering proteins to mimic nature and, in some cases, work better than nature. She exploits nature's biosynthetic machinery and evolutionary mechanisms to design new artificial proteins. Her lab focuses on two research areas: (1) developing protein biomaterials capable of self-assembling into supramolecular structures and (2) engineering functional proteins/enzymes for particular substrates with the aim of targeting human disorders, drug delivery, and tissue regeneration.

Prior to joining NYU, Montclare was a postdoctoral fellow at the California Institute of Technology in the Division of Chemistry and Chemical Engineering. She received a Bachelor of Science in Chemistry from Fordham University in 1997, and a Master of Science and a Ph.D. in Bioorganic Chemistry from Yale University in 2001 and 2003, respectively.

A native of the Bronx, she has been grateful to all of her mentors and teachers who supported her in her pursuit of STEM. She now gives back through outreach, working with local high schools and creating educational apps to make chemistry engaging. Her outreach efforts has led to the founding of InSchoolApps, a company designing science-related apps for high school students. She also leads the Center for Innovation and Entrepreneurship at NYU Tandon School of Engineering, integrating entrepreneurship within the engineering curriculum for undergraduate and graduate students.

Among her many honors and awards are the ACS WCC Rising Star Award, Agnes Faye Morgan Research Award from Iota Sigma Pi, Executive Leadership in Academic Technology and Engineering Fellowship, American Chemical Society PROGRESS/Dreyfus Lectureship, the Dreyfus Special Grants Program Award, the Air Force Office of Scientific Research Young Investigator Award, the Wechsler Award for Excellence, the Othmer Junior Fellow Award, the National Institutes of Health Postdoctoral Fellowship, and the National Science Foundation Pre-doctoral Fellowship.

POTENTIAL

NATIONAL SCIENCE FOUNDATION

ADVANCED TECHNOLOGICAL EDUCATION GRANT FUNDING

Mentor-Connect.org

Get a Mentor

One-on-one Mentorship opportunity for technician and related STEM faculty

Potential for funding from the NSF ATE program (small, New-to-ATE category)

NSF ATE grant proposal technical assistance

Be a Mentor

Have NSF ATE leadership experience?

Give back to the NSF ATE program

Learn and grow by helping others in grant development

Become a Mentor via the Mentor Fellows program

Become a Leader

Learn! Over 100 grant proposal-focused resources.

New project implementation guidance

Connect with faculty leadership opportunities

Benefit from and contribute to the ATE program through Mentor-Connect

MENTOR CONNECT

Florence Darlington Technical College
Florence, SC 29501-0548
(843) 676-8547
www.Mentor-Connect.org
Mentor-Connect@fdtc.edu

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SOUTH CAROLINA ADVANCED TECHNOLOGICAL EDUCATION
CENTER OF EXCELLENCE

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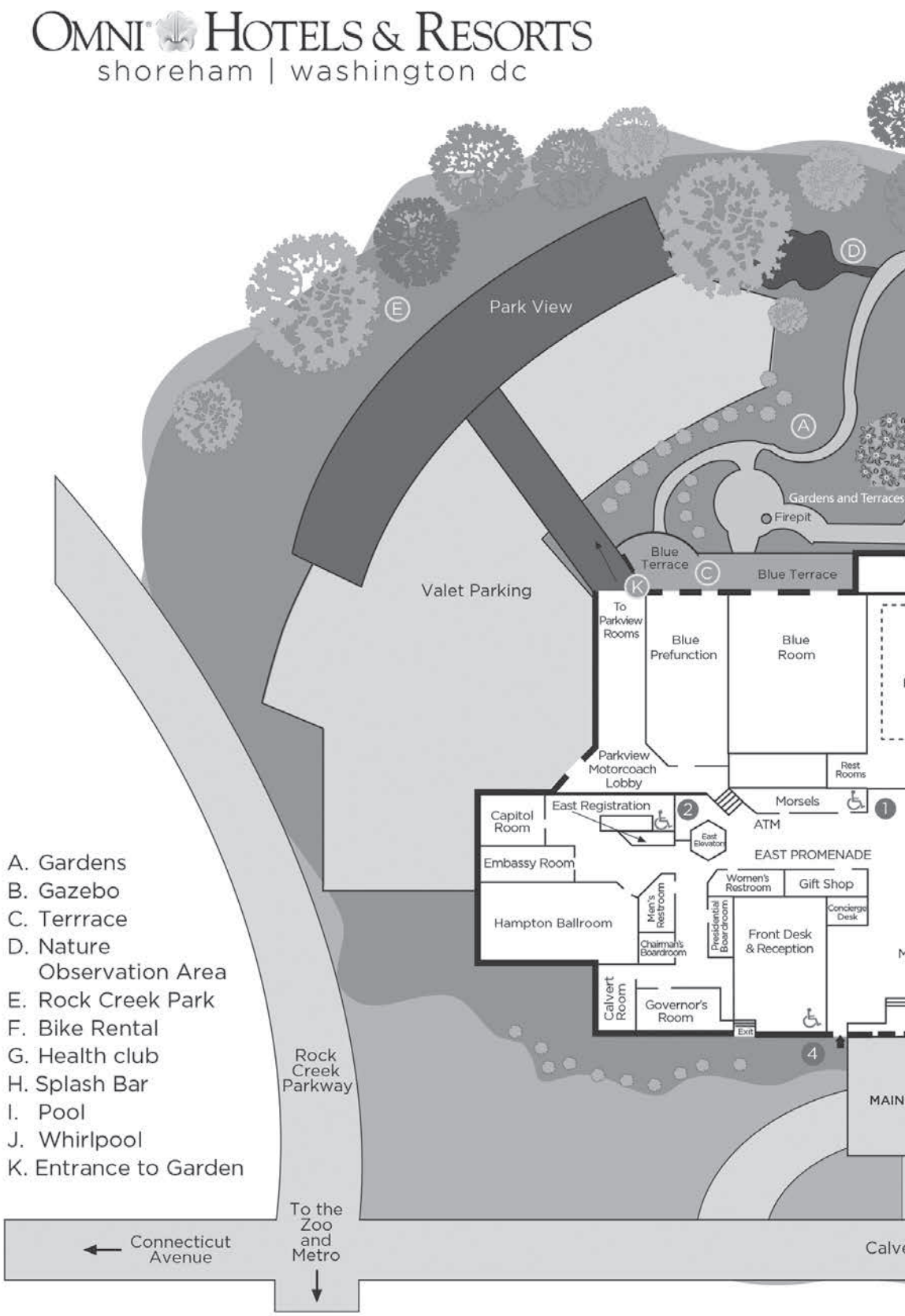
OMNI SHOREHAM HOTEL MAP




Lobby Level
Lower Level (2B)
ADA Elevator
1. To Robert's Restaurant and Palladian Room
2. To Blue Room and Parkview Building
3. Lift to Ambassador and Regency Ballroom Level 1B
4. Ramp to Lobby
28th Street
Gardens
Firepit
Empire Terrace
Empire Room
Health Club
Veranda
Robert's Private Room
Robert's Restaurant
Palladian Ballroom
Diplomat Ballroom
Pool
Entrance Health Club
Bird Cage Walk
Women's Restroom (Lower Level)
Hertz Rental
Executive Room
Directors Room
Committee Room
WEST PROMENADE
West Elevators
Coat Check
ATM
Jewelry Store
Men's Restroom
UPS Store & Business Center
West Registration
Women's Restroom
Council Room
Senate Room
Internet Cafe
Congressional Room
Shoe Shine Stand
Forum Room
MAIN LOBBY
Cabinet Room
Marquee Lounge
Exit
ENTRANCE
Ambassador Ballroom
Regency Gallery
Regency Ballroom
ert Street

SHOWCASE SESSION I MONDAY ■ OCTOBER 23

ATE CENTERS

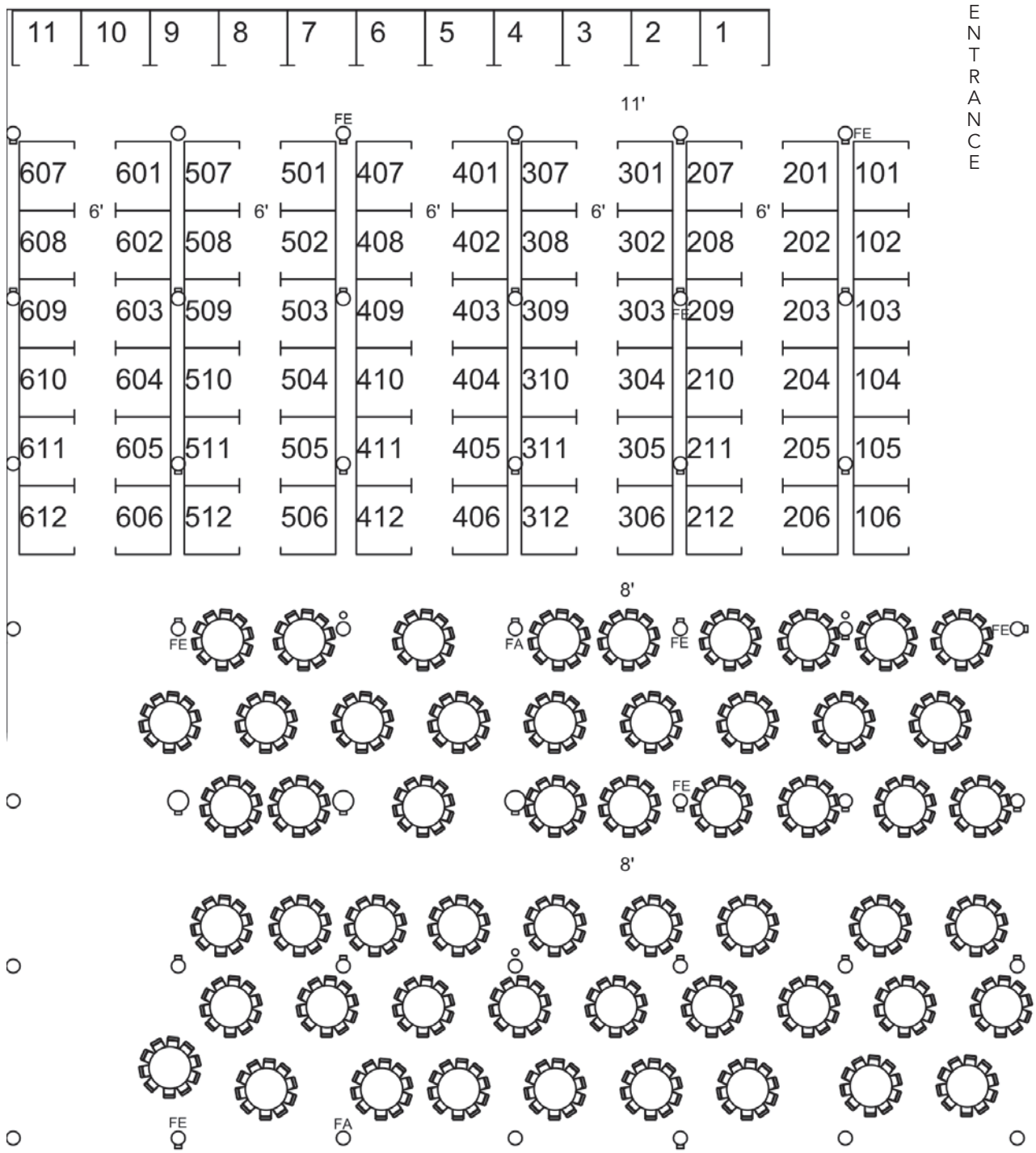
7:30 – 9:45 pm • Exhibit Hall

Booth #	Alpha by Organization
403/404	360 – Manufacturing and Applied Engineering ATE Regional Center of Excellence
105/106	AC2 – AC2 Bio-Link Regional Center
603/604	AMTEC – Automotive Manufacturing Technical Education Collaborative
002	ATE Central
211/212	ATEEC – The Advanced Technology Environmental and Energy Center
207/208	BATEC – Broadening Advanced Technological Education Connections
511/512	BEST – Building Efficiency for a Sustainable Tomorrow Center
103/104	Bio-Link – Next Generation National ATE Center for Biotechnology and Life Sciences
201/202	CA2VES – Center for Aviation and Automotive Technological Education Using Virtual E-Schools
503/504	CAAT – Center for Advanced Automotive Technology
401/402	CREATE-SC – Center for Renewable Energy Advanced Technological Education Support Center
209/210	CSSIA – Center for Systems Security and Information Assurance
307/308	CTC – National Convergence Technology Center
101/102	CWW – CyberWatch West
409/410	DeafTEC – Technological Education Center for Deaf and Hard-of-Hearing Students
003	EvaluATE – Evaluation Resource Center for Advanced Technological Education
301/302	FLATE – Florida's Advanced Technological Education Center of Excellence
303/304	GeoTech – National Geospatial Technology Center of Excellence
005	HI-TEC – High Impact Technology Exchange Conference
501/502	Laser-TEC – Southeast Regional Center for Lasers and Fiber Optics Education

Booth #	Alpha by Organization
008/009	MATE – Marine Advanced Technology Education Support Center
205/206	MatEdu – National Resource Center for Materials Technology Education
004	Mentor-Connect – Leadership Development and Outreach for ATE
405/406	MPEC – Midwest Photonics Education Center
507/508	NACK Network – Nanotechnology Applications and Career Knowledge Support Center
607/608	Nano-Link – Center for Nanotechnology Education
001	National Science Foundation
509/510	NBC2 – Northeast Biomanufacturing Center and Collaborative
601/602	NCC – National CyberWatch Center
505/506	NEATEC – Northeast Advanced Technological Eudcation Center
305/306	OP-TEC – The National Center for Optics and Photonics Education
203/204	RCNET – Regional Center for Nuclear Education and Training
010/011	RCNGM – Regional Center for Next Generation Manufacturing
311/312	SC ATE – South Carolina Advanced Technical Education Center of Excellence
309/310	SCA – National Center for Supply Chain Automation
006/007	SCME – Support Center for Microsystems Education
609/610	SMART Center – Southeast Maritime and Transportation Center
407/408	VESTA – Viticulture and Enology Science and Technology Alliance
411/412	Weld-Ed – National Center for Welding Education and Training

SHOWCASE I: ATE CENTERS EXHIBIT HALL MAP

OCTOBER 23, 2017



SHOWCASE SESSION I ▪ ABSTRACTS

MONDAY, OCTOBER 23

ATE CENTERS

7:30 – 9:45 pm • Exhibit Hall

Booth # 001

National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. NSF competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.

Booth # 002

ATE Central

ATE Central provides services, tools, and an online portal that support, amplify, and highlight the impacts of the ATE community and showcase the valuable curricula, learning objects, websites, and media created by ATE grantees. It also includes a resource archive and comprehensive database of project and center information that encourages use of ATE resources and promotes sustainability of project and center deliverables.

Booth # 003

EvaluATE – Evaluation Resource Center for Advanced Technological Education

EvaluATE promotes the goals of the ATE program by partnering with ATE projects and centers to strengthen the program's evaluation knowledge base, expand the use of exemplary evaluation practices, and support the continuous improvement of technician education throughout the nation. Resources include webinars, workshops, blogs, and a website with a variety of resources and tools.

Booth # 004

Mentor-Connect – Leadership Development and Outreach for ATE

Mentor-Connect is designed to fill a void for the ATE program; address the fact that there are those in the nation's community colleges who have never been awarded funding from the NSF ATE program; diversify the ATE program overall; better manage a rapidly growing number of requests received by program officers related to grant proposal development and project management; and develop grant writing skills among STEM faculty who lack sufficient grant personnel at their institutions.

Booth # 005

HI-TEC – High Impact Technology Exchange Conference

HI-TEC is a national conference on advanced technological education where technical educators, counselors, industry professionals, and technicians can update their knowledge and skills. Charged with educating America's technical workforce, the event focuses on the preparation needed by the existing and future workforce for companies in the high tech sectors that drive our nation's economy. HI-TEC uniquely explores the convergence of scientific disciplines and advanced technologies. Join us July 23-26 in Miami, FL, for HI-TEC 2018.

Booth # 006/007

University of New Mexico

SCME – Support Center for Microsystems Education

SCME is focused on the exploding field of microsystems technology. The center has more than 50 learning modules and a dozen hands-on kits, while offering online short courses, industry maps, videos, conference sessions, remote access instrumentation, and an extensive infrastructure of support capabilities and resources. Discover why Microsystems are critical to our nation's high tech growth and how participants can easily "plug and play" center materials into their own technology education programs.

Booth # 008/009

Monterey Peninsula College

MATE – Marine Advanced Technology Education Support Center

The MATE Center focuses on improving STEM education and the workforce by: running regional and international underwater robotics competitions that simulate the high performance workplace; hosting an at-sea internship program for students; offering professional development that focuses on marine engineering and technology; operating SeaMATE, a student-run store selling educational products and textbooks; conducting workforce research and developing occupational guidelines; and by building partnerships with like-minded organizations.

Booth # 010/011

Tunxis Community Technical College
RCNGM – Regional Center for Next Generation Manufacturing

RCNGM provides Connecticut's community colleges with a seamless career pathway in advanced manufacturing. The center offers professional development opportunities for teachers and faculty; provides articulation pathways that include stackable credentials; and addresses the need to market manufacturing as a clean, high tech industry. Stop by for RCNGM's latest DVD that includes a focus on women in manufacturing and features profiles of females who have embraced manufacturing as a career path.

Booth # 101/102

Whatcom Community College
CWW – CyberWatch West

CWW is the only NSF ATE center in the western U.S. dedicated to cybersecurity education and outreach. The consortium is focused on building educational and industry partnerships and delivering professional and student development programs. CWW continues its mission to build a stronger cybersecurity infrastructure through innovative online curricula, robust student competitions, and building pathways.

