ATE Student Success:
Building a Diverse and Entrepreneurial Workforce
October 27–29, 2010
In an effort to reduce the carbon footprint on the environment made by meetings like ours, we have implemented some features to make the conference a little more environmentally friendly.

To reduce plastic waste, we will not serve bottled waters at the ATE Conference.

To take advantage of already recycled products, we used 100% recycled materials for your tote bag and lanyard. All remaining tote bags will go to a local charity for use.

To encourage recycling, we have containers set up throughout the Omni Shoreham and encourage you to do your part and recycle all unwanted handouts, newspapers, and flipchart papers.

We will also be collecting name badge holders at the conclusion of this event and will recycle and reuse them next year.

Finally, we printed this program book on paper that is Forest Stewardship Council (FSC) certified, and is made of 100% recycled material. FSC sets forth principles, criteria, and standards that span economic, social, and environmental concerns. The FSC standards represent the world’s strongest system for guiding forest management toward sustainable outcomes.

This publication is based upon work supported by the National Science Foundation under grant number DUE 0703130 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.

The American Association of Community Colleges (AACC) is the primary advocacy organization for the nation’s community colleges. The association represents 1,200 two-year, associate degree–granting institutions and more than 12 million students. AACC promotes community colleges through five strategic action areas: recognition and advocacy for community colleges; student access, learning, and success; community college leadership; economic and workforce development; and global and intercultural education. Information about AACC and community colleges can be found at www.aacc.nche.edu.
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**Seventeenth National ATE Principal Investigators Conference**  
October 27-29, 2010 • Omni Shoreham Hotel • Washington, DC

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**Conference at a Glance**

- Wednesday: 5
- Thursday: 8
- Friday: 12

**Roundtables**

- Wednesday: 15

**Plenary Speakers**

- 17

**Showcase Sessions**

- ATE Centers and Projects
  - Wednesday – ATE Centers: 20
  - Thursday – ATE Projects: 28
  - Friday – ATE Projects: 38

- ATE Students and Recent Alumni: 45

- Student Showcase Session: 46
CONFERENCES AT A GLANCE

WEDNESDAY, OCTOBER 27

10:00 AM – 8:00 PM
CONFERENCE REGISTRATION
West Conference Foyer

10:00 AM – 7:30 PM
INTERNET CAFÉ
Executive

1:00 – 5:00 PM
WORKSHOP A: GETTING STARTED
Ticket required
Palladian

1:00 – 4:00 PM
WORKSHOP B: EXPERIENCE HOW TO MAKE LEARNING REAL FOR YOUR STUDENTS
Ticket required
Congressional A

1:00 – 5:00 PM
WORKSHOP C: TECHNICAL EDUCATION IN SMALL AND RURAL SCHOOLS – CHALLENGES AND OPPORTUNITIES
Ticket required
Congressional B

1:00 – 4:00 PM
WORKSHOP D: IMPROVING TECHNICIAN EDUCATION THROUGH E-MATERIALS AND INNOVATIVE ONLINE TEACHING STRATEGIES
Ticket required
Diplomat

1:00 – 4:00 PM
WORKSHOP E: DESIGNING PRACTICAL AND USEFUL EVALUATIONS
Ticket required
Empire

3:30 – 6:00 PM
SHOWCASE I SET-UP
Exhibit Hall

4:15 – 5:30 PM
EFFECTIVE PROJECT LEADERSHIP: ADVICE FROM EXEMPLARS
Open Session
Ambassador

6:00 – 7:30 PM
OPENING PLENARY SESSION: BEATING THE ODDS – THE CRITICAL ROLE OF AMERICA’S COMMUNITY COLLEGES IN PREPARING STUDENTS FROM ALL BACKGROUNDS FOR STEM CAREERS
Keynote Speaker: Dr. Freeman A. Hrabowski, Ill, President, University of Maryland, Baltimore County Regency