Booth # 103/104

City College of San Francisco
Bio-Link – Next Generation National ATE Center for Biotechnology and Life Sciences

Bio-Link funded in 1998, continues to build on the successful mission of the original ATE center, and adapts to meet the rapidly changing needs of the biotechnology industry, related life sciences industries, and prospective technical workforce. The center increases the number and diversity of well-educated technicians in the workforce, as well as the ever-growing needs of a continually evolving and diversifying industry for highly skilled technicians.

Booth # 105/106

Austin Community College
AC2 – AC2 Bio-Link Regional Center

The AC2 Bio-Link Regional Center is implementing a comprehensive strategy to improve biotechnology education, increase the number of students in the biotech pipeline in Texas and Kentucky, and give students a path to continue their education after completing a two-year degree. This plan includes dual credit courses, an entry-level certificate, articulation agreements between high schools, colleges, and universities; new options for undergraduate research, and creating on-the-job learning experiences by establishing contract service organizations or incubators.

Booth # 201/202

Clemson University
CA2VES – Center for Aviation and Automotive Technological Education Using Virtual E-Schools

CA2VES is at the forefront of creating and disseminating digital learning tools to enhance the technician education experience. This showcase will allow participants to interact with our custom virtual reality environments and browse our online learning platform, EducateWorkforce.com. Attendees will get a firsthand preview of our new FAA Part 147-aligned aircraft maintenance courseware and can talk with our team about how to enhance educational objectives with digital learning tools.

Booth # 203/204

Indian River State College
RCNET – Regional Center for Nuclear Education and Training

Headquartered at Indian River State College in Fort Pierce, FL, RCNET is a consortium of colleges, universities, industry, agencies, and other partners working to promote improvements in the education of nuclear technicians at the undergraduate and secondary levels. RCNET focuses on curriculum development, professional development, career pathways, and providing standardized quality resources to schools across the region in the nuclear fields of power generation, life and plant sciences, and environmental management.

Booth # 205/206

Edmonds Community College
MatEdu – National Resource Center for Materials Technology Education

MatEdU focuses on materials science, provides web-based resources and easily accessible instructional materials, offers professional development, and promotes the use of core competencies for technicians that handle materials. With rapid changes and new technologies it is imperative for industry to have qualified and educated technicians to keep the U.S. globally competitive. A collection of peer-reviewed modules, demonstrations, and laboratory exercises are available on the MatEdU website.

SHOWCASE SESSION I ▪ ABSTRACTS

Booth # 207/208

University of Massachusetts Boston

BATEC – Broadening Advanced Technological Education Connections

BATEC is a National Center of Excellence for Computing and Information Technologies serving Boston, MA; Chicago, IL; and Springfield, OH. BATEC is strengthening computing pathways and career opportunities; facilitating strategic partnerships with education, business, government, and the community to build awareness, generate interest, and support learning opportunities for urban students; conducting research to inform policy makers, IT educators, and workforce development agencies; and participating in and leading national discussions about problem-based learning and applied IT.

Booth # 209/210

Moraine Valley Community College

CSSIA – Center for Systems Security and Information Assurance

The CSSIA Center was founded in 2003 to expand the pipeline of professionals in the emerging field of cybersecurity. CSSIA has worked with community colleges, educators, and business leaders to identify and address obstacles in building successful cybersecurity certificate and degree programs. CSSIA's National Support Center continues to work to expand the nation's pool of information assurance/cyber defense professionals.

Booth # 211/212

Eastern Iowa Community College

ATEEC – The Advanced Technology Environmental and Energy Center

ATEEC supports 13 areas of environmental and energy technology through curriculum development, professional development,and program improvement. The center analyzes workforce trends to bridge the gap between academia and industry and serves as a resource center for many ATE projects and community colleges, offering free facilitation of DACUMs and JTAs. ATEEC's website contains downloadable resource materials and interactive career charts linking students with programs.

Booth # 301/302

Hillsborough Community College

FLATE – Florida's Advanced Technological Education Center of Excellence

FLATE supports Florida manufacturers' workforce needs through innovative curriculum reform and pathways, its "Made in Florida" recruitment/outreach programs, resources, and educators' professional development. FLATE provides mentoring for manufacturing, automation, and mechatronics programs, "best practice/how to" booklets for curriculum and outreach, and multi-level curriculum modules for advanced manufacturing. FLATE plays a leading role in a national manufacturing education community of practice including education, government, and industry partners.

Booth # 303/304

Kentucky Community and Technical College System

GeoTech – National Geospatial Technology Center of Excellence

The new products of the GeoTech Center will be displayed. Come to the booth to engage in a discussion of the new technology areas of GeoIntelligence (GeoINT) and Small Unmanned Aircraft Systems (sUAS). The showcase will include a demonstration of what can be done with cameras recording different wavelengths, as well as precision target positioning. Imagery taken from sUAS cameras will be displayed.

Booth # 305/306

University of Central Florida

OP-TEC – National Center for Optics and Photonics Education

OP-TEC works with secondary, postsecondary, industry, and professional society partners to increase and sustain our nation's capacity to produce photonics, optics, and laser technicians. OP-TEC focuses on curriculum and faculty development, college enlistment, and technical support for infusing photonics into existing AAS programs where photonics is an enabling technology.

Booth # 307/308

Collin County Community College

CTC – National Convergence Technology Center

CTC mentors colleges through a "community of practice" that provides resources, networking, and curriculum development. The center engages national industry leaders to help curriculum and validate job skills; supports virtual labs online to offer students 24/7 access; delivers free faculty training on cutting-edge IT topics; and disseminates strategies to recruit and retain underserved student populations. The center also helps develop robust regional hubs of high schools, community colleges, and universities to support 2+2+2 pathways.

Booth # 309/310

Riverside Community College District – Norco Campus
SCA – National Center for Supply Chain Automation

The technologies used to support the nation's supply chain are becoming more technologically advanced every day. These new technologies are being implemented to increase production, decrease costs, improve accuracy, and meet the needs of the e-commerce revolution. Ample workforce to maintain these new technologies does not currently exist. The mission of the center is to increase the number of highly skilled supply chain technicians to meet the growing national demand.

Booth # 311/312

Florence-Darlington Technical College
SC ATE – South Carolina Advanced Technical Edcuation Center of Excellence

The national SC ATE center has effectively strengthened programs in technician education by offering faculty development, curricula, program improvement strategies, and mentoring. The TeachingTechnicians.org website alerts educators of high quality, cost-effective faculty development, and provides a searchable compendium of research on technician education. The innovative BYO Recruitment Tool is also available on the website.

Booth # 401/402

Madison Area Technical College
CREATE-SC – Center for Renewable Energy Advanced Technological Education Support Center

The goal of the CREATE-SC is to advance the field of renewable energy and strengthen two-year college renewable energy programs by supporting faculty delivering renewable energy educational programs; establishing renewable energy industry, business, and academic partnerships; promoting renewable energy technician careers and visibility; addressing renewable energy technician knowledge, skills, and competencies; and distributing exemplary renewable energy materials, curricula, and pedagogical practices.

Booth # 403/404

Bemidji State University
360 – Manufacturing and Applied Engineering ATE Regional Center of Excellence

The Minnesota State Advanced Manufacturing Center of Excellence is an ATE Regional Center located in Minnesota. The center's mission is to build a pipeline of qualified technicians for advanced manufacturing. The center offers a seamless career pathway for high school students and workers through 360 eTECH, career learning modules, and youth outreach through "Dream It. Do It. Minnesota." The center is a consortium of 15 two-year technical and community colleges, led by Bemidji State University.

Booth # 405/406

Indian Hills Community College
MPEC – Midwest Photonics Education Center

MPEC supports the Midwest's expanding advanced manufacturing photonics related industry. Working with a network of seven educational institutions and business partners in nine Midwestern states, MPEC aims to increase the quality and number of trained photonics technicians. MPEC provides professional development opportunities for educators, delivers photonics industry training, creates enhanced educational partnerships and equipment sharing arrangements, and assists institutions in laboratory equipment selection. MPEC coordinates internships, job shadowing, co-op programs, and company tours for students.

Booth # 407/408

Missouri State University
VESTA – Viticulture and Enology Science and Technology Alliance

VESTA provides students' access to nationally recognized expert instructors through online courses and participation in local field practicums. Through an expanding 16-state partnership, and by utilizing its ground-breaking distance education model, VESTA provides educational institutions and the grape and wine production industry access to knowledge and skill development programs. VESTA provides leadership, expertise, resources, academic programs, and technical assistance to students interested in entering and advancing careers within the grape and wine production industry.

SHOWCASE SESSION I ▪ ABSTRACTS

Booth # 409/410

Rochester Institute of Technology
DeafTEC – Technological Education Center for Deaf and Hard-of-Hearing Students

DeafTEC is developing partnerships among high schools, community colleges, and industry to improve access to STEM education and employment for deaf and hard-of-hearing (deaf/hh) students through professional development activities and a national dual credit program, which includes a new initiative to help meet the special needs of student veterans enrolled in community colleges. It is also building a comprehensive collection of resources on teaching deaf/hh students in STEM-related programs and for employers hiring deaf/hh individuals.

Booth # 411/412

Lorain County Community College
Weld-Ed – National Center for Welding Education and Training

Weld-Ed is a national resource center for welding curricula, and training and accreditation. Weld-Ed provides professional development opportunities for welding educators, specifically targeting welding technicians and their role in advanced manufacturing. Under development is a welding accreditation program for a two-year applied degrees in welding technology.

Booth # 501/502

Indian River State College
Laser-TEC – Southeast Regional Center for Lasers and Fiber Optics Education

LASER-TEC's mission is to sustain a pipeline of qualified laser and fiber optics technicians to meet the industry needs in the southeastern United States. The center offers funding opportunities, advisory support, and resources for colleges interested in offering courses or a program in lasers or fiber optics. To address the K-12 community needs, the center offers professional development workshops, low-cost comprehensive toolkits, and outreach materials.

Booth # 503/504

Macomb Community College
CAAT – Center for Advanced Automotive Technology

CAAT creates curricula in advanced automotive technology areas, particularly in alternative fuels including electric vehicles, lightweighting, and autonomous vehicles—all of which are free for download at www.autocaat.org. CAAT also provides professional development opportunities through its annual conference and conducts numerous STEM activities and outreach events to middle and high school students.

Booth # 505/506

SUNY Polytechnic Institute
NEATEC – Northeast Advanced Technological Education Center

NEATEC has developed a strong relationship with semiconductor industries in New York and Western New England. Since 2014, NEATEC has provided training programs to more than 600 technicians employed by GlobalFoundries and other semiconductor industries. For high school teachers, NEATEC offers professional development short courses to train them in the use of NEATEC's learning modules. The center established internships for community college students in collaboration with the National Institute of Standards and Technology (NIST).

Booth # 507/508

Pennsylvania State Univiversity – University Park
NACK Network – Nanotechnology Applications and Career Knowledge Support Center

The NACK National Support Center has a mission to provide assistance to existing or developing micro- and nanotechnology workforce education programs at postsecondary institutions across the U.S. nano workforce infrastructure that the support center is creating includes establishing nano workforce stackable certificates and the Remotely Accessible Instruments for Nanotechnology (RAIN) network. NACK materials, webinars, remote equipment access, as well as network linkages (and more) can be accessed via www.nano4me.org.

Booth # 509/510

Montgomery County Community College
NBC2 – Northeast Biomanufacturing Center and Collaborative

NBC2 is dedicated to developing curricula and professional development to support technical training for the production and analysis of biopharmaceuticals and other bioproducts. NBC2's industry-endorsed curriculum, including instructor resources such as textbook chapters, standard operating procedures, and a comprehensive exam is freely available on the center's website. Outreach activities designed to create awareness of the field and associated career paths will be discussed.

Booth # 511/512

Peralta Community College District Office
BEST – Building Efficiency for a Sustainable Tomorrow Center

BEST is pursuing a new national certification for high performance building operators. The showcase will describe a DACUM process, that has been conducted and verified nationally. This DACUM precedes a task analysis, which will lead to a national certification exam. A map of technicians' knowledge, skills, and abilities, as well as new instructional lab tour videos will also be presented.

Booth # 601/602

Prince George's Community College
NCC – National CyberWatch Center

The National CyberWatch Center (NCC) is a collaboration of more than 200 academic member institutions and more than 50 commercial and government partners. Its mission is to lead collaborative efforts to advance cybersecurity education and strengthen the national cybersecurity workforce. NCC is focused on building its culture of collaboration, growing program and faculty capabilities based on models of excellence, promoting the cybersecurity profession nationally, expanding career pathways for students, and advancing research in cybersecurity.

Booth # 603/604

Kentucky Community and Technical College System
AMTEC – Automotive Manufacturing Technical Education Collaborative

AMTEC is a recognized collaboration of colleges and companies working to strengthen the competency and global competitiveness of the advanced manufacturing workforce. It is the center's mission to create and sustain an innovative, responsive, and standards-based workforce development system that meets industry's skill requirements.

Booth # 607/608

Dakota County Technical College
Nano-Link – Center for Nanotechnology Education

Nano-Link provides nanoscience-based educational content to middle schools, high schools, colleges, and industry. Information is provided in semester-long courses and shorter classroom period modularized format. Nano-Link content has been used in hundreds of institutions, with over 600 educators, and reaching 75,000 students. Content is provided at no cost to users. The multidisciplinary nature of nanotechnology allows Nano-Link content to include materials science, electronics, biotechnology, photonics, and manufacturing disciplines.

Booth # 609/610

Tidewater Community College
SMART Center – Southeast Maritime and Transportation Center

The SMART center is helping to transform the future of the maritime and transportation industry with a 21st century trained workforce. The center provides students, educators, and employers with career awareness and pathways tools, classroom resources, workshops, a week-long summer institute, and connections with industry leaders.

SHOWCASE SESSION II TUESDAY ■ OCTOBER 24

ATE PROJECTS AND ATE STUDENTS

11:30 am – 1:45 pm • Exhibit Hall

Booth #	Alpha by Institution
601	Alamance Community College Student Booth: Ricketta Self
008	Asnuntuck Community College, Manchester Community College Student Booth: Milliechel Ramirez, Maftuna Rakhimova
002	ATE Central
503	Baker College of Flint Advancing Photonics and Laser Technician Education in Michigan
602	Bellingham Technical College Student Booth: Lindsey Bear
205	Bristol Community College New England Water Treatment Training Program
303	Brookdale Community College E-MATE 2.0: Building Capacity for Interactive Teaching and Learning
204	Cape Fear Community College CEnTICE: Chemical Technology – Enrolling Technicians and Improving Community Engagement
616	CBIA Education Foundation Mechanical and Manufacturing Technologies for Energy and Sustainability
615	Central Community College Mechatronics with Instrumentation and Controls
504	Central Maine Technical College Regional Advanced Machining Partnership
308	Central Oregon Community College Northwest Engineering and Vehicle Technology Exchange
714	Chippewa Valley Technical College Smart Manufacturing and Resources for Transforming the Future
410	Clark State Community College Precision Technologies: Intergrating Agriculture and Geosciences
603	Clark State Community College Student Booth: Jonathan Becker, Anthony Trevino
313	Cold Spring Harbor Laboratory Biotechnology in American High Schools: Then and Now
405	College of Lake County CollaborATE
507	Columbia Gorge Community College Developing and Deploying Flipped Classroom Resources for Electrical Engineering, Industrial Maintenance, and Renewable Energy Technicians
209	Columbus State Community College Logistics Engineering Technology Work Study
211	Columbus State Community College Ohio Region Cybersecurity Technician Training Pipeline

Booth #	Alpha by Institution
210	Columbus State Community College Strengthening Mobile Application Resources and Technician Training: The SMARTT Project
712	Community College of Allegheny County, Allegheny Campus Technicians in Energy, Advanced Manufacturing, and Supply Chain Technology Project
207	CORD Necessary Skills Now: Developing Employability Skills through Sector-Specific Integrated Scenarios in Information Technology and Advanced Manufacturing
407	CUNY Borough of Manhattan Community College A Simulation-Based Curriculum to Accelerate Math Remediation and Improve Degree Completion for STEM Majors
710	CUNY Bronx Community College Chemical and BioEnergy Technology for Sustainability
506	CUNY New York City College of Technology Advanced Design and Fabrication of Prosthetic and Medical Devices
010	CUNY New York City College of Technology Student Booth: Mohamed Alborati, Fatime Zahra el Fatimi
414	Dakota County Technical College Student Booth: Victor S. Khamthongha
604	Del Mar College Student Booth: Tara Clancy, Erica Duncan
406	Education Connection CT Pathways to Innovation in Advanced Manufacturing Technologies and Entrepreneurship
312	Education Development Center Creating Pathways for Big Data Careers
003	EvaluATE – Evaluation Resource Center for Advanced Technological Education
104	Flathead Valley Community College TeaM SCoRE Biotechnology: Teachers in Montana Strengthening the Continuity of Rural Education in Biotechnology
605	Florence-Darlington Technical College Student Booth: Alyssa Ward, Josh Wos
107	Front Range Community College Biotech Jumpstart: Building Competency and Career Awareness through Scientific Inquiry
006	Gateway Community College, Tunxis Community College Student Booth: Ronald Ernest Silva, Elena Bolotova
722	Green River Community College Aerospace Career Education

Booth #	Alpha by Institution
005	HI-TEC – High Impact Technology Exchange Conference
105	Idaho State University Providing Opportunities for Women in Energy Related Careers
203	Institute for Women in Trades, Technology, and Science Increasing the Number of Women in Technical Careers: Online Professional Development of Leadership Teams at Community Colleges
413	Irvine Valley College Western U.S. Center Planning Grant for Lasers + Photonics Education
501	Jackson State Community College Collaborative Project: Puzzle-Based Cybersecurity Learning to Enhance Defensive Skills of Front-Line Technicians
404	Jefferson State Community College Advancing Education in Production Technology
213	Kennesaw State University Research and Service Foundation Collaborative Research: CNC Advanced Multi-Axis Programming
309	Lake Washington Institute of Technology The Northwest Network for Application Development and Technology Connections
724	Lake-Sumter State College Enhancing an Energy Technology Associate Degree Program to Meet Employer Needs
617	Lane Community College Independent Learner Energy Education Design Project
201	Lewis-Clark State College Technical Career Pathways for Rural Manufacturing: Using a Sector Approach to Support the Northwest Intermountain Metal Manufacturers
508	Los Angeles Mission College Increasing the Student Biotech Pipeline
716	Los Angeles Pierce College CAPTIVATE: Collaboratory Achievement Project to Impact the Value of Architecture and Engineering Technology Education
614	Madison Area Technical College Scaling Implementation of Stem Cell Technical Education: A Collaborative Project
606	Madison Area Technical College Student Booth: Ashley Scholes, John Schwarzmeier
509	Massachusetts Bay Community College iCREAT: A Pathway to Middle-Skill Positions through the Introduction to Coding, Robotics, Electronics, and Technology
307	McHenry County College Interface Design and Development for Mobile Devices
004	Mentor-Connect – Leadership Development and Outreach for ATE

Booth #	Alpha by Institution
302	Michigan Technological University University, Community College, and Industry Partnership: Revamping Robotics Education to Meet 21st Century Workforce Needs
103	Mt. San Antonio College Mt. SAC STEM Teacher Preparation Program
607	Mt. San Antonio College Student Booth: Natalie Strasburg, Amanda Quinta Bell
314	National Alliance for Partnerships in Equity Educators' Equity in STEM
102	National Council for Geographic Education Integrated Geospatial Education and Technology Training: Remote Sensing
608	National Renewable Energy Laboratory Student Booth: Manal Yunes, Alexander Dobbs, Breanne Hammett
001	National Science Foundation
718	North Florida Community College Manufacturing Certifications for Rural High School Students through Community College Dual Enrollment
706	Northeast Iowa Community College Northeast Iowa Advanced Manufacturing Technicians
510	Northeastern University, Massachusetts Bay Community College Collaborative Research: TRANSFORMing Liberal Arts Careers to Meet Demand for the Advanced Manufacturing Workforce
609	Northwest Vista College Student Booth: Ryan Kent
007	Northwestern Connecticut Community College Student Booth: Austin Ferguson, Lily Orelup
708	Orangeburg-Calhoun Technical College Advanced Technological Education in Robotics and Automated Manufacturing Program
610	Orangeburg-Calhoun Technical College Student Booth: Marcus Lamar Hilliard, Derek Martin
402	Palm Beach State College InnovATE
011	Palm Beach State College Student Booth: Alexander Burgess, Joseph Morel
401	Palomar College Unmanned Aircraft System Operations Technician Education Program
202	Pellet Productions, Inc. Increasing ATE Career Placement for Students with Autism Spectrum Disorder (ASD): Identification and Dissemination of Best Practices
613	Pellet Productions, Inc. Preventing Digital Dust: Supporting the Creation and Dissemination of High Quality Videos for Advanced Technological Education

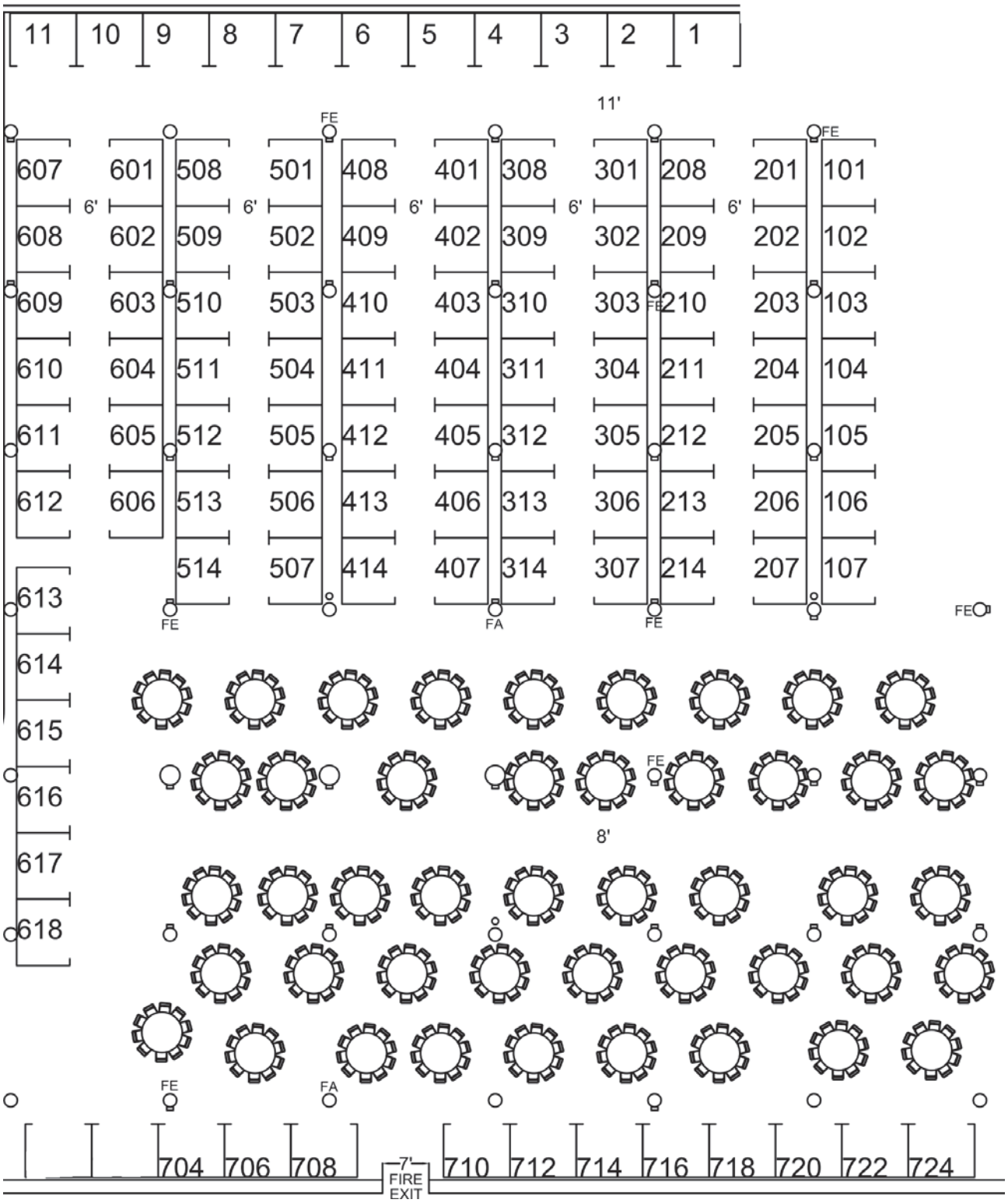
SHOWCASE SESSION II TUESDAY ■ OCTOBER 24

Booth #	Alpha by Institution
208	Purdue University Troubleshooting and Safety Simulator for Wind Turbine Technician Education
611	Reedley College, Madera Community College Center Student Booth: Larrisa Salenik, Annalicia Arias-Tovar
311	Richmond Community College Creating Pathways to Electrical Utility Careers
612	Rio Salado College Student Booth: Jeffrey Read
304	Rochester Institute of Technology RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students
408	Rose State College Collaborative Research: Unmanned Aerial Systems and Specialized Workforce Development to Support Oklahoma Agriculture and Industry
009	Saint Paul College Student Booth: Tasha Spencer, Brandon Young, Megan McDonald
505	Salt Lake Community College Competency-Based, Open-Entry, Open-Exit Biotechnology Education
403	Seminole State College of Florida EMERGE – Establishing a Means for Effective Renewable/Green Energy
106	Shoreline Community College Meeting Industry Demands for an Immunobiotechnology Capable Workforce through College and Secondary Technician Education
214	St. Johns River State College Enhancing Critical Reasoning in Computer Education
513	Suffolk Community College Leading Innovation through Green High Tech Engineering, Sustainability, and Security
412	Texas A&M Engineering Experiment Station Collaborative Research: Providing an Adaptive Learning Environment for the Acquisition of High Value Manufacturing Skills
704	Thomas Nelson Community College Innovative Model to Augment Technician Education for Manufacturing in the 21st Century

Booth #	Alpha by Institution
512	Trident Technical College Creating Learning Opportunities for Undergraduates in Developing Technologies
212	University of Kentucky, Madisonville Community College Creating a High School Pipeline for the Next Generation of Manufacturing Employees
720	University of Hawaii NSF ATE: Partnership for Advanced Marine and Environmental Science Training for Pacific Islanders
618	University of North Georgia Applying Geospatial and Engineering Technology
206	University of Pittsburgh People with Disabilities Achieving Career Employment
305	University of Wisconsin–Madison Working Partners: Documenting the Impact of Industry Collaboration within the ATE Community
511	Utah Valley University Integrating Environmentally Improved Photolithography Technology and Virtual Reality into Advanced Nanotechnology Education
101	Valencia College Broadening Education, Access, and Momentum in Energy Management and Controls Technology
409	Wake Technical Community College Robotics Awake: Promoting the Diffusion of Innovation through Curriculum Development and a Technician Training Community College Extension Mode
502	Western Michigan University Online Technical Education in ATE Programs
411	Wichita Area Technical College MakerTEC – Manufacturing Alliance Keeping Education Relevant to Technical Employee Competence
306	Yakima Valley Community College Pacific Northwest Viticulture and Oenology Education Collaborative
301	Yavapai College Engineered for Success: Engineering Technician Training for Rural Arizona
310	Yosemite Community College District Technical Skills for Agriculture Irrigation Technicians

SHOWCASE I AND III: ATE PROJECTS AND ATE STUDENTS EXHIBIT HALL MAP

OCTOBER 24-25, 2017



SHOWCASE SESSION II ▪ ABSTRACTS

TUESDAY, OCTOBER 24

ATE PROJECTS AND ATE STUDENTS

11:30 am – 1:45 pm • Exhibit Hall

Booth # 001

National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. NSF competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.

Booth # 002

ATE Central

ATE Central provides services, tools, and an online portal that support, amplify, and highlight the impacts of the ATE community and showcase the valuable curricula, learning objects, websites, and media created by ATE grantees. It also includes a resource archive and comprehensive database of project and center information that encourages use of ATE resources and promotes sustainability of project and center deliverables.

Booth # 003

EvaluATE – Evaluation Resource Center for Advanced Technological Education

EvaluATE promotes the goals of the ATE program by partnering with ATE projects and centers to strengthen the program's evaluation knowledge base, expand the use of exemplary evaluation practices, and support the continuous improvement of technician education throughout the nation. Resources include webinars, workshops, blogs, and a website with a variety of resources and tools.

Booth # 004

Mentor-Connect – Leadership Development and Outreach for ATE

Mentor-Connect is designed to fill a void for the ATE program; address the fact that there are those in the nation's community colleges who have never been awarded funding from the NSF ATE program; diversify the ATE program overall; better manage a rapidly growing number of requests received by program officers related to grant proposal development and project management; and develop grant writing skills among STEM faculty who lack sufficient grant personnel at their institutions.

Booth # 005

HI-TEC – High Impact Technology Exchange Conference

HI-TEC is a national conference on advanced technological education where technical educators, counselors, industry professionals, and technicians can update their knowledge and skills. Charged with educating America's technical workforce, the event focuses on the preparation needed by the existing and future workforce for companies in the high tech sectors that drive our nation's economy. HI-TEC uniquely explores the convergence of scientific disciplines and advanced technologies. Join us July 23-26 in Miami, FL for HI-TEC 2018.

Booth # 006

Gateway Community College, Tunxis Community College

Student Booth: Ronald Ernest Silva, Elena Bolotova

Students built a prototype of a manufacturing machine for large-scale builds using a combination of the best qualities of additive and subtractive manufacturing. This modular system can accommodate multiple tools for anyone to use, making it optimal for businesses of all sizes and personal hobbyists at an affordable rate.

Booth # 007

Northwestern Connecticut Community College

Student Booth: Austin Ferguson, Lily Orelup

Students in Connecticut Community Colleges participate in local NSF ATE project grants to learn about both technical and professional skills needed to succeed in engineering technology careers. Working on real-world industry projects allows students to learn these skills and apply them to a team project.

Booth # 008

Asnuntuck Community College, Manchester Community College

Student Booth: Milliechel Ramirez, Maftuna Rakhimova

The Connecticut Community Colleges, through the College of Technology, offers seamless engineering and technology pathways. A stackable credential model allows credits to transfer from certificates to AS and BS degrees at partner universities, allowing students to enter the workforce then return for a higher degree without repeating courses.

Booth # 009

Saint Paul College
Student Booth: Tasha Spencer, Brandon Young, Megan McDonald

This student booth will feature the nanometrology program at Saint Paul College and share information on the multi-instrumental techniques for characterization of atomic-force probe debris, and the creation of a standard operating procedure (SOP).

Booth # 010

CUNY New York City College of Technology
Student Booth: Mohamed Alborati, Fatime Zahra el Fatimi

This student showcase will feature (1) a prototype of an Internet of Things (IoT) based biosensor network and healthcare monitoring system that can monitor the health of people remotely by using biosensors and a database; and (2) NaviBot, a navigation robot that can be used by visually impaired people to help them with their basic daily tasks. Students will present the project architecture including inter-networking devices, biosensors, a flat database structure, client Apps, and the direction of dataflow.

Booth # 011

Palm Beach State College
Student Booth: Alexander Burgess, Joseph Morel

Students in Palm Beach State's Electrical Power Technology AS program are using their knowledge to design, implement, and deploy solar-powered benches for the downtown West Palm Beach area allowing residents and visitors a place to sit and recharge their electronic devices. Students are also creating small, off-grid solar powered artistic gathering places with the city of West Palm Beach; and assisting area high school students with STEM activities such as solar racing cars, and 3D-modeling and printing.

Booth # 101

Valencia College
Broadening Education, Access, and Momentum (BEAM) in Energy Management and Controls Technology

Valencia College is developing an AS degree in Energy Management and Controls Technology. Join us to learn about our curriculum, marketing and recruitment strategies, and industry partnerships.

Booth # 102

National Council For Geographic Education
Integrated Geospatial Education and Technology Training: Remote Sensing (iGETT: Remote Sensing)

iGETT provided professional development that enabled GIS instructors to meet modern workforce needs by integrating remote sensing into their geospatial technology programs. Currently in a no-cost extension, the project is finalizing a website which offers participant-developed instructional materials that can be adopted or adapted by faculty at other colleges.

Booth # 103

Mt. San Antonio College
Mt. SAC STEM Teacher Preparation Program (STEM TP2)

The Mt. SAC STEM TP2 program provides students interested in becoming middle or high school math and science teachers with opportunities to learn about content delivery, pedagogy, classroom management skills, and in-field experiences to hone their skills and prepare to transfer to four-year schools to complete their bachelor degree in STEM and earn their teaching credentials. The project is a collaborative effort between Mt. SAC and the University of California–Irvine.

Booth # 104

Flathead Valley Community College
TeaM SCoRE Biotechnology: Teachers in Montana Strengthening the Continuity of Rural Education in Biotechnology

The TeaM SCoRE Biotechnology project provides northwest Montana educators with professional development workshops in biotechnology and the support for implementing new laboratory curriculum—thereby providing rural high school students with opportunities to enter the biotechnology education pipeline. This project links high school life-science courses to the two-year biotechnology program, and will establish a sustainable network of continuing education and curriculum innovation in biotechnology for high school teachers living in rural areas of Montana.

Booth # 105

Idaho State University (ISU)
Providing Opportunities for Women in Energy Related (POWER) Careers

Too few women train to become engineering technicians in high skill/high wage careers in energy and manufacturing. POWER Careers recruits women into AAS programs and provides structured support to retain students and place graduates. The project promotes a mentoring culture, and focuses on females 25 and older—but welcomes all ages. POWER Careers works with ISU's START program to successfully transition returning women into this promising career pathway.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 106

Shoreline Community College
Meeting Industry Demands for an Immunobiotechnology Capable Workforce through College and Secondary Technician Education

Immunobiotechnology includes the development of drugs and diagnostic methods that relate to the immune system and manufacturing therapeutic drugs derived from the immune system. This project at Shoreline Community College in Washington State offers enhanced educational experiences for two-year college degree- and certificate-seeking students to meet industry needs and prepare students for this fast-growing field. The project also provides immunobiotechnology curricula for secondary science educators to recruit the next generation of scientists.

Booth # 107

Front Range Community College (FRCC)
Biotech Jumpstart: Building Competency and Career Awareness Through Scientific Inquiry

This project seeks to develop the biotech educational pipeline in Colorado by increasing students' exposure and engagement in biotech careers. Inquiry-based molecular biology labs will be developed and implemented in high school and FRCC high-enrollment science courses. Students from the college will serve as near-peer mentors to facilitate the labs in the classrooms. Partnerships with local industry will provide engaging career exploration opportunities to attract students into biotech career paths.

Booth # 201

Lewis-Clark State College
Technical Career Pathways for Rural Manufacturing: Using a Sector Approach to Support the Northwest Intermountain Metal Manufacturers

Local metal manufacturers have identified skills they require for entry-level positions. This grant will help the partners to recruit and train rural and nontraditional students into a process where they will learn the required skills and be prepared for employment upon graduation from high school. Students will be trained in mechanical or electro-mechanical skills. At the end of the program, students may seek employment, move to apprenticeships, or seek additional education.