7:30 – 9:45 PM
SHOWCASE I AND WELCOME RECEPTION
Exhibit Hall

9:45 – 10:30 PM
SHOWCASE I BREAKDOWN
Exhibit Hall

THURSDAY, OCTOBER 28

6:30 – 7:45 AM
SHOWCASE II SET-UP
Exhibit Hall

7:00 AM – 6:00 PM
CONFERENCE REGISTRATION
West Conference Foyer

7:30 AM – 6:00 PM
INTERNET CAFÉ
Executive

8:00 – 10:15 AM
SHOWCASE II AND CONTINENTAL BREAKFAST
Exhibit Hall

10:15 – 11:00 AM
SHOWCASE II BREAKDOWN
Exhibit Hall

10:30 – 11:45 AM
CONCURRENT SESSIONS

SESSION 1: THE ENTREPRENEURIAL TECHNICIAN – EDUCATING THE INNOVATIVE STEM PROFESSIONAL
Empire

SESSION 2: WORKFORCE DIVERSITY – REACHING AND SUPPORTING TRADITIONALLY UNDERSERVED STUDENTS
Diplomat
SESSION 3: CONDUCTING RESEARCH TO SUPPORT ADVANCED TECHNOLOGICAL EDUCATION WITH EXAMPLES FROM THE DECA PROJECT
Ambassador

SESSION 4: FEDERAL AGENCIES AND STEM – PROGRAMS AND FUNDING YOU NEED TO KNOW ABOUT
Palladian

12:00 – 1:45 PM
LUNCH PLENARY SESSION: 21ST CENTURY SKILLS – FROM INDUSTRY TO EDUCATION AND BACK
Keynote Speaker: Charles Fadel, Global Education Research Lead, Cisco Systems
Regency

2:00 – 5:00 PM
BIRDS OF A FEATHER SESSIONS
Agriculture, Environment, and Natural Resources
Ambassador
Biotechnology, Section 1 Capitol
Biotechnology, Section 2 Embassy
Chemical Processing and Refining Technology Senate
Energy Production and Energy Efficiency Empire
Engineering Technology, Section 1 Congressional A
Engineering Technology, Section 2 Congressional B
Geospatial Technologies Calvert
Information and Communications Technologies Hampton
Information Assurance, Secure Logistics, and Forensics Technologies Governors
Manufacturing Technologies Palladian
Micro- and Nanotechnologies Diplomat
Research and Outreach/Learning and Evaluation Cabinet
Teacher Preparation Forum

3:00 – 3:45 PM
STUDENT SHOWCASE SESSION SET-UP
Exhibit Hall

3:45 – 5:00 PM
STUDENT SHOWCASE NETWORKING EVENT
(Students only)
Exhibit Hall

5:15 – 6:30 PM
STUDENT SHOWCASE SESSION AND RECEPTION
Exhibit Hall

FRIDAY, OCTOBER 29

7:30 AM – 12:00 PM
CONFERENCE REGISTRATION
West Conference Foyer

7:30 – 10:00 AM
INTERNET CAFÉ
Executive

7:30 – 8:45 AM
CONTINENTAL BREAKFAST
Regency

7:30 – 8:45 AM
SHOWCASE III SET-UP
Exhibit Hall

7:30 – 8:45 AM
ATE STUDENT/ALUM RECOGNITION BREAKFAST
(By invitation only)
Diplomat

7:45 – 8:45 AM
ROUNDTABLES
Ambassador

9:00 – 10:15 AM
PLENARY SESSION: THE ART OF ENLIGHTENED SELF-INTEREST
Keynote Speaker: Ann Higdon, President and Founder, Improved Solutions for Urban Systems (ISUS)
Regency

10:15 AM – 12:30 PM
SHOWCASE III AND LUNCH
Exhibit Hall

12:30 – 1:15 PM
SHOWCASE III BREAKDOWN
Exhibit Hall

12:45 – 3:00 PM
ATE CENTER DIRECTORS MEETING
ATE Center Staff Only
Palladian
Please refer to the conference schedule for specific session times and room locations.