Booth # 202

Pellet Productions, Inc.
Increasing ATE Career Placement for Students with Autism Spectrum Disorder (ASD): Identification and Dissemination of Best Practices

Showcasing best practices from community colleges across the country, Stairway to STEM will produce online instructional content for educators seeking to create an inclusive classroom experience for students with Autism Spectrum Disorder (ASD). Awareness and recruitment videos will present the college pathways and technician career opportunities for students with ASD in STEM.

Booth # 203

Institute for Women in Trades, Technology, and Science
Increasing the Number of Women in Technical Careers: Online Professional Development of Leadership Teams at Community Colleges

The National Online WomenTech Project provides ATE grantees with the tools and grant funded professional development to help teams of educators increase the enrollment and retention of female students (and retention of male students) in community college STEM courses in which they are underrepresented. Stop by the booth to learn more about the resources available to all ATE grantees through this project.

Booth # 204

Cape Fear Community College
CT-EnTICE: Chemical Technology – Enrolling Technicians and Improving Community Engagement

CT-EnTICE has created multiple layers of student recruitment and engagement in the chemical technology field. The showcase will focus on the U-PIKs program (a laboratory check-out service for STEM classrooms), the Chem-Techathon (a chemical technology competition for high school students), and the effectiveness of a chemical technology program liaison who serves as a student and employer recruiter.

Booth # 205

Bristol Community College

New England Water Treatment Training (NEWTT) Program

The NEWTT project is preparing industry-based curricula for certificates in drinking water and wastewater treatment. This showcase will focus on the hands-on aspect of this training, which includes small-scale onsite water and wastewater treatment facilities, water quality monitoring equipment, pump and valve training equipment, computer simulation software, flow monitoring equipment, and a process control trainer.

Booth # 206

University of Pittsburgh

People with Disabilities Achieving Career Employment (PACE)

PACE is designed to extend advanced manufacturing training and employment opportunities to veterans and people with disabilities (V/PwD's), with a focus on individuals with orthopedic and cognitive impairments. Working with a broad range of industry, academic, and advocacy experts, PACE will design, develop, and deliver didactic and experiential training curricula tailored for V/PwD's and provide guidance to academic institutions and industry on making advanced manufacturing programs accommodating to V/PwD's.

Booth # 207

CORD

Necessary Skills Now: Developing Employability Skills through Sector-Specific Integrated Scenarios in Information Technology and Advanced Manufacturing

Employers complain of poor employability skills in today's technical workforce. This project formed faculty and employer teams to develop curriculum activities and projects that integrate technical content and employability concepts within advanced manufacturing and cybersecurity courses. Pilot testing is underway. Looking ahead, the project is developing an implementation guide and faculty workshops to demonstrate how to collaborate with local employers to replicate the project's integrated curriculum development process for technical programs in other sectors, not only manufacturing and IT.

Booth # 208

Purdue University

Troubleshooting and Safety Simulator for Wind Turbine Technician Education

With the projected expansions of the wind energy industry, there will be a shortage of qualified technicians to maintain the amount of new wind turbines. This project seeks to develop an interactive simulator that will supplement the existing training courses for wind technicians in community colleges to improve the learning outcomes of students. The simulator will focus on electrical and mechanical troubleshooting, understanding schematics, and safety practices.

Booth # 209

Columbus State Community College

Logistics Engineering Technology Work Study

Columbus State Community College will collaborate with universities, high schools, and regional employers to educate next-generation technicians to work in logistics industries. The project will expand the associate degree in Logistics Engineering Technology to add a work study component with work-based learning experiences. The project will create a prior learning assessment process for adult learners, particularly underemployed existing workers, or military veterans. Summer programs will engage high school students in logistics technologies.

Booth # 210

Columbus State Community College

Strengthening Mobile Application Resources and Technician Training: The SMARTT Project

The SMARTT Project will develop an education program to meet the increased demand for mobile application development technicians in the Ohio region and contribute to the diversity of the region's work force. The project will create a mobile application development technology 2+2+2 pathway featuring model articulation. The curriculum will include the design of a collaborative mobile design and development certificate. Targeted outreach will focus on undeserved populations.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 211

Columbus State Community College

Ohio Region Cybersecurity Technician Training Pipeline

Keeping computers and information systems secure is a major challenge. Many key companies in the Ohio region are finding it difficult to locate skilled cybersecurity technicians. Columbus State Community College, Franklin University, area high schools, and regional cybersecurity companies are collaborating to develop a comprehensive 2+2+2 cybersecurity technician training pipeline. This program will include multiple entry and exit points for these students and stackable certificates that lead to cybersecurity careers.

Booth # 212

University of Kentucky, Madisonville Community College

Creating a High School Pipeline for the Next Generation of Manufacturing Employees

Partnering with its local high school Career Technology Center, Madisonville Community College is creating and delivering a dual credit advanced manufacturing certificate program to prepare high school graduates for the modern manufacturing workforce. The project is built upon an innovative delivery model that combines appropriately rigorous online content with hands-on lab instruction.

Booth # 213

Kennesaw State University

Collaborative Research: CNC Advanced Multi-Axis Programming (CAMP)

The CAMP grant is a collaborative project with Athens Technical College and Kennesaw State University promoting multi-axis training for technical college faculty in the state of Georgia, the initial development of a multi-axis machining certificate, and the promotion of an online BAS in Manufacturing Operations.

Booth # 214

St. Johns River State College

Enhancing Critical Reasoning in Computer Education

To increase practical knowledge, critical thinking skills, and work readiness in computer science and information technology students. The project integrates problem-based learning in the revised curriculum.

Booth # 301

Yavapai College

Engineered for Success: Engineering Technician Training for Rural Arizona

Today's manufacturers produce technologically complex products using high precision technologies. To remain competitive, the manufacturing sector consistently integrates new technologies into both products and processes. Training the advanced manufacturing workforce requires schools to not only incorporate modern manufacturing systems technology and 21st century skills, such as teamwork and critical thinking, but to integrate learning across systems so that students have the skills in demand by employers.

Booth # 302

Michigan Technological University

University, Community College, and Industry Partnership: Revamping Robotics Education to Meet 21st Century Workforce Needs

Robots are increasingly used across industry sectors to improve production throughputs while maintaining product quality. It is critical that education efforts respond to the demand for robotics specialists by offering courses and professional certification in robotics and automation. This collaborative project of two- and four-year institutions introduces a new approach for industrial robotics in electronics engineering programs at Michigan Tech and Bay de Noc Community College.

Booth # 303

Brookdale Community College

E-MATE 2.0: Building Capacity for Interactive Teaching and Learning

E-MATE 2.0 is building capacity and empowering others to create their own interactive learning materials that can ultimately be included in online courses, interactive e-textbooks, modules, lessons, exercises, or collateral materials. The project is building interactive learning content in four STEM areas: chemistry/materials science, physics, environmental science, and cybersecurity/networking. The project is also developing an online course and face-to-face workshop to teach other educators to create their own interactive learning content.

Booth # 304

Rochester Institute of Technology

RoadMAPPs to Careers: A New Approach to Mobile Apps Education featuring a Mapp for Deaf and Hard-of-Hearing Students

The rising demand for mobile app developers requires colleges to move swiftly to prepare a qualified workforce. Through NSF ATE funding, an innovative AAS degree in Mobile App Development at Rochester Institute of Technology is being implemented to address this challenge. Unlike other app development curricula, this industry-driven program uses a native cross-platform approach. Time normally spent teaching students about different platform languages can be devoted to mastery of C# and cross-platform design and development.

Booth # 305

University of Wisconsin–Madison
Working Partners: Documenting the Impact of Industry Collaboration within the ATE Community

The Working Partners research project is focused on discovering, documenting, and disseminating the key factors and core practices of successful industry partnerships within the ATE community. Survey and interview methodologies are being utilized to document existing partnership models and exemplary examples of successful partnerships are being captured through the development of mini case studies. Findings will be disseminated through web-based tools and publications that will support the ATE community long beyond the project's lifecycle.

Booth # 306

Yakima Valley Community College
Pacific Northwest Viticulture and Oenology Education Collaborative

Pacific Northwest Viticulture and Oenology Education Collaborative partners Yakima Valley (YVCC), South Seattle, and Wenatchee Valley (WVC) colleges in Washington State are developing new and hybridized online curricula for shared delivery among collaborators to satisfy increased demand in winery, vineyard, and wine-business technical training with strong industry support. Considerable effort is going toward high school and four-year transfer articulations. YVCC and WVC are Hispanic Serving Institutions.

Booth # 307

McHenry County College
Interface Design and Development for Mobile Devices

McHenry County College has developed a degree in mobile app design and certificates in Android and Apple app development. Courses will all be available online within the next three years, and online students do not pay out-of-district fees. You can take the courses or just get curriculum from learn-mobile.com.

Booth # 308

Central Oregon Community College
Northwest Engineering and Vehicle Technology Exchange (NEVTEX)

NEVTEX is at the starting point of a project grant. Central Oregon Community College and Rio Hondo College are partnered to establish advanced vehicle training standards for electric drive vehicle systems, promote technician licensure for high pressure and high voltage applications, and also expand recruitment programs to attract students from diverse populations to automotive technology AAS degree programs.

Booth # 309

Lake Washington Institute of Technology
The Northwest Network for Application Development and Technology Connections (AppConnect NW)

AppConnect NW is an ATE Coordination Network grant representing five community and technical colleges in Washington State with applied baccalaureate degrees in software development. The project will develop partnerships with regional IT industry representatives and faculty to develop common curriculum, work experience opportunities for students and graduates, and recruitment of underrepresented students.

Booth # 310

Yosemite Community College District
Technical Skills for Agriculture Irrigation Technicians

Modesto Junior College (MJC) provides the agriculture industry with employees prepared to perform in the highly technical irrigation industry. This program has made it possible for students to earn an AS degree as well as several technical certificates to better align their education to industry standards and employment opportunities. The MJC Irrigation Technology program is proud to have placed 95 percent of their first year completers into careers within the industry.

Booth # 311

Richmond Community College
Creating Pathways to Electrical Utility Careers

The goal of this project is to increase the number of entry-level technicians who are qualified for careers in the utility industry. Through work with our high schools and STEM camps, students are better prepared to be successful in the electrical utility substation and relay technology curriculum.

Booth # 312

Education Development Center (EDC)
Creating Pathways for Big Data Careers

EDC, Bunker Hill Community College (MA), Johnson County Community College (KS), Sinclair Community College (OH), and Normandale Community College (MN) are partnering to develop courses and programs focusing on middle skilled data workers. Products to share include: (1) a profile identifying the major duties and tasks performed by middle-skilled data practitioners and the associated skills, knowledge, and behaviors needed for workplace success; and (2) performance-based rubrics to guide assessment.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 313

Cold Spring Harbor Laboratory
Biotechnology in American High Schools: Then and Now

From 1987 to 1998, the DNA Learning Center conducted surveys of more than 4,500 high school biology teachers that provided a snapshot of the early implementation of biotechnology and molecular genetics instruction in American schools. Now, we are repeating this study to see how far biology instruction has come over the last 30 years and where it needs to point for the next 30 years. Our results will have implications for educational funding and policies.

Booth # 314

National Alliance for Partnerships in Equity (NAPE)
Educators' Equity in STEM (EESTEM)

Together, NAPE, Dona Ana Community College (NM) and Stark State College (OH) have created the Educators Equity in STEM (EE-STEM) Academy Phase II to deliver NAPE's Micromessaging to Reach and Teach Every Student ™ professional development to 100 technician education community college faculty, and their secondary gateway peers. The project will engage 10 to 12 community colleges over three years, to develop and implement plans to increase equity and access to technician education programs for students historically underrepresented by gender, race/ethnicity and (dis)ability status.

Booth # 401

Palomar College
Unmanned Aircraft System Operations Technician Education Program (UASTEP)

UASTEP is focused on developing educational and career pathways to prepare students to succeed as employees or entrepreneurs in the high growth unmanned aircraft systems (UAS), or drone industry. In response to industry demand for qualified UAS technicians and UAS educational programs, Palomar College and Southwestern College along with their many industrial and educational partners will develop summer academies, academic degree programs, and professional development workshops to prepare the next generation of UAS technicians.

Booth # 402

Palm Beach State College
InnovATE

The InnovATE project is increasing graduates in STEM disciplines, particularly underrepresented minorities and women, in response to demand for local, highly skilled workforce needs in the manufacturing, aerospace, engineering, and power industries. The project's synergistic programs are increasing awareness of STEM in middle through high schools, strengthening math skills, and developing a pathway for pursuit of associate and baccalaureate high tech degrees.

Booth # 403

Seminole State College of Florida
EMERGE – Establishing a Means for Effective Renewable/ Green Energy

The EMERGE program provides foundational, project-based learning opportunities to first- and second-year college students via a multifaceted certificate curriculum in sustainability and renewable energy that is designed both to complement technical education degrees and to enrich liberal arts studies. Project focuses include hands-on laboratories that create certification pathways for future technicians as well as cocurricular projects that enhance engagement among nontechnical students and make for a better informed, globally conscientious citizenry.

Booth # 404

Jefferson State Community College
Advancing Education in Production Technology

By partnering with local companies to provide internships for students, Jefferson State has been able to provide a pathway to advance education in production technology.

Booth # 405

College of Lake County
CollaborATE

CollaborATE has six major objectives: (1) adopt/adapt current mechatronics associate degrees into state-of-the-art, project based curriculum incorporating modularized and flexible delivery options; (2) create low-cost, hands-on, easily affordable mechatronics trainers; (3) create high school career ladder pathways; (4) create professional development in mechatronics for high school and college teachers; (5) assess and align national industry certifications with mechatronics content; and (6) establish a mechatronics community of practice.

Booth # 406

Education Connection

CT Pathways to Innovation in Advanced Manufacturing Technologies and Entrepreneurship

EdAdvance and the Connecticut Technical High School System have partnered to create a challenge-based learning model for advanced manufacturing and design students. This showcase will focus on the innovation challenge project model at technical high schools and the annual student Expo Fest. Resources for challenge project ideas will be provided.

Booth # 407

CUNY Borough of Manhattan Community College

A Simulation-Based Curriculum to Accelerate Math Remediation and Improve Degree Completion for STEM Majors

This showcase features three innovative digital mathematics games for college-age students that are available for free download. Digital games can be a great way to reach developmental math students, bringing the positive experiences of play to the classroom. The games target beginning and elementary developmental algebra, as well as pre-calculus. Visitors to our booth will get to play all three games on provided iPads. Non-mathematicians are encouraged to come play!

Booth # 408

Rose State College

Collaborative Research: Unmanned Aerial Systems and Specialized Workforce Development to Support Oklahoma Agriculture and Industry

Unmanned Aerial Systems (UAS) usage is increasing within our society at an incredible rate. Rose State College's Engineering Program, in partnership with the University of Oklahoma's Aerospace Engineering Program, is developing curriculum to focus on fundamentals, applications, and maintenance of UAS to address their increased usage. Initial efforts will focus on incorporating curriculum into existing math, science, and engineering courses with a long-term goal of creating new certificates or degrees.

Booth # 409

Wake Technical Community College

Robotics Awake: Promoting the Diffusion of Innovation through Curriculum Development and a Technician Training Community College Extension Mode

Wake Technical Community College will develop a curriculum for collaborative robotics for manufacturing promoting the diffusion of innovation through technician education. This curriculum will consist of two stackable certificates: a Collaborative Robotics Technician Certificate and a Collaborative Robotics Programmer Technician Certificate.

Booth # 410

Clark State Community College

Precision Technologies: Integrating Agriculture and Geosciences

Clark State College's precision agriculture project will feature its work with high school teachers to increase knowledge and involvement in College Credit Plus programming. The newly adopted precision agriculture technician program option will also be featured.

Booth # 411

Wichita Area Technical College

MakerTEC – Manufacturing Alliance Keeping Education Relevant to Technical Employee Competence

MakerTec® is a NSF project that was awarded in September 2016 to create a coordination network for advanced manufacturing. The goal of MakerTEC® is to advance manufacturing by creating new directions in technician education through faculty, industry, and other stakeholder support to communicate and coordinate their research, training, and activities across disciplinary, organizational, geographic and international boundaries.

Booth # 412

Texas A&M Engineering Experiment Station

Collaborative Research: Providing an Adaptive Learning Environment for the Acquisition of High Value Manufacturing Skills

This project presents a framework for a level II certificate program on high value manufacturing (HVM) aimed at the energy industry, which will be offered by Houston Community College. The program is being created to provide an adaptive learning environment for students. The objective is to create a sustainable certificate program in HVM that provides multiple pathways for community college students while meeting the critical workforce needs of a vital industry in Texas, including a novel pathway to a four-year degree program.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 413

Irvine Valley College
Western U.S. Center Planning Grant for Lasers + Photonics Education

This project created a coalition of career technical education programs to prepare and place technicians into careers in optics and photonics across six states in the Western United States. Faculty worked together to improve curriculum, equipment, and industry partnerships across the region. The Western U.S. Optics, Photonics, and Lasers Education Network includes Irvine Valley College, Lake Washington Institute of Technology, Gallatin College, Spokane Community College, Idaho State University, Pima College, and the Oregon Institute of Technology.

Booth # 414

Dakota County Technical College
Student Booth: Victor S. Khamthongha

The purpose of this student project is to discover nanoscience's impact on additive manufacturing. Additive manufacturing can be described as a process using 3D model data to produce an object by joining materials. With nano-incorporated products, we can improve current everyday items and products made from metals, ceramics, and plastics—and surpass the current products we have today.