**ROUNDTABLES** 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 seated around one table, including the moderator.

**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.

**BIRDS OF A FEATHER SESSIONS** The 2010 ATE Birds of a Feather sessions feature a common structure to address a set of overarching questions centered on the conference theme, “ATE Student Success: Building a Diverse and Entrepreneurial Workforce.” The goals of these sessions are to identify key issues and promising strategies for building a diverse and entrepreneurial workforce from across the ATE community, as well as identify measures for effectively gauging progress.

For the sessions, ATE conference participants will separate according to the disciplinary group that most closely aligns with the focus of their ATE project or center. For projects and centers that are multidisciplinary in scope, team members are encouraged to split up among the different disciplinary groups to maximize networking and contribute to discussion within a broader section of the ATE community.

Within each disciplinary group meeting room, participants will then choose a table that focuses on either underserved populations or workplace and entrepreneurial skills. Guided by a facilitator, each group will use a scenario-based learning exercise to discuss a common set of questions. The small groups will then work together to synthesize their responses for a summary to present to the full room.

Reports from all of the disciplinary groups will be combined by ATE Conference staff following the sessions. A brief synthesis of the discussion outcomes will be presented at Friday morning’s plenary. A more detailed report will be prepared and distributed after the conference.

**SHOWCASE SESSIONS** The showcase sessions provide grantees an opportunity to exhibit their projects and share information with other programs, and with 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.

**STUDENT SHOWCASE SESSION** ATE students highlight their program of study and/or career path at a showcase session and reception held in their honor. ATE PIs and team members are encouraged to attend and show support for the ATE students and recent alumni taking part in this session.
PRECONFERENCE ACTIVITIES

10:00 AM – 8:00 PM
CONFERENCE REGISTRATION
West Conference Foyer

10:00 AM – 7:30 PM
INTERNET CAFÉ
Executive

1:00 – 5:00 PM
WORKSHOP A: GETTING STARTED
Advance Registration and Ticket Required
Palladian

K.C. Baukin, Branch Chief, Division of Grants and Agreements, National Science Foundation, VA
Laura Buckley, Grants and Agreement Specialist, Division of Grants and Agreements, National Science Foundation, VA
David Campbell, Program Director, National Science Foundation, VA
Elaine Craft, Director, SC ATE Center of Excellence, SC
Le Var Rashawn Farrior, Grants and Agreement Specialist, Division of Grants and Agreements, National Science Foundation, VA
Arlen Gullickson, Consultant, EvaluATE Center, Western Michigan University, MI
Pamela Hawkins, Team Leader, Division of Grants and Agreements, National Science Foundation, VA
Patricia Jackson, Financial Review and Cost Analyst, Office of Budget, Finance, and Award Management, National Science Foundation, VA
Angela Turner, Grants and Agreement Specialist, Division of Grants and Agreements, National Science Foundation, VA
Peggie Weeks, Senior Evaluation Associate, EvaluATE Center, Western Michigan University, MI
Charles Zeigler, Special Assistant, Cost Analysis and Audit Resolution Branch, Office of Budget, Finance, and Award Management, National Science Foundation, VA

This workshop is recommended for all principal investigators, co-principal investigators, and other team members involved in newly awarded projects and centers in FY10. Others who may find the workshop useful include new awardees in FY09 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 – 4:00 PM
WORKSHOP B: EXPERIENCE HOW TO MAKE LEARNING REAL FOR YOUR STUDENTS
Advance Registration and Ticket Required
Congressional A

John Birch, Program Director, Life Support and Sustainable Living Program, CT
Amelia Edwards, Student, University of Connecticut, CT
Sharon Ellerton, Associate Professor of Biology and Service Learning Director, Queensborough Community College, NY
Mehrad Faezi, Professor, Manufacturing Engineering Technology, Manchester Community College, CT
Emilio Flores, Student, Manchester Community College, CT
Kyle Lindquist, Student, Naugatuck Valley Community College, CT
Pankaj Paneru, Student, University of New Haven, CT
Karen Wosczyna-Birch, Executive Director, Regional Center for Next Generation Manufacturing, Connecticut Community Colleges’ College of Technology, CT