Booth # 501

Jackson State Community College
Collaborative Project: Puzzle-Based Cybersecurity Learning to Enhance Defensive Skills of Front-Line Technicians

The central idea behind puzzle-based learning is that the human mind is stimulated most when it encounters a scenario to solve a challenge. Puzzles formulate a problem in a specific format that encourages the solver to use his/her skills and expertise and to think out-of-the-box. This showcase will include a demonstration of innovative puzzles that have been developed to assist in the learning process for cybersecurity education.

Booth # 502

Western Michigan University
Online Technical Education in ATE Programs

This research project investigates how online education is being integrated into technical education courses and programs. We will share our findings to date and invite further conversation about innovating technical education.

Booth # 503

Baker College of Flint
Advancing Photonics and Laser Technician Education in Michigan

Photonics technology continues to play a key role in multiple sectors of the economy. This showcase will present several approaches to expand the education of photonics and laser technicians in the state of Michigan. These include developing new curriculum describing current photonics applications, creating laboratory infrastructure at two new campuses, introducing photonics in Career and Technical Education Centers, and sharing new developments in the field through an annual photonics symposium at Baker College.

Booth # 504

Central Maine Technical College
Regional Advanced Machining Partnership (RAMP)

Having developed curriculum in advanced processes such as 4- and 5-axis machining, live tooling lathes, and spindle probing, the RAMP project is offering teacher training workshops along with the curriculum for those experienced in CNC machining.

Booth # 505

Salt Lake Community College
Competency-Based, Open-Entry, Open-Exit Biotechnology Education (CBOE-Biotech)

The CBOE-Biotech format will better accommodate the demands of both employers and students. The project will promote student access by eliminating traditional semester and class schedules, allowing accelerated completion, and providing coaching and intensive advising. It includes a formal Developing a Curriculum (DACUM) process to incorporate input from biotech employeers while also preparing students for transfer to the four-year degree program at Utah Valley University.

Booth # 506

CUNY New York City College of Technology
Advanced Design and Fabrication of Prosthetic and Medical Devices

The medical devices industry is one of the largest industries in the United States. Engineering design and manufacturing are playing a significant role in this industry. Through partnerships with health institutions such as the Hospital for Special Surgery and other nonprofit organizations, this project will provide valuable experience in medical and prosthetic devices to students that will enrich their technical background and prepare them for the manufacturing industry workforce.

Booth # 507

Columbia Gorge Community College

Developing and Deploying Flipped Classroom Resources for Electrical Engineering, Industrial Maintenance, and Renewable Energy Technicians

Columbia Gorge Community College's Electro-Mechanical Technology program is developing free online resources to support the flipped classroom method of instruction to teaching technical subjects like electronics, hydraulics/pneumatics, and motor control. This approach delivers instruction outside the class and activity-based learning inside the class. Students watch lectures at the time and place of their choosing at their own pace, and concept engagement and application takes place in the classroom with the guidance of an instructor.

Booth # 508

Los Angeles Mission College

Increasing the Student Biotech Pipeline

The new academic pathway in biotechnology leading to stackable certificates and an AS degree will prepare students to enter the workforce in a short period of time while retaining the opportunity to pursue more advanced degrees at a later date. This project will offer students counseling, tutoring, industry field trips, external speakers, and internship opportunities.

Booth # 509

Massachusetts Bay Community College

iCREAT: A Pathway to Middle-Skill Positions through the Introduction to Coding, Robotics, Electronics, and Technology

The iCREAT program offers two multidisciplinary and project-based college courses introducing high school juniors and seniors to electronics, engineering design, additive and subtractive manufacturing, programming, networking, and security to create robotic systems. Students collaborate in teams to build a robot, apply critical and creative thinking and problem solving, improve their communication skills, explore careers in STEM, and receive mentoring from professional in STEM fields. This showcase demonstrates the accomplishments of offering these courses.

Booth # 510

Northeastern University, Massachusetts Bay Community College

Collaborative Research: TRANSFORMing Liberal Arts Careers to Meet Demand for the Advanced Manufacturing Workforce

Northeastern University and MassBay Community College are collaboratively implementing an innovative TRANSFORM model to retool the skill set of liberal arts college graduates to prepare them for careers in manufacturing. The TRANSFORM program is also increasing the awareness of manufacturing careers among members of underrepresented groups. The modular, 12-month fast-track curriculum of the TRANSFORM program includes courses and internships. The industry-based internships are providing students with project-based learning experience to facilitate students' career transition.

Booth # 511

Utah Valley University (UVU)

Integrating Environmentally Improved Photolithography Technology and Virtual Reality into Advanced Nanotechnology Education

This showcase will focus on the UVU project for virtual reality in nanotechnology and the application of environmental friendly techniques in nanofabrication.

Booth # 512

Trident Technical College

Creating Learning Opportunities for Undergraduates in Developing Technologies (CLOUDTech)

This project provides hands-on lab development for private and public cloud computing. Students complete lab exercises learning to build and support an open source, open stack, private cloud computing Infrastructure as a Service (IaaS) environment. Twenty-seven labs, with standalone lab computers running virtualization software, have been developed for the NETLAB environment. Beta test these labs by sending a request to CLOUDTech@tridenttech.edu. Public cloud labs are in development for Amazon AWS and Microsoft Azure.

Booth # 513

Suffolk Community College

Leading Innovation through Green High Tech Engineering, Sustainability and Security (LIGHTES^2)

The LIGHTES^2 NSF ATE project led to the development of an AAS degree program in cybersecurity, which was implemented with a full complement of more than 70 students in fall 2017. The project also linked alternative energy courses, local industry experts, political leaders, and 7th to 12th grade students and teachers interested in developing related hands-on labs. Learn how we succeeded in launching such a program in two years.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 601

Alamance Community College
Student Booth: Ricketta Self

This student showcase will feature a programmable logic controller (PLC) display showing the operation of a program.

Booth # 602

Bellingham Technical College
Student Booth: Lindsey Bear

Bellingham Technical College, Western Washington University, and local employer, Itek Energy, have collaborated to create a unique undergraduate research experience for technical college students. The project involves students and faculty from both Bellingham Technical College and Western Washington University. The main goal of the project is to study the effectiveness of different solar module power electronic devices in the presence of various mismatch conditions (shading, soiling, electrical loss, panel location, etc.). The students are evaluating the performance of these devices with the goal of optimizing both energy yield and system economics.

Booth # 603

Clark State Community College
Student Booth: Jonathan Becker, Anthony Trevino

Student participants created a set of Ansible playbooks to secure current and future virtual machine instances offered through the XSEDE Jetstream research cloud resource. Three different customization playbooks were created based on the importance of security, as well as the sensitivity of the information being stored.

Booth # 604

Del Mar College
Student Booth: Tara Clancy, Erica Duncan

This student booth will feature two research projects: (1) an alternative treatment for antibiotic resistant bacteria, which was discovered by isolating a virus that kills these bacteria; and (2) mutations were introduced to several residues in bacteria *E. coli* to determine their importance in protein function.

Booth # 605

Florence-Darlington Technical College
Student Booth: Alyssa Ward, Josh Wos

Students developed a proposal design for the construction of a covered walk-way for students, staff, and faculty between major ends of the Florence-Darlington Technical College campus. The project outlines the required area of walk-way, construction design of roof joints, and land survey for accuracy. This showcase will include detailed design drawings of the project and the calculations used.

Booth # 606

Madison Area Technical College
Student Booth: Ashley Scholes, John Schwarzmeier

This student display features two projects. The first focuses on conclusions from testing a nano-material coating applied to photovoltaic panels. The purpose of this coating is to increase the surface area which will hopefully help the photovoltaic panels capture and wash away micro-particles and therefore increase the efficiency of electrical current absorption. The second focuses on the design, construction, and testing of a small-scale model of a concept known as gravity energy storage. The experiment analyzes the output of the model as well as examines similarities and differences between the small-scale model and the utility scale technology currently being developed.

Booth # 607

Mt. San Antonio College
Student Booth: Natalie Strasburg, Amanda Quinta Bell

The Mt. SAC STEM Teacher Preparation program recruits, mentors, and trains students who are interested in becoming highly qualified middle and high school math and science teachers, and supports their transfer to four-year institutions to earn their baccalaureate degrees and teaching credentials in STEM.

Booth # 608

National Renewable Energy Laboratory
Student Booth: Manal Yunes, Alexander Dobbs, Breanne Hammett

This showcase features two student research projects conducted at the National Renewable Energy Laboratory. The first focused on the conversion of plant biomass to biofuel through a catalytic fast pyrolysis (CFP) project. CFP is decomposing the biomass by heating it at high temperatures and low oxygen quickly while letting the released vapors pass over a catalyst. The second project focused on solar forecasting—where accurate short-term solar forecasting is necessary for operating a reliable grid with high penetrations of solar energy. A framework for assessing the solar forecasting performance of four popular machine learning algorithms will be presented along with a range of numerical results.

Booth # 609

Northwest Vista College
Student Booth: Ryan Kent

The Alamo Institute for Materials Technology at Northwest Vista College will create a self-sustaining and replicable workforce model that leverages resources and partnerships to address the need for quality technician education and training in advanced materials technology. Come and view a student's work from this program.

Booth # 610

Orangeburg-Calhoun Technical College
Student Booth: Marcus Lamar Hilliard, Derek Martin

This student showcase will feature a project that collected data during the recent total eclipse. Temperature differential data was taken prior to, during, and after totality. LabVIEW software and data acquisition hardware were used for the project. The program automatically populated a spreadsheet with results after the data collection.

Booth # 611

Reedley College, Madera Community College Center
Student Booth: Larrisa Salenik, Annalicia Arias-Tovar

Student displays feature student programs in the agriculture business and related fields—where students work towards a certificate, AS degree, and/or transfer to a four-year university.

Booth # 612

Rio Salado College
Student Booth: Jeffrey Read

Micro pressure sensors manufactured during a workshop at the Southwest Center for Microsystems Education (SCME) were imaged using an atomic force microscope and with remote access to a scanning electron microscope through the Remote Access Infrastructure Network (RAIN). This showcase summarizes a unique collaboration between diverse partners.

Booth # 613

Pellet Productions, Inc.
Preventing Digital Dust: Supporting the Creation and Dissemination of High Quality Videos for Advanced Technological Education

This project will instruct ATE grantees on how to produce engaging educational content that impacts their target audiences through a five-part online course. It also provides a redesigned, searchable ATETV.org website that allows uploads for disseminating new and existing technician education content and helps prevent valuable content from becoming digital dust.

Booth # 614

Madison Area Technical College
Scaling Implementation of Stem Cell Technical Education: A Collaborative Project

Under prior NSF support, Madison Area Technical College established successful programming in stem cell technologies aligned closely to workforce competencies. In partnership with the City College of San Francisco, we are currently phasing toward development of modular curriculum and national-level dissemination through educator workshops. This showcase focuses on emerging technologies such as genome editing, 3D culturing, and cell differentiation models. Further, we provide best practices and strategies for integrating these instructional materials into biotechnology and bioscience coursework.

Booth # 615

Central Community College
Mechatronics with Instrumentation and Controls (MwIC)

Central Community College in Nebraska will leverage the resources from its state-of-the-art Mechatronics Education Center and its well established business, education, and community relationships to implement this project. The goal of the project is to increase the number of qualified process instrumentation and control technicians to meet current and future workforce demands in Nebraska by developing a pathway within an existing mechatronics program and deploying innovative recruiting, outreach, retention, and completion strategies.

Booth # 616

CBIA Education Foundation
Mechanical and Manufacturing Technologies for Energy and Sustainability

This program helps community college and university students obtain the technology and professional skills—including teamwork, leadership, and project planning—required to meet today's workforce demands. Academic partnerships with industry, hospitals, and government entities using real-world applications have been proven to engage diverse populations. Teams are inter-institutional and interdisciplinary to capitalize on the synergy between the theoretical knowledge of university faculty and students, and the requisite hands-on technical skills of community college students and faculty.

SHOWCASE SESSION II ▪ ABSTRACTS

Booth # 617

Lane Community College
Independent Learner Energy Education Design Project

The Independent Learner Energy Education Design (iLEED) project moves career and technical education into an online format. By partnering with our industry network, we now offer a fully online degree program in commercial building energy efficiency and still provide the requisite hands-on activities found in traditional campus based programs.

Booth # 618

University of North Georgia
Applying Geospatial and Engineering Technology (AGET)

The AGET project prepares highly skilled technicians to enter the workforce through curriculum development, workforce development, and dissemination. Two new academic programs—an AS degree in Geospatial Engineering Technology (GET) and a certificate in Land Surveying are being developed. Career pathways are being created to increase the engineering and science workforce through seamless transition from high schools and technical colleges to associate degrees with an emphasis on underrepresented groups.

Booth # 704

Thomas Nelson Community College
Innovative Model to Augment Technician Education for Manufacturing in the 21st Century (IMATEC)

IMATEC blends essential technical and nontechnical competencies and will expand awareness of 21st century manufacturing. Through collaboration with regional manufacturers and community partners, the goal of IMATEC will be achieved through: (1) the development of modules focused on nontechnical competencies that students will be required to participate in, and (2) the expansion of awareness of technical advancements and career opportunities in manufacturing.

Booth # 706

Northeast Iowa Community College
Northeast Iowa Advanced Manufacturing Technicians

This project will achieve excellence in technician education through the development of flexible career pathways with a particular emphasis on women and rural students.

Booth # 708

Orangeburg-Calhoun Technical College
Advanced Technological Education in Robotics and Automated Manufacturing Program (ATE-RAMP)

ATE-RAMP is designed to increase awareness of opportunities in STEM for women and underrepresented minorities through programs in robotics and automated manufacturing. The college has identified a three-step process that focuses on awareness, preparation, and career readiness: (1) supporting robotics teams and competitions; (2) robotics demonstrations, student summer camps, and professional development for teachers; and (3) additional courses in robotics in the Middle College, an internship program, and curriculum revisions.

Booth # 710

CUNY Bronx Community College
Chemical and BioEnergy Technology for Sustainability

This showcase will highlight the skills sets recommended by the project's industrial advisory board, and share the learning outcomes of two new courses: Bio-products, and Introductory Chemical Engineering. The latter was used to train students in Excel, Power Point, and reactor operation. All 15 high school students completed the engineering course, obtaining college credit. Seniors were eligible for the Regents Math Exam—and 100 percent of the students tested placed out of remedial math, and 67 percent qualified for STEM track college math.

Booth # 712

Community College of Allegheny County, Allegheny Campus
Technicians in Energy, Advanced Manufacturing, and Supply Chain Technology Project

The Community College of Allegheny County will showcase a video of our student capstone projects in advanced manufacturing.

Booth # 714

Chippewa Valley Technical College
Smart Manufacturing and Resources for Transforming the Future

SMART Future is preparing technicians for industrial automation and technology careers as well as increasing the capacity of rural secondary teachers to provide education in the context of the emerging industrial Internet of Things (IIoT) and Industry 4.0. Through the use of a mobile simulation laboratory, the project is bringing state-of-the-art technology and equipment directly to rural high schools, allowing firsthand application of Industry 4.0 and IIoT concepts.

Booth # 716

Los Angeles Pierce College
CAPTIVATE: Collaboratory Achievement Project to Impact the Value of Architecture and Engineering Technology Education

CAPTIVATE engages engineering graphics, design technology (EG&DT), and architecture technology (AT) students in a multidisciplinary, project-based collaboratory, which fosters student motivation to advance them toward a credential and strengthen their 21st century skills. The objective is to develop stronger female retention in the EG&DT and AT programs by using project-based learning, multidisciplinary collaboration, real-world connection, community partnerships, tangible impact, and environmental sustainability. This showcase will focus on student engagement projects and case studies.

Booth # 718

North Florida Community College
Manufacturing Certifications for Rural High School Students through Community College Dual Enrollment

This project aims to raise the awareness of the high skill/high wage occupations found in advanced manufacturing, especially in the rural area served by North Florida Community College. High school students participating in the project are introduced to concepts and skills central to the advanced manufacturing environment, as well as the soft skills required industry-wide. Students have the opportunity to earn the Certified Production Technician credential through the Manufacturing Skills Standards Council.

Booth # 720

University of Hawaii
NSF ATE: Partnership for Advanced Marine and Environmental Science Training for Pacific Islanders

This project will improve technological education at five minority-serving community colleges of the Pacific Islands. The program's focus is climate change; and it will support regionally relevant curriculum development, the professional development of college faculty, internships and field experiences for students, and strengthening the scientific infrastructure of the participating institutions.

Booth # 722

Green River Community College
Aerospace Career Education

This project establishes a pipeline from the Kent School District High Schools into the Green River College Maintenance Mechatronics AAS degree program.

Booth # 724

Lake-Sumter State College
Enhancing an Energy Technology Associate Degree Program to Meet Employer Needs

Lake-Sumter State College provides students with the skills and knowledge to construct, maintain, and manage the generation, transmission, and distribution of power through the electric utility system better known as the bulk electric grid.

SHOWCASE SESSION III WEDNESDAY ■ OCTOBER 25

ATE PROJECTS AND ATE STUDENTS

10:15 am – 12:30 pm • Exhibit Hall

Booth #	Alpha by Institution
412	American Statistical Association Summit on Two-Year College Data Science Curricula
408	Asheville-Buncombe Technical Community College Skilled Workers Get Jobs 2.0: Appalachian Impact
601	Asheville-Buncombe Technical Community College Student Booth: Amanda Costandine
002	ATE Central
208	Bellingham Technical College Advancing Training Pathways for the Sustainable Energy Workforce
602	Biosciences Industry Fellowship Project, Alamance Community College Student Booth: Colleen G. M. Knight, Guy Aday
708	Black River Technical College Precision Ag Technicians: Improving Arkansas Farming
513	Borough of Manhattan Community College Fostering Student Success in Cybersecurity and Information Assurance
603	Bristol Community College Student Booth: Jared Pacheco, Del Thurston
213	Carroll Community College Collaborative Project: Addressing the Need for Innovative Education of Audiovisual Specialists
207	Central Carolina Community College Technician Training in Advanced Building Performance Analysis and Verification
609	Central Carolina Community College Student Booth: Nick Jorgenson, Isabelle Karis
509	Central Piedmont Community College Anti-Counterfeit Printing and Packaging Technology
511	Clark College Rural Access Mechatronics Program
212	Columbus State Community College Data Analytics Technician Advancement Program
211	Columbus State Community College Design Thinking: Additive Manufacturing Summer Institute
401	Columbus State Community College Pathways for Alternative Energy Automotive Technicians
203	Del Mar College Unmanned Aircraft Systems Technology Education Consortium
506	Delaware County Community College Strengthening the Teaching and Learning of Electro-Mechanical Technology
614	Delgado Community College Synthetic Biology Initiative and Biotechnology Incubator

Booth #	Alpha by Institution
604	Diablo Valley College Student Booth: Hsinling Yu, Cody Swain, Andrew Swaim
303	Eastern Iowa Community Colleges 3D ImPACT: Integrated Project Approach to College Teaching
314	Eastern Iowa Community Colleges Student Booth: Verlee Washington
310	Eastern Iowa Community Colleges Water INTENsE: INteractive TEchNology Education
503	Eastern Shore Community College Creating Technical Scholars: A Model for Structured Pathways
204	Edmonds Community College Technician Education in Additive Manufacturing and Materials
003	EvaluATE – Evaluation Resource Center for Advanced Technological Education
309	Excelsior College Ensuring Workforce Readiness for the Energy and Manufacturing Industries through Educational Simulations
313	Florida State University Assessing Educational Pathways for Manufacturing in Rural Communities: An Investigation of New and Existing Programs in Northwest Florida/Assessing Information Technology Educational Pathways
301	Forsyth Technical Community College Biosciences Industry Fellowship Project
508	Fulton-Montgomery Community College FMCC TECH-Lane NSF ATE Project
107	Galveston College Engineering Technology Instrumentation Project
704	Grayson County Junior College District Boosting New Careers in Advanced Manufacturing Industries
214	Hagerstown Community College Advanced Manufacturing Technicians: Education for an Emerging Workforce
005	HI-TEC – High Impact Technology Exchange Conference
006	Hartford Community College RAMP – Regional Additive Manufacturing Pathways
406	Holyoke Community College Application of Clean Energy Technology to Sustainable Agricultural Practice
512	Howard Community College Collaborative Project: Addressing the Need for Innovative Education of Audiovisual Specialists
605	Idaho State University Student Booth: Monique Gallegos, Nicole Froelich
606	Ivy Tech Community College Student Booth: Isaiah Abel, Lucas Bazile

Booth #	Alpha by Institution
102	Johnston Community College Dual Enrollment Technician Pathways and Careers in Electronics Engineering and Computer Integrated Machining
510	Joliet Junior College Integrating Sustainability through Technical Education
411	Kentucky Community and Technical College System Additive Manufacturing: Expanding Futures in Appalachia
505	Klamath Community College Rural Internship Program
106	Lincoln Land Community College Development of a Competency-Based Education Program in Cybersecurity
716	Lone Star College System Advanced Programmable Logic Controllers, Robotics, and Networking
210	Lurleen B. Wallace Community College Educating Technicians in Energy Efficiency
611	MassBay Community College Student Booth: Madeleine Weaver
004	Mentor-Connect – Leadership and Outreach for ATE
612	Milwaukee Area Technical College Student Booth: Bryan J. Minan
202	Monroe Community College, State University of New York GeoTech Consortium of Western New York: Get the GIST Certificate
001	National Science Foundation
514	Navajo Technical University Student Booth: Candice Craig
706	Normandale Community College Distance Education and Learning in Vacuum Technology for Employment Readiness
311	North Arkansas College Effectively Delivering Networking and Cybersecurity Education in a Rural Environment
616	North Dakota State College of Science North Dakota Welds Program: Advancing Welding Technician Skills for Students and Training for Educators
712	Northeast Community College Developing a Precision Agriculture Workforce Ladder through Secondary, College, and Incumbent Worker Education that Integrates Emerging Technologies and Farm Data
306	Northeast State Community College Integrating Soft/Entrepreneurial Skills for Success in Cybersecurity
607	Northeast State Community College Student Booth: Tristan Lambert, Brittany Calixto, Rebekah Pennewell
618	Northeast Wisconsin Technical College Planning Grant for a Utilities and Energy Regional Center of Excellence

Booth #	Alpha by Institution
507	Northland Community and Technical College Unmanned Aircraft Systems and Geospatial Information Technology Integration into Technician Education
403	Northwest State Community College HOME4TECHS – Hands-On Maintenance Education for TECHnicianS
407	Northwest Vista College Alamo Institute for Materials Technology
409	Northwestern Connecticut Community College Manufacturing Associate Degree Education in Northwestern Connecticut
714	Old Dominion University Research Foundation, Virginia Space Grant Consortium Geospatial Technician Education – Unmanned Aircraft Systems
201	Parkland College Precision Agriculture Curriculum Enhancement
710	Patrick Henry Community College Innovate, Design, Engineer, and Accelerate Career Pathway
413	Pennsylvania State University The Nanotechnology Professional Development Partnership
722	Piedmont Virginia Community College Central Virginia Advanced Manufacturing Initiative
402	Rancho Santiago Community College District Orange County Biotechnology Collaborative Partnership
720	Raritan Valley Community College Commercial Energy Management Technology
718	Reedley College Developing 2+2+2 Pathways in Agribusiness to Meet the Needs of California's Agriculture Industry
610	Richmond Community College Student Booth: Amber Covington, Rolland Coulon
502	Rio Hondo College Preparing Students for Advances in Transportation that Utilize Alternative Energy Sources
410	Riverside Community College District, Moreno Valley Campus The Information Assurance Auditing Project
501	Rowan College of Burlington County Comprehensive Integration of Advanced Manufacturing Competencies throughout an Associate Degree and a Stackable Certificate Curricula
613	Saint Paul College NSF ATE: Saint Paul College Science Instrumentation Collaborative
103	San Diego State University The STEM Guitar Project
307	Shoreline Community College Clean Tech ATE: Advancing Technician Training in Clean Energy Technology

SHOWCASE SESSION III WEDNESDAY ■ OCTOBER 25

Booth #	Alpha by Institution
206	Sinclair Community College Building an Academic Pathway for the Aerial Sensing Data Analyst
302	Sinclair Community College Increasing Technician Preparedness in the Built Environment
608	Sinclair Community College Student Booth: Shaun Gibson, Jorge Gonzalez
305	Skagit Valley College Composites Recycling Technician Education Program
504	Snow College Strengthening Farms and the Rural Economy through Agricultural Mechanics
101	Stevens Institute of Technology Adapting Tested Spatial Skills Curriculum to Online Format for Community College Instruction: A Critical Link to Retain Technology Students
615	Tennessee Technological University AM-WATCH: Additive Manufacturing – Workforce Advancement Training Coalition and Hub
405	Thaddeus Stevens College of Technology Skilled Women Get STEM Jobs: Recruiting and Engaging Female Students
104	Union County College Cyber Service! Interdisciplinary and Experiential Education for Cyber Forensics Technicians
308	University of Alaska, Anchorage Campus Collaborative Research: Enhancing Hands-On Interactive Learning in Process Technology Programs with New Low-Cost Miniature Industrial Equipment

Booth #	Alpha by Institution
205	University of Arkansas Opening Pathways to Employment through Nontraditional Geospatial Applications in Technical Education
105	University of Hawaii, Maui College CyberSecure: Extended Cybersecurity Education, Curriculum, and Workforce Development
312	University of New Mexico NM Green: Advancing Sustainable Construction Technology Education
617	University of South Florida PathTech LIFE: Constructing a National Survey of Engineering Technology Students through Regional and Statewide Testing
304	University of Wisconsin–Madison Contextualize to Learn: Preparing Faculty Toward Math Contextualization for Student Success in Advanced Technological Education
404	Washtenaw Community College Training Tomorrow's Technicians in Lightweight Materials: Properties, Optimization, and Manufacturing Processes
209	Weber State University Developing a Vision and Plan for the Northern Utah Geospatial Technology Education Program
414	West Hills Community College Welding Education Long Distance Community Outreach

SHOWCASE SESSION III ▪ ABSTRACTS

WEDNESDAY, OCTOBER 25

ATE PROJECTS AND ATE STUDENTS

10:15 am – 12:30 pm • Exhibit Hall

Booth # 001

National Science Foundation

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. NSF competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.

Booth # 002

ATE Central

ATE Central provides services, tools, and an online portal that support, amplify, and highlight the impacts of the ATE community and showcase the valuable curricula, learning objects, websites, and media created by ATE grantees. It also includes a resource archive and comprehensive database of project and center information that encourages use of ATE resources and promotes sustainability of project and center deliverables.

Booth # 003

EvaluATE – Evaluation Resource Center for Advanced Technological Education

EvaluATE promotes the goals of the ATE program by partnering with ATE projects and centers to strengthen the program's evaluation knowledge base, expand the use of exemplary evaluation practices, and support the continuous improvement of technician education throughout the nation. Resources include webinars, workshops, blogs, and a website with a variety of resources and tools.

Booth # 004

Mentor-Connect – Leadership Development and Outreach for ATE

Mentor-Connect is designed to fill a void for the ATE program; address the fact that there are those in the nation's community colleges who have never been awarded funding from the NSF ATE program; diversify the ATE program overall; better manage a rapidly growing number of requests received by program officers related to grant proposal development and project management; and develop grant writing skills among STEM faculty who lack sufficient grant personnel at their institutions.

Booth # 005

HI-TEC – High Impact Technology Exchange Conference

HI-TEC is a national conference on advanced technological education where technical educators, counselors, industry professionals, and technicians can update their knowledge and skills. Charged with educating America's technical workforce, the event focuses on the preparation needed by the existing and future workforce for companies in the high tech sectors that drive our nation's economy. HI-TEC uniquely explores the convergence of scientific disciplines and advanced technologies. Join us July 23-26 in Miami, FL, for HI-TEC 2018.

Booth #006

Hartford Community College (HCC)

RAMP – Regional Additive Manufacturing Pathways

RAMP is a manufacturing partnership of Maryland local public schools, Aberdeen Proving Ground, the National Resource Center for Materials Technology Education (MatEdU), and other manufacturing partners. RAMP addresses the need of educated technicians in the growing additive manufacturing field. RAMP will develop and sustain a pipeline of additive manufacturing (AM) technicians through outreach to rural secondary school students, professional development for two-year college faculty, HCC secondary students, and AM certificate programs.

Booth # 101

Stevens Institute of Technology

Adapting Tested Spatial Skills Curriculum to Online Format for Community College Instruction: A Critical Link to Retain Technology Students

This project builds on decades of educational studies on spatial visualization, a key cognitive skill vital to many careers, and expands the focus of that work to technical education. Community college partners are researching the effectiveness of a tested spatial skills training curriculum in a newly developed online format and an innovative iPad sketching app, SpatialVis, to retain students, particularly underrepresented populations, in technical education programs. This showcase will demonstrate course components and latest results.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 102

Johnston Community College
Dual Enrollment Technician Pathways and Careers in Electronics Engineering and Computer Integrated Machining

A professional development workshop was developed for middle and high school counselors on advanced technology careers in biotechnology, computer-integrated machining, industrial systems technology, and welding. The hands-on workshop gave participants personal experience working as a technician, so they could knowledgeably guide students to consider selecting AAS technology training programs leading to technician careers. A "how to" manual for holding a similar workshop at other colleges was developed.

Booth # 103

San Diego State University
The STEM Guitar Project

This project "rocks" the skills gap of employers by engaging high school and college students in hands-on guitar design, manufacturing, and construction—incorporating the technical subjects into tactile learning. This project boosts students' confidence and motivates students to learn science, engineering, technology, and math principles and explore career interests in STEM-related fields. It also addresses the faculty lack of confidence in teaching STEM in K-12.

Booth # 104

Union County College
Cyber Service! Interdisciplinary and Experiential Education for Cyber Forensics Technicians

Cyber Service! addresses our nation's critical cybersecurity workforce shortage. Our innovative curricular design focuses on the education of middle-skilled cyber forensics technicians. Experiential education is integrated into the curriculum to keep students engaged, provide critical workforce readiness skills, and instill a commitment to civic responsibility. An AAS degree program with stackable certificates and a service learning capstone course in cyber forensics was developed to serve as a national model for other associate degree granting institutions.

Booth # 105

University of Hawaii, Maui College
CyberSecure: Extended Cybersecurity Education, Curriculum, and Workforce Development

The University of Hawaii, Maui College, intends to provide cybersecurity education and training to local STEM teachers, high school students, and community college students. The project also aims to create new cybersecurity curriculum in related fields such as healthcare, accounting, criminal justice, and hospitality.

Booth # 106

Lincoln Land Community College (LLCC)
Development of a Competency-Based Education Program in Cybersecurity

LLCC is planning, developing, and implementing a competency based cybersecurity certificate. This program will be entirely online and provide access to training in a high demand, high wage STEM career. The program will provide training to students who are new to the field or who want to build upon their existing skills. Students will be able to work at their own pace.

Booth # 107

Galveston College
Engineering Technology Instrumentation Project

The goal of this project is to improve the technician program and the education of STEM technicians in the electrical/electronics and instrumentation program at Galveston College by developing an integrated curriculum framework with five critical components: industry-recognized stacked certifications, problem-based teaching and learning, advanced technical skills training through progressive (stacked) modules, work ethics curriculum, and practical training with real-world work experiences.

Booth # 201

Parkland College
Precision Agriculture Curriculum Enhancement (PACE)

The PACE project uses emerging technologies in conjunction with agronomy to enhance precision agriculture education by developing close partnerships with local and regional industry partners. The project is focused on updating curriculum, updating articulation agreements with universities, and working directly with high schools through the facilitation of a workshop specifically for vocational agriculture teachers.

Booth # 202

Monroe Community College, State University of New York
GeoTech Consortium of Western New York: Get the GIST (Geospatial Information Science Technology) Certificate

Monroe Community College has built a geospatial career pipeline between high schools, our GIST certificate program, and the geospatial workforce. This showcase will focus on high school teacher workshops, dual credit courses for high school students, the new certificate program, and student internships.

Booth # 203

Del Mar College
Unmanned Aircraft Systems Technology Education Consortium (UASTEC)

The UASTEC project is building capacity for educating unmanned aircraft systems (UAS) technicians through curriculum, workshops, and field projects. Learn about our newly completed UAS curriculum and degrees.

Booth # 204

Edmonds Community College
Technician Education in Additive Manufacturing and Materials (TEAMM)

Three-dimensional printers are increasingly capable of utilizing multiple materials. It is imperative technicians understand these material's properties. To address this gap, the TEAMM project is forging a new collaborative network of public and private sector stakeholders. This network addresses the identification and adaption of skills standards that keeps pace with advances in research and development. TEAMM supports utilization of social networking technologies, proactive identification and expansion of key stakeholders, and access to professional development.

Booth # 205

University of Arkansas
Opening Pathways to Employment through Nontraditional Geospatial Applications in Technical Education (OPEN-GATE)

OPEN-GATE is a collaboration among four community colleges in the University of Arkansas system and the University of Arkansas–Fayetteville that will enable the development of a workforce with job-specific geospatial skills for local industry and government. OPEN-GATE will develop geospatial technology skill sets in targeted business sectors and emerging industries by augmenting existing programs of study at the four two-year institutions with relevant and industry-specific geospatial applications.

Booth # 206

Sinclair Community College
Building an Academic Pathway for the Aerial Sensing Data Analyst

Sinclair Community College seeks to fill a skills gap in the growing unmanned aerial systems (UAS)/ geospatial intelligence systems (GIS) sectors through an Aerial Sensing Data Analyst certificate program. This field leverages unstructured, specialized types of data as technically detailed and varied as LiDAR, imagery, acoustic, sniffers, radar, and video. The project provides opportunities for traditionally underrepresented populations, veterans, and the incumbent workforce to increase their preparedness for entry-level employment through a progressive competency-based curriculum.

Booth # 207

Central Carolina Community College (CCCC)
Technician Training in Advanced Building Performance Analysis and Verification

This project is designed to reform CCCC's sustainable technologies and building construction curricula to integrate multiple third-party credentials related to energy use and consumption of residential construction. Additionally, the project will create educational pathways for current high school students as well as CCCC program graduates.

Booth # 208

Bellingham Technical College
Advancing Training Pathways for the Sustainable Energy Workforce

Bellingham Technical College, in close collaboration with Western Washington University, the Pacific Northwest Center of Excellence for Clean Energy, and local industry, has created a new program in engineering technology focused on clean energy. This showcase will feature unique aspects of the degree program development including contextualized curriculum, dual preparation (transfer and industry), and offering undergraduate research opportunities to technical college students.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 209

Weber State University

Developing a Vision and Plan for the Northern Utah Geospatial Technology Education Program (NUGeoTEP)

NUGeoTep is being developed to prepare students for successful careers in the geospatial workforce across northern Utah. This showcase focuses on the new geospatial courses being developed as part of the two-tier curriculum model unique to our university's two-year and four-year missions. The program curriculum is designed to provide students with the essential geospatial technology knowledge, skills, and abilities based on implementation of the project's logic model.