This workshop will provide participants with innovative proven practices in experiential learning that several ATE projects have successfully developed and implemented in their technology curricula. Different types of experiential learning will be presented including internships, cooperative education, service learning, and problem-based learning. Participants will be introduced to curriculum materials that can be used to introduce experiential learning into technology programs, including how to integrate experiential learning in technology programs using self-directed teams. Finally, participants will learn specific evaluation tools that they can use in their own institutions for experiential learning initiatives.
WEDNESDAY, OCTOBER 27 (CONT.)

1:00 – 5:00 PM
WORKSHOP C: TECHNICAL EDUCATION IN SMALL AND RURAL SCHOOLS – CHALLENGES AND OPPORTUNITIES
Advance Registration and Ticket Required
Congressional B

Gary Halvorson, Director, Agricultural Division, Sitting Bull College, ND
Tora Johnson, Director, GIS Service Center & Laboratory, University of Maine at Machias, ME
Michael Rudibaugh, Instructor, Geography and GIS, Lake Land College, IL
Randy Smith, Executive Director, Rural Community College Alliance, OK

Rural and small community colleges face unique and important challenges when they seek to develop high tech programs. They often have low and fluctuating enrollment, possess limited faculty and IT capacity, and serve economically disadvantaged populations with workforce demands that are different from those in more urban settings. This workshop is recommended for faculty, staff, and administrators from rural or small institutions who are working to start and/or sustain technical courses and programs. It may also be of value to urban or suburban colleges serving outlying rural areas. Workshop speakers and follow-up discussions will cover some of the strengths small and rural schools can bring to bear on implementing high tech programs, the challenges they often encounter, and potential solutions. Speakers will share examples of successful programs and common pitfalls. The session will include breakout discussions about new ideas and recommendations, as well as a chance to initiate potential collaborations.

1:00 – 4:00 PM
WORKSHOP D: IMPROVING TECHNICIAN EDUCATION THROUGH E-MATERIALS AND INNOVATIVE ONLINE TEACHING STRATEGIES
Advance Registration and Ticket Required
Diplomat

Robert K. Ehmann, Director of Education and Outreach Services, Center for Nanotechnology Applications and Career Knowledge, Pennsylvania State University, PA
Dan Hull, Director, OP-TEC: National Center for Optics and Photonics, TX
Darrell Hull, Assistant Professor, Department of Educational Psychology, University of North Texas, TX
Gordon Snyder, Executive Director, ICT Center, Springfield Technical Community College, MA
Robert Tinker, President Emeritus, Concord Consortium, MA

The cost of textbooks limits many students’ access to post-secondary technical education. One way to reduce the cost of textbooks is to offer them in e-book format. This eliminates the expense of production, inventory, and shipping. These savings, which may reduce the costs by 35–50%, can then be passed on to students. This workshop will explore formats, software, online delivery options, and costs associated with the conversion of print-based teaching materials to e-books. E-books provide access to other web-based tools that can improve students’ Internet search skills, introduce contextual examples, and measure and track student progress. Workshop participants will be introduced to online interactive applications, explore ways to use those applications in their fields, and examine options for integrating e-book components and supplementary technology tools, such as remote labs, into interactive teaching practices.

1:00 – 4:00 PM
WORKSHOP E: DESIGNING PRACTICAL AND USEFUL EVALUATIONS
Advance Registration and Ticket Required
Empire

Marilyn Barger, Executive Director, FL ATE Center, Hillsborough Community College, FL
Linda Blount, Professor, Secondary Education, University of North Alabama, AL
Phil Cantonze, Managing Partner, POS-Impact LLC, FL
Connie Della-Piana, Program Director, Division of Undergraduate Education, National Science Foundation, VA
Stephanie Evergreen, Research Associate, EvaluATE Center, Western Michigan University, MI
Sandra Harpole, Director, Science, Math, and Technology Center, Mississippi State University, MS
Lori Wingate, Principal Research Associate, EvaluATE Center, Western Michigan University, MI

An intellectual merit criterion for the ATE program is that the grant-level evaluations should provide useful information to the project and others. This workshop is designed for PI-evaluator teams seeking to enhance the usefulness of their evaluations while keeping them practical and cost effective. EvaluATE staff will facilitate hands-on activities in which participants clarify and solidify evaluation work plans and deliverables; establish or refine a logic model for their projects and use it to identify success indicators and performance standards; determine reporting needs, formats, and time lines; and identify strategies to develop, improve, and maintain productive working relationships between project evaluation staff.
In addition, NSF program officers will present their expectations for evaluations of ATE grants. Other ATE PIs and evaluators will share evaluation best practices that participants can adopt to support project improvement. ATE PIs are encouraged to bring their evaluators to this session, along with project/evaluation planning materials, such as a project logic models, goals/objectives, and evaluation plans.

3:30 – 6:00 PM
SHOWCASE I SET-UP
Exhibit Hall

4:15 – 5:30 PM
EFFECTIVE PROJECT LEADERSHIP: ADVICE FROM EXEMPLARS
Open Session
Ambassador

Deborah Boisvert, Director, BATEC, University of Massachusetts—Boston, MA
Ellen Kabat Lensch, Executive Director, Resource Development and Innovation, Eastern Iowa Community College District, IA
Albert Koller, Managing Director, SpaceTEC, Brevard Community College, FL
Michael Lesiecki, Executive Director, MATEC, Maricopa Community College District, AZ
Gordon Snyder, Executive Director, ICT Center, Springfield Technical Community College, MA
Vera Zdravkovich, Consultant, CyberWatch Center, Prince George’s Community College, MD
Moderator: Norman Fortenberry, Director, Center for the Advancement of Scholarship on Engineering Education, National Academy of Engineering, DC

Achieving excellence in an ATE project should not be left to chance. You know what you want to do, but have you really thought about all the administrative roadblocks to the smooth operation of your project? More critically, how can you get the buy-in and assistance that you need from your faculty, administration, and on-campus/off-campus partners? This session features five senior ATE principal investigators reacting to real challenges in project management (managing people, managing funds, managing operations) and change leadership (building and sustaining support among key constituencies, anticipating and adjusting to changing operational conditions, and institutionalizing a project’s activities within the core operations of host units). Extensive time is built in for audience comment, and discussion. We will also discuss a new web site being constructed that will offer video segments with advice that senior PIs wish they had when they started their projects. Although targeted to new PIs, many senior PIs will find this a valuable discussion as well.

CONFERENCE OPENING

6:00 – 7:30 PM
OPENING PLenary SESSION
Regency

V. Celeste Carter, Lead Program Director, ATE, National Science Foundation, VA
Joan Ferrini-Mundy, Acting Assistant Director, Directorate of Education and Human Resources, National Science Foundation, VA
George Boggs, President and CEO, American Association of Community Colleges, DC

BEATING THE ODDS – THE CRITICAL ROLE OF AMERICA’S COMMUNITY COLLEGES IN PREPARING STUDENTS FROM ALL BACKGROUNDS FOR STEM CAREERS

Keynote Speaker: Dr. Freeman A. Hrabowski, III, President, University of Maryland, Baltimore County

Global, rapid, and dramatic technological and demographic changes present the nation with enormous challenges for preparing America’s STEM workforce for the new century. The nation’s community and technical colleges will play an essential role in responding to these challenges, including preparing many more students from diverse backgrounds for STEM careers. What strategies and best practices can we use—working in partnership with business and industry, government, and our educational systems—to adapt to and embrace rapid change and ensure effective STEM workforce development throughout all segments of the population? Answers to such questions will substantially influence the capabilities and effectiveness of the workforce, the productivity of our public and private sectors, and, ultimately, the nation’s global competitiveness in the first part of the 21st century.