Booth # 210

Lurleen B. Wallace Community College

Educating Technicians in Energy Efficiency

This project represents the implementation of merging the college's programs in industrial electronics, diesel, and heavy equipment to educate technicians in energy efficiency. Exposing students to energy efficient systems using natural gas engine curriculum and Siemens PLC Controllers provides them with the educational knowledge in the most advanced areas of energy efficiency.

Booth # 211

Columbus State Community College (CSCC)

Design Thinking: Additive Manufacturing Summer Institute

Columbus State Community College, in collaboration with the PAST Foundation, community, and industry partners, is developing a career pathway in additive manufacturing. There are three project objectives: (1) to develop and implement an additive manufacturing institute model for high school students; (2) to develop and implement an interactive high school faculty professional development that prepares teachers; and (3) to develop a model education pathway between the summer Institute and CSCC.

Booth # 212

Columbus State Community College

Data Analytics Technician Advancement (DATA) Program

The DATA project will develop a data analytics career pathway to meet the needs of regional employers. The comprehensive DATA pathway will have multiple entry and exit points. The new innovative curriculum, with an embedded internship and articulation with area high schools and universities, will include outreach efforts to military veterans.

Booth # 213

Carroll Community College

Collaborative Project: Addressing the Need for Innovative Education of Audiovisual Specialists

Audiovisual system specialists are needed to support communication needs for businesses of all types. These multimedia specialists need advanced training in industry-specific technology that supports a multitude of presenting venues that in turn support educational, corporate, and entertainment events. At Carroll Community College, students can now participate in innovative, hands-on training while earning an AAS degree or a certificate in entertainment technology.

Booth # 214

Hagerstown Community College (HCC)

Advanced Manufacturing Technicians: Education for an Emerging Workforce

The Advanced Manufacturing program at Hagerstown Community College teaches students how to operate, maintain, trouble shoot, and engineer complex systems used in a variety of today's industries. This is a two-year program that is designed for students to make his or her way into the workforce as an engineer or technician. This showcase will include program information, a robotics display, and a demonstration of the correlation between 3D printing and robotics.

Booth # 301

Forsyth Technical Community College

Biosciences Industry Fellowship Project (BIFP)

To date, the BIFP project has had 39 fellows representing community college or high school instructors from 16 states come to Winston-Salem, NC, to do a month-long program. Fellows participate in boot camps at three community colleges with hands-on lab experiences and as well as visit various departments at a dozen different industrial/university hosting facilities with the aim and purpose of demystifying the bioscience industry.

Booth # 302

Sinclair Community College

Increasing Technician Preparedness in the Built Environment

This project is transforming the built environment programs by embedding critical STEM and industry standards from the Construction Document Technologist (CDT) certificate into two-year education programs; developing and disseminating curricular modules for undergraduate students enrolled in architectural technician and construction management associate degree programs; and providing professional development for community college faculty and staff.

Booth # 303

Eastern Iowa Community Colleges

3D ImPACT: Integrated Project Approach to College Teaching

Eastern Iowa's 3D-printing professional development workshop revealed an unfortunate condition—in that 3D-printing is only taught in technology classes. Three-dimensional printing prospects are not discussed in classes such as physical sciences, math, language, art, history, music, or social sciences. Where do skilled 3D-printing workers come from? Eastern Iowa is preparing 3D-printing learning modules and a project-based college capstone course. These offerings will boost secondary and postsecondary students' interest toward further 3D-printing study and pursuit of associated career pathways.

Booth # 304

University of Wisconsin–Madison

Contextualize to Learn: Preparing Faculty Toward Math Contextualization for Student Success in Advanced Technological Education

This targeted research features a partnership among two-year college faculty, institutional researchers, and University of Wisconsin–Madison researchers. It focuses on how faculty development around math contextualization translates into ATE student success in math. During the first project year, faculty development includes workshops, curriculum development, and engagement with communities of practice. We will share initial evaluation findings of these efforts, pinpointing elements that facilitate faculty engagement with and willingness to adopt math contextualization.

Booth # 305

Skagit Valley College

Composites Recycling Technician Education Program

Skagit Valley College in partnership with the University of Alabama at Birmingham is creating an innovative curriculum to address the emerging need for composite and material science technicians, who will work with scrap and reclaimed composite material. This showcase will focus on the composite material feedstock database template; curriculum modules introducing new and incumbent technicians to composite material recycling; and faculty and student workshop outcomes introducing curriculum, concepts, pedagogy, and processes.

Booth # 306

Northeast State Community College

Integrating Soft/Entrepreneurial Skills for Success in Cybersecurity

The goal of this cybersecurity and entrepreneurship program is to provide underrepresented students with combined technical, entrepreneurial, and soft skills.

Booth # 307

Shoreline Community College

Clean Tech ATE: Advancing Technician Training in Clean Energy Technology

Shoreline Community College will upgrade its clean energy technology curriculum and add long-term project-based learning experiences that develop higher levels of software and engineering skills. By developing a curriculum that addresses industry identified needs and contains job specific experiences, the revitalized program will help students develop a skillset that prepares them for highly skilled technology jobs in the field of clean energy.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 308

University of Alaska, Anchorage Campus

Collaborative Research: Enhancing Hands-On Interactive Learning in Process Technology Programs with New Low-Cost Miniature Industrial Equipment

Kenai Peninsula College (Alaska) and Washington State University collaborated on a project to build new hands-on, lightweight, low-cost, miniature industrial equipment that fits on a standard desktop or which can be taken home for use in homework assignments. This showcase will demonstrate the three working process models developed and piloted: (1) hydraulic loss; (2) shell and tube heat exchanger; and (3) educator process models, which are suited for two-year process technology and other training programs.

Booth # 309

Excelsior College

Ensuring Workforce Readiness for the Energy and Manufacturing Industries through Educational Simulations

Excelsior College and Polk State College will focus on the development of simulations for an experiential learning component of industry requirements. Combined with knowledge-based preparation in existing coursework, this program will provide online students the opportunity to earn both an academic degree and workplace credential, by providing a means to demonstrate capability to both think and perform as is required in the field.

Booth # 310

Eastern Iowa Community Colleges

Water INTENsE: INteractive TEchNology Education

The focus of this new three-year project is environmental virtual reality (VR) curriculum for water/wastewater technologies and agriculture/water conservation education in two-year colleges. The project will identify the curriculum needed; partner with EON Reality to develop VR curriculum; develop manuals and webinars for educators; and pilot-test the VR modules to determine effectiveness.

Booth # 311

North Arkansas College

Effectively Delivering Networking and Cybersecurity Education in a Rural Environment

North Arkansas College is infusing its IT/Network Systems Administration program with cybersecurity components—based on recommendations from the Business/Industry Leadership Team (BILT)—and adding alternate modes of course delivery to increase the number of skilled technicians who are trained in network technology with a security focus. This project will focus on the college's collaboration with the BILT, upcoming curricular changes, and plans for remote delivery of coursework.

Booth # 312

University of New Mexico

NM Green: Advancing Sustainable Construction Technology Education

The University of New Mexico and Central New Mexico Community College are collaborating on an ATE project that aims to produce more technicians qualified for jobs in green construction through creating a new certificate program, mentoring, and outreach.

Booth # 313

Florida State University

Assessing Educational Pathways for Manufacturing in Rural Communities: An Investigation of New and Existing Programs in Northwest Florida/Assessing Information Technology Educational Pathways

The goal of the Assessing Educational Pathways for Manufacturing study is to investigate whether advanced manufacturing program pathways meet regional employers and new professionals' needs. The Assessing IT Pathways project is a collaboration in which researchers have examined the triangulation between classroom content, new professional roles, and employer expectations in the rural Florida panhandle. Researchers found that while the data do not strongly align, experiential learning and ongoing employer input are a valuable means of strengthening connections. Findings also suggest that to build the rural IT workforce, programs should work with employers to expand the local opportunities and improve students' entrepreneurial capabilities.

Booth # 314

Eastern Iowa Community Colleges

Student Booth: Verlee Washington

This student booth will offer inspiration and share many of the positive opportunities that augmented and virtual reality (AVR) can and will bring into everyday life. Learn about the power of these technologies and their impact on education and the workforce.

Booth # 401

Columbus State Community College (CSCC)

Pathways for Alternative Energy Automotive Technicians

There is a growing need for well-educated, highly skilled technicians with practical knowledge of alternative energy automotive systems. CSCC's project addresses local workforce needs for technicians that are knowledgeable about such systems. Areas of need include conventional hybrid, plug-in hybrid, all-electric vehicle technologies as well as biodiesel, propane, ethanol, compressed natural gas, liquefied natural gas, and fuel cell vehicles.

Booth # 402

Rancho Santiago Community College District

Orange County (OC) Biotechnology Collaborative Partnership

The OC Biotech Education Partnership is a collaborative effort by a group of California community colleges. To streamline communication with local industry, the grant has funded an industry outreach coordinator position. This person is the point of contact with industry for all community colleges in the program. This position has simplified the process for industry and has helped significantly with facilitating information, setting up site visits, obtaining equipment donations, and managing internship requests.

Booth # 403

Northwest State Community College

HOME4TECHS – Hands-On Maintenance Education for TECHnicianS

The HOME4TECHS project addressed employer needs by converting their industrial technology courses to a competency-based, hybrid, open-lab instructional model. Learn how three faculty implemented this accelerated, 8-week model that utilizes technology for online learning, simulations, and 24/7 student access to automation software. Students are individually assessed for hands-on skills that align with national competencies and employer needs. Through professional development, technical instructors developed and deployed online instruction.

Booth # 404

Washtenaw Community College

Training Tomorrow's Technicians in Lightweight Materials: Properties, Optimization, and Manufacturing Processes

This project is one of Washtenaw Community College's key initiatives for advancing the education process of others through the infusion of lightweight material principles and practices into the manufacturing space. This display will showcase the rapid change of the manufacturing industry.

Booth # 405

Thaddeus Stevens College of Technology

Skilled Women Get STEM Jobs: Recruiting and Engaging Female Students

By fostering partnerships between local school districts and industry, Thaddeus Stevens College of Technology will increase female enrollment in the machine tool and computer-aided manufacturing, electrical technology, and water and environmental technology programs. Enhanced teaching strategies and the development of a mentoring program will ensure that the retention rate of female students remains on par with that of male students.

Booth # 406

Holyoke Community College

Application of Clean Energy Technology to Sustainable Agricultural Practice

This collaborative project links clean energy and sustainable agriculture programs from Holyoke Community College, Hampshire College, and the University of Massachusetts with industry partners from both sectors. As we further develop and expand our programs, we are focused on creating a career pathway for secondary school students through a two-year program and on to a four-year college. Providing student internships that encompass the use of clean energy in agricultural settings is a primary goal.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 407

Northwest Vista College
Alamo Institute for Materials Technology (AIM-TEC)

AIM-TEC will create a self-sustaining and replicable workforce model that leverages resources and partnerships to address the need for quality technician education and training in advanced materials technology. AIM-TEC will act as a regional hub for supporting students with skills in micro-nano-bio-technologies; strengthening transition points from high school to college to workforce/advanced education; and increasing community awareness of nanotechnology and available educational and career pathways.

Booth # 408

Asheville-Buncombe Technical Community College
Skilled Workers Get Jobs 2.0: Appalachian Impact

Asheville-Buncombe Technical Community College successfully implemented strategies to recruit and retain female students in targeted technology and engineering programs. This showcase will focus on how these strategies have been shared with partner colleges in the Appalachian region.

Booth # 409

Northwestern Connecticut Community College
Manufacturing Associate Degree Education in Northwestern Connecticut

Working with our local Manufacturer's Coalition, we developed an associate's degree program in manufacturing. We partnered with our local technical high school and hold our classes there in the evenings. Teachers from the technical school system teach the courses. High school students can earn college credit through dual enrollment. In addition to earning a degree, our students earn national credentials in machining, CNC, soldering, and SolidWorks.

Booth # 410

Riverside Community College District, Moreno Valley Campus
The Information Assurance Auditing Project

The objective of this project is for students to develop their computer, business social skills, and cybersecurity skills to help small businesses with their cyber presence. The students will conduct information assurance audits of small businesses, which results in an objective point of view of the business' cyber foot print. The small business will receive a comprehensive report and presentations from students, and students will receive valuable experience in conducting these audits.

Booth # 411

Kentucky Community and Technical College System
Additive Manufacturing: Expanding Futures in Appalachia

This project is a model for the integration of cutting-edge technologies, such as additive manufacturing, into manufacturing industries and the creation of a need for businesses to hire trained technicians. Somerset Community College has developed enhanced 3D-printing applications, generated case studies, facilitated tens of thousands of dollars of savings for companies, and formed best practice approaches to interest typically resistant businesses in integrating new technologies.

Booth # 412

American Statistical Association
Summit on Two-Year College Data Science Curricula

This summer 2018 workshop will bring together a diverse group of participants to make recommendations for two-year college data science programs, keeping in mind the needs of each of three student populations: (1) those seeking employment following an associate's degree; (2) those seeking transfer to four-year programs; and (3) those seeking certificate programs and college-level courses in data science for professional development.

Booth # 413

Pennsylvania State University
The Nanotechnology Professional Development Partnership

A web-based, live-streaming approach for optimizing impact, effectiveness, and cost project has just begun its mission to deliver real-time interactive professional development. The project will use commercial web video sharing tools, videos, remote access, as well as other participant engagement tools to deliver lecture and lab materials in real time to the participant's computer. Participant workshop engagement, content understanding, and material implementation are key metrics of project success.

Booth #414

West Hills Community College
Welding Education Long Distance Community Outreach

Certified welders with advanced STEM knowledge and skills are vital to the U.S. petroleum, food production and processing, transportation, and manufacturing industries. The Welding Distance Community Outreach program at West Hills Community College is designed to meet the needs for a growing sector of advanced welding technicians. The program seeks to transport and make mobile a successful, face-to-face, welding program and offer it in geographically isolated areas within the service area of the college where career and technical education (CTE) has been historically very limited.

Booth # 501

Rowan College of Burlington County
Comprehensive Integration of Advanced Manufacturing Competencies throughout an Associate Degree and a Stackable Certificate Curricula

The overarching goal of the current project is to align training and degree programs with the needs of high growth industries. Students will benefit from clearly articulated and cost effective pathways toward achieving a baccalaureate degree. Required skills have been identified and emphasized through an advanced manufacturing industry collaboration forum and a curriculum development conference. These efforts will result in a seamless program of associate and baccalaueate degrees with stackable certificates.

Booth # 502

Rio Hondo College
Preparing Students for Advances in Transportation that Utilize Alternative Energy Sources

Rio Hondo College will display its new hydrogen fuel cell training that has been custom designed for students entering the electric/fuel cell degree program.

Booth # 503

Eastern Shore Community College
Creating Technical Scholars: A Model for Structured Pathways

This project brings together local high tech employers, school districts, and four-year colleges and universities to create flexible career pathways beginning in high school and potentially culminating in an associate and/or baccalaueate degree. Students enrolling in career and technical education programs will have tracks available in a technical studies associate degree to efficiently utilize classes already taken and to progress in clearly laid out pathways towards a degree that is customized.

Booth # 504

Snow College
Strengthening Farms and the Rural Economy through Agricultural Mechanics

Small family farms dominate the agricultural landscape of the U.S.—including Utah. Effort is required for these small farms to keep up with changes in technology and be competitive. Snow College's Ag Systems program is in its first year of program course work. The Ag Systems program aligns regional high school pathways to college coursework. Students gain traditional ag-mechanics skills and up-to-date skills in precision irrigation and pivot irrigation systems, use of UAVs (drones) and GIS in agriculture.

Booth # 505

Klamath Community College
Rural Internship Program

The Rural Internship program is an innovative model designed to enhance the job readiness of students who live and work in an economically distressed rural community in South Central Oregon. This internship model includes virtual, peer-to-peer, and traditional one-on-one internships based on student and business needs, and is a collaboration between Klamath Community College's Computer Engineering Technology and Digital Media and Design programs.

Booth # 506

Delaware County Community College
Strengthening the Teaching and Learning of Electro-Mechanical Technology (STLET)

The STLET project provides K-12 early college-to-community college-to-university career preparation pathways for students in electro-mechanical/advanced technology degree programs. The project activities include professional development opportunities for faculty, partnerships with business and industry to strengthen and align curriculum, as well as the development of apprenticeship opportunities for students.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 507

Northland Community and Technical College

Unmanned Aircraft Systems and Geospatial Information Technology Integration into Technician Education (DroneTECH)

This project is working to meet industry workforce demands through partnerships with several ATE projects, educational institutions, businesses, industry, and public-sector agencies. DroneTECH is expanding learning opportunities across a broad range of disciplines and developing articulation between technical colleges and university degree programs. DroneTECH offers professional development opportunities in UAS and GIT education.

Booth # 508

Fulton-Montgomery Community College

FMCC TECH-Lane NSF ATE Project

This project is creating a career and technical education pathway to develop a middle-skills workforce. The project allows high school students in a new, innovative program to complete the first year of a two-year AAS program in electronic technology—and then continue one more year to enter the workforce as a technician a full year earlier than usual.

Booth # 509

Central Piedmont Community College (CPCC)

Anti-Counterfeit Printing and Packaging Technology

CPCC is meeting the increasing need for product and packaging security by developing a new curriculum certificate program focused on functional printing with an emphasis on the emerging role of anti-counterfeit printing and packaging technology. Project activities include course development and adaptation leading to a new technician certificate program offered at the two-year college as well as a continuing education course for incumbent workers, faculty professional development, and cultivation of business and industry partnerships. Implementation of the project will result in a talent-rich pipeline of technicians who will implement security and protection changes within manufacturing and distribution facilities.

Booth # 510

Joliet Junior College

Integrating Sustainability Through Technical Education (ISTTE)

The ISTTE project is integrating sustainable energy technology practices and concepts through course materials and hands-on learning into various technical programs. A general education sustainability course and new certificate in sustainable energy technology will be implemented. Pathways for entry into technical areas with emerging sustainable energy opportunities are being developed through project-based learning and opportunities for secondary education, as well as professional development and curriculum for all levels of instructors.

Booth # 511

Clark College

Rural Access Mechatronics Program (RAMP)

The RAMP project is designed to increase the technician workforce in rural Clark County, Washington, by developing a hybrid certificate of completion in mechatronics fundamentals. RAMP program funding, so far, has allowed four instructors to receive training in online course development, delivery, and best practices; the development of seven hybrid classes; and the successful recruitment of the first cohort of 16 students—with classes staring in fall 2017.

Booth # 512

Howard Community College

Collaborative Project: Addressing the Need for Innovative Education of Audiovisual Specialists

Partnering with industry providers, Howard Community College offers a training program for audio visual system specialists (AVS), which are needed to support specialized communication needs. The AVS program offers hands-on, comprehensive training that is pedagogically engineered to prepare students for this exciting and growing field. AVS specialists support educational, conference, corporate, and entertainment events at universities, school districts, science research centers, conference centers, hotels, and other venues with integrated, high technology communication needs.

Booth # 513

Borough of Manhattan Community College
Fostering Student Success in Cybersecurity and Information Assurance

The project will create a concentration in cybersecurity in each of the two AAS degree programs of Computer Network Technology and Computer Information Systems. Working with high schools, senior colleges, ATE centers in cybersecurity, and industry, the project team will adapt and implement exemplary educational materials and pedagogical strategies aimed at expanding opportunities for minority and underrepresented students to pursue careers in cybersecurity and information assurance.

Booth # 514

Navajo Technical University
Student Booth: Candice Craig

Through Navajo Technical University's Dimensional Metrology Certification Project, students are gaining knowledge and experience by applying cutting-edge metrology techniques using data capturing equipment to improve manufacturing quality. Students are learning equipment operation and maintenance skills and how to analyze and solve complex metrology problems. Students are directly applying the technology in meaningful and relevant projects, thereby growing in competence, comfort, and self-confidence to work successfully as technicians in the high tech manufacturing disciplines.

Booth # 601

Asheville-Buncombe Technical Community College
Student Booth: Amanda Costandine

Houston, we STILL have a problem. This student showcase will conduct an investigation into the continuing lack of women in STEM fields, why this is not sustainable for a future innovative workforce, and why better leadership through direct mentorship is needed to help counteract this issue.

Booth # 602

Biosciences Industry Fellowship Program, Alamance Community College (ACC)
Student Booth: Colleen G. M. Knight, Guy Aday

Alamance Community College houses the longest running two-year biotechnology program in the country. The curriculum models the pharmaceutical manufacturing process from start to finish. ACC is also home to the Biotechnology Center of Excellence, an industry supported workforce development program.

Booth # 603

Bristol Community College
Student Booth: Jared Pacheco, Del Thurston

Hear two student success stories, one from a U.S. veteran and the other an older student moving forward on the path to success: (1) A veteran will showcase his journey from serving in the United State Marines, with a focus on his time in Afganistan and how that directly influenced his decision to get into the wastewater field. (2) A 2010 graduate of Bristol Community College (BCC) will reflect on obtaining his degree in civil engineering and how his preparation at BCC enabled him to receive state certifications within the field of wastewater treatment and gain employment at a treatment plant managed by Veolia North America—at 65 years of age.

Booth # 604

Diablo Valley College
Student Booth: Hsinling Yu, Cody Swain, Andrew Swaim

This student booth features a variety of projects including a prototype 3D printer and an ion thruster. Applications of those projects, as well as experimental structural systems using sustainable methods and materials, are on display. These projects are focused on exploring the capabilities of CNC manufacturing technologies.

Booth # 605

Idaho State University
Student Booth: Monique Gallegos, Nicole Froelich

The student showcase will highlight how Idaho State's Energy System Nuclear Operations Technology program prepares students for real life situations when applying and testing for jobs in industry. A review of the program and some of the insights that helped 98 percent of its recent graduating class get career opportunities before graduation will be shared.

Booth # 606

Ivy Tech Community College
Student Booth: Isaiah Abel, Lucas Bazile

Hear from students taking MEMS courses as part of an Ivy Tech program focused on electronics and computer technology. The courses provide introductory training and the use of LabView—with three approaches used to deliver the coursework: traditional, discovery based, and lab-based.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 607

Northeast State Community College
Student Booth: Tristan Lambert, Brittany Calixto, Rebekah Pennewell

Northeast State Community College will be presenting facts and ideas in the areas of leadership, effective communication, workforce unity, accountability, and goal orientation. The college works to foster students' learning environment by pairing curriculum with hands-on experience, and providing a range of educational tools to help students advance in the workforce. This showcase will feature students' perspectives on the application of soft skills, the increased need for personnel in Cyber Defense, and the need to develop techniques for recruiting and retaining more women in the field.

Booth # 608

Sinclair Community College
Student Booth: Shaun Gibson, Jorge Gonzalez

Sinclair Community College is creatively igniting the passion for STEM through guitar building. Design changes in the last year have aligned our product with industry standards and the new improvements have opened up the curriculum to a broader age range of builders. Classes can now be taught in junior high school through college.

Booth # 609

Central Carolina Community College
Student Booth: Nick Jorgenson, Isabelle Karis

The Central Carolina Community College Laser and Photonics Technology program, a primary partner with Laser-Tec, is focused on equipping students for successful technical careers. The program achieves this goal by participating in an active SPIE/OSA student chapter, using student recruiters to champion STEAM-related career paths, and capitalizing on industry and university partnerships.

Booth # 610

Richmond Community College
Student Booth: Amber Covington, Rolland Coulon

Hear from two Richmond Community College students about their experience and education through the college's electrical utility careers program. The goal of the project is to increase enrollment in academic programs that prepare students for work in the electric utility industry in order to bridge the gap between employer demand for qualified workers and students with the skills to match employment opportunities.

Booth # 611

MassBay Community College
Student Booth: Madeleine Weaver

This student showcase will highlight the career field of computer and electrical technology and present a robot made in MassBay Community College's iCREAT program. The robot autonomously navigates obstacles using an Arduino microcontroller, motors, and sensors. This showcase will also discuss the student's experience working as a teacher's assistant for the iCREAT program.

Booth # 612

Milwaukee Area Technical College (MATC)
Student Booth: Bryan J. Minan

MATC's Automated Buildings program is a two-semester diploma program developed as an outgrowth of local industry. The program teaches basic building automation system set-up and programming targeting a level-one technician as defined by industry firms such as Johnson Controls, Siemens, Honeywell, and local contractors.

Booth # 613

Saint Paul College (SPC)
NSF ATE: Saint Paul College Science Instrumentation Collaborative

SPC partners with industry to provide cutting-edge, hands-on training to undergraduate students in advanced instrumentation. The project supported the formation of new curriculum to support this collaboration, and taps into SPC's very diverse student body as a valuable resource for the Minnesota workforce. This showcase focuses on the impact of the new curriculum on the first graduating cohort.

Booth # 614

Delgado Community College
Synthetic Biology Initiative and Biotechnology Incubator (SLT)

Over the past year, the Delgado Community College SLT program has made significant progress in strengthening local and national interactions to improve curriculum and offer new opportunities to students. These collaborations have resulted in direct participation from our industry partners in designing our curriculum and potential new opportunities to include travel to national meetings for our students.

Booth # 615

Tennessee Technological University

AM-WATCH: Additive Manufacturing – Workforce Advancement Training Coalition and Hub

The objective of AM-WATCH is to address gaps in the current additive manufacturing (AM) knowledge base through the development of educational materials, delivery of professional development activities, support provided to more than 30 community college and high school instructors per year, and expanded outreach activities targeting K-12 and community college teachers and students. The current showcase provides the success stories in year one with various AM studios, an additively innovative virtual lecture series, and remotely accessible laboratory environments.

Booth # 616

North Dakota State College of Science

North Dakota Welds (NDWelds) Program: Advancing Welding Technician Skills for Students and Training for Educators

North Dakota State College of Science (NDSCS) will implement the NDWelds project with the goal of enhancing welding technician skills for secondary school students, two-year college students, secondary school teachers, and two-year college faculty members. Through this project, NDSCS will increase the number of trained and certified welders possessing essential and advanced skills to meet the workforce needs of the region.

Booth # 617

University of South Florida

PathTech LIFE: Constructing a National Survey of Engineering Technology Students through Regional and Statewide Testing

PathTech LIFE is a targeted research in technician education project aimed at better understanding learning, interests, family, and employment (LIFE) experiences that influence enrollment and persistence in advanced technology AS/AAS degree programs. In collaboration with FLATE, the University of South Florida research team is distributing a survey to students in four technology fields with the help of partner ATE centers. This session showcases our national survey and Wave 1 findings from 26 colleges.

Booth # 618

Northeast Wisconsin Technical College

Planning Grant for a Utilities and Energy Regional Center of Excellence

Designed to address worker shortage by increasing the number of skilled utilities and energy workers, Northeast Wisconsin Technical College has implemented a holistic approach to recruitment, orientation, persistence, and preparation for graduation that includes industry employer and college support staff. This showcase will focus on results of implementation of strategies to increase enrollment and graduation rates in energy and utility technical diploma and associate degree programs.

Booth # 704

Grayson County Junior College District

Boosting New Careers in Advanced Manufacturing Industries

This showcase will focus on the collaboration of educators, industrial employers, and economic development agencies to create an industry defined curriculum to provide a comprehensive pathway for an educated and skilled workforce in advanced manufacturing. Partnering with local Texoma industries in an effort to build a talent pipeline, Grayson College offers an Advanced Manufacturing Technology program specifically targeting students in secondary education.

Booth # 706

Normandale Community College

Distance Education and Learning in Vacuum Technology for Employment Readiness

To address the need for vacuum technicians in a variety of industries across the country, Normandale Community College is building out a credential that can be completed by students at a distance through access to online learning as well as synchronous class attendance using telepresence technology. The telepresence technology classroom also facilitates the ability to use hands-on hardware to support learning even at distance locations.

Booth # 708

Black River Technical College

Precision Ag Technicians: Improving Arkansas Farming

This project will provide technical education to current and prospective farm workers for precision agriculture. A technical certificate will be developed with eleven hours of course work crossing over to an AS degree in agriculture.

SHOWCASE SESSION III ▪ ABSTRACTS

Booth # 710

Patrick Henry Community College

Innovate, Design, Engineer, and Accelerate Career Pathway

Patrick Henry Community College partnered with three rural high schools and local industry to offer a career and technical education (CTE) dual credit, career pathway in technology and advanced manufacturing. Classes are delivered at the college's Fab Lab in a project-based learning environment. Students use technology to create and build projects combined with a curriculum designed to prepare them for industry certifications. These stackable credentials lead to an AAS degree in general engineering technology.

Booth # 712

Northeast Community College

Developing a Precision Agriculture Workforce Ladder through Secondary, College, and Incumbent Worker Education that Integrates Emerging Technologies and Farm Data

Northeast faculty are creating a precision agriculture career ladder by developing high school curriculum with area agriculture teachers, modularizing college curriculum, and delivering these modules and customized industry trainings to agriculture producers. The revised curriculum will be integrated with real-world farm scenarios, including the collection and analysis of Northeast farm data and simulator technologies. Local agriculture industry representatives will provide insight as faculty develop the more technology-enabled, data-driven, and experiential precision agriculture program and curriculum.

Booth # 714

Old Dominion University Research Foundation, Virginia Space Grant Consortium

Geospatial Technician Education–Unmanned Aircraft Systems (GeoTEd-UAS)

The GeoTEd–UAS project mission is to provide employers with well trained UAS operator technicians to meet workforce demand. Thomas Nelson and Mountain Empire Community Colleges, the Virginia Space Grant Consortium, and Virginia Tech are partners. GeoTEd–UAS includes four goals: (1) produce a DACUM for a small UAS operator technician; (2) develop UAS courses and career pathways; (3) provide faculty professional development and mentoring; and (4) provide hands-on UAS activities for high school students.

Booth # 716

Lone Star College System

Advanced Programmable Logic Controllers, Robotics, and Networking

To address industry needs for a multiskilled technician, Lone Star College–University Park is developing new curriculum for its mechatronics technician education and training programs.

Booth # 718

Reedley College

Developing 2+2+2 Pathways in Agribusiness to Meet the Needs of California's Agriculture Industry

This project will develop pathways in agribusiness education to train the next generation of farmers, leaders, and professionals to meet the growing needs of California's diverse agriculture industry. Students will work towards a certificate, AS degree, and/or transfer to four-year colleges or universities. An intensive two-week Summer Academy in Agriculture Sciences and Technology (SAAST) program will expose them to educational and career opportunities in agriculture.

Booth # 720

Raritan Valley Community College

Commercial Energy Management Technology (CEM-Tech)

CEM-Tech is a three-year project with the aim is to address a deficiency identified by the federal government and industry, which is a severe nationwide shortage of trained building technicians and training programs in the commercial energy management area, specifically in the fields of building automation, commercial energy auditing, building commissioning, and retro-commissioning. Raritan Valley Community College is developing industry-aligned curriculum to create a certificate or an AAS degree.

Booth # 722

Piedmont Virginia Community College (PVCC)

Central Virginia Advanced Manufacturing Initiative

Partnering with local industry and international credentialing groups, PVCC is working to develop an Advanced Manufacturing program to train students for careers in this high demand field. Current efforts are focused on development of a state-of-the-art lab, a two-year AAS degree, an enhanced internship program, workforce outreach to local industry, a stronger pipeline of students from secondary schools, and training of secondary instructors.


SAVE THE DATE
July 23–26 2018
HI-TEC MIAMI
All sessions held at InterContinental Miami
The 2018 HI-TEC presenter proposal form will be available at highimpact-tec.org beginning November 20, 2017.
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2017 ATE STUDENT/ALUMNI PARTICIPATION

2017 ATE PRINCIPAL INVESTIGATORS CONFERENCE

AACC AND NSF WISH TO CONGRATULATE THE FOLLOWING ATE STUDENTS AND RECENT ALUMNI SELECTED TO ATTEND THE 2017 ATE CONFERENCE.

Isaiah Abel, Ivy Tech Community College, IN

Guy Aday, Alamance Community College, NC

Mohamed Alborati, CUNY New York City College Of Technology, NY

Annalicia Arias-Tovar, Reedley College, CA

Lucas Bazile, Ivy Tech Community College, IN

Lindsey Bear, Bellingham Technical College, WA

Jonathan Becker, Clark State Community College, OH

Amanda Quinta Bell, Mt. San Antonio College, CA

Elena Bolotova, Tunxis Community College, CT

Steven Brown, Los Angeles Mission College, CA

Alexander Burgess, Palm Beach State College, FL

Brittany Calixto, Northeast State Community College, TN

Tara Clancy, Del Mar College, TX

Amanda Costandine, Asheville-Buncombe Technical Community College, NC

Rolland Coulon, Richmond Community College, NC

Amber Covington, Richmond Community College, NC

Candice Craig, Navajo Technical University, NM

Alexander Dobbs, National Renewable Energy Laboratory, CO

Erica Duncan, Del Mar College, TX

Austin Ferguson, Northwestern Connecticut Community College, CT

Nicole Froelich, Idaho State University, ID

Monique Gallegos, Idaho State University, ID

Shaun Gibson, Sinclair Community College, OH

Jorge Gonzalez, Sinclair Community College, OH

Breanne Hammett, National Renewable Energy Laboratory, CO

Marcus Lamar Hilliard, Orangeburg-Calhoun Technical College, SC

Jim Hyder, Bioscience Industry Fellowship Project, NM

Astrit Imeri, Tennessee Technological University, TN

Nick Jorgenson, Central Carolina Community College, NC

Isabelle Karis, Central Carolina Community College, NC

Ryan Kent, Northwest Vista College, TX

Victor S. Khamthongha, Dakota County Technical College, MN

Colleen G. M. Knight, Biosciences Industry Fellowship Project, TX

Tristan Lambert, Northeast State Community College, TN

Derek Martin, Orangeburg-Calhoun Technical College, SC

Megan McDonald, Saint Paul College, MN

Bryan J. Minan, Milwaukee Area Technical College-Oak Creek, WI

Joseph Morel, Palm Beach State College, FL

Lily Orelup, Northwestern Community College, CT

Jared Pacheco, Bristol Community College, MA

Rebekah Pennewell, Northeast State Community College, TN

Maftuna Rakhimova, Manchester Community College, CT

Milliechel Ramirez, Asnuntuck Community College, MA

Jeffrey Read, Rio Salado College, AZ

Larrisa Salenik, Reedley College, CA

Ashley Scholes, Madison Area Technical College, WI

John Schwarzmeier, Madison Area Technical College, WI

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CONFERENCE STEERING COMMITTEE

Many thanks to the following individuals for their dedicated assistance in planning the 2017 ATE Conference.

Rachael Bower, ATE Central, University of Wisconsin–Madison, WI

Osa Brand, National Council for Geographic Education, VA

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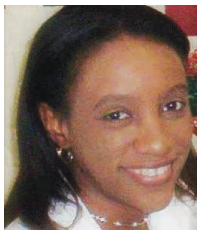

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Jasmine Hill, *Program Assistant*

SAVE THE DATES

Please mark your calendars for the
2018 and 2019 ATE Principal Investigators Conferences.

2018 ATE PRINCIPAL INVESTIGATORS CONFERENCE

October 24–26, 2018
Omni Shoreham Hotel
Washington, DC

2019 ATE PRINCIPAL INVESTIGATORS CONFERENCE

October 23–25, 2019
Omni Shoreham Hotel
Washington, DC

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