7:30 – 9:45 PM
SHOWCASE I AND WELCOME RECEPTION
Exhibit Hall

9:45 – 10:30 PM
SHOWCASE I BREAKDOWN
Exhibit Hall
## CONFERENCE SCHEDULE

### THURSDAY, OCTOBER 28

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<td>INTERNET CAFÉ</td>
<td>Executive</td>
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<td>8:00 – 10:15 AM</td>
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<td>10:15 – 11:00 AM</td>
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### CONCURRENT SESSIONS

#### SESSION 2: WORKFORCE DIVERSITY – REACHING AND SUPPORTING TRADITIONALLY UNDERSERVED STUDENTS

**Diplomat**

- Gerald Buckley, Assistant Vice President for College Advancement, National Technical Institute for the Deaf, Rochester Institute of Technology, NY
- Diego James Navarro, Founder, Director, and Instructor, Academy for College Excellence, Cabrillo College, CA
- Jay Smink, Director, National Dropout Prevention Center, Clemson University, SC

**Moderator:** Donna Lange, Associate Professor, National Technical Institute for the Deaf, Rochester Institute of Technology, NY

Employers are recognizing that workforce diversity can give them a competitive edge in both local and global markets. Integrating workers from diverse backgrounds into an organization’s workforce provides a variety of perspectives, experiences, and ideas that can stimulate creativity and innovation. With an increasingly diverse U.S. population and the large number of retiring baby boomers, employers will be looking to hire workers from minority and other underrepresented groups more than ever. As a result, colleges face the challenge of recruiting, supporting, and preparing this untapped pool of potential workers. During this session, the panelists will discuss programs for recruiting students from traditionally underserved populations, and how they are helping these students to succeed in preparing them for a changing technical workforce.

#### SESSION 3: CONDUCTING RESEARCH TO SUPPORT ADVANCED TECHNOLOGICAL EDUCATION WITH EXAMPLES FROM THE DECA PROJECT

**Ambassador**

- Charles Henderson, Associate Professor, Physics Department, Western Michigan University, MI
- Nick Smith, Professor, School of Education, Syracuse University, NY
- Louise Yarnall, Senior Researcher, SRI International, CA

**Moderator:** Liesel Ritchie, Assistant Director for Research, Natural Hazards Center, University of Colorado, CO

Many ATE projects and centers report on the annual ATE evaluation survey that they are conducting research on aspects of technician education. This session will feature brief reports on research being conducted under the Discovering the Educational Consequences of ATE (DECA) project. Research results on tagging new curriculum materials for content, logistical requirements for implementation, and its impact on ATE projects and centers will be highlighted. The remainder of the session will be dedicated to a facilitated discussion, with audience participation, to explore issues related to ATE research and how research can be made more useful to ATE PIs.

Community and technical college graduates in STEM disciplines are not only expected to possess the technical skills that are required in our fast-changing economic landscape, but also an understanding of the breadth of business operations and entrepreneurial behaviors that allow them to apply their technical skills in a more innovative and adaptive way. This interactive and “hands-on” presentation will showcase two innovative approaches that employ active and collaborative learning to infuse principles of intra- and entrepreneurship into STEM curricula. The session will also feature a representative from the National Association for Community College Entrepreneurship to discuss ways that community colleges can link their traditional role in workforce development with entrepreneurial development to advance economic growth and prosperity in their communities.

Jane Ostrander, Director, Experiential Learning Center, De Anza College, CA
Stuart Schulman, Executive Director, Economic and Workforce Development, Kingsborough Community College, NY
Heather Van Sickle, Executive Director, National Association for Community College Entrepreneurship, MA

**Moderator:** Karen Woszynski-Birch, Executive Director, Regional Center for Next Generation Manufacturing, Connecticut Community Colleges’ College of Technology, CT

Employers are recognizing that workforce diversity can give them a competitive edge in both local and global markets. Integrating workers from diverse backgrounds into an organization’s workforce provides a variety of perspectives, experiences, and ideas that can stimulate creativity and innovation. With an increasingly diverse U.S. population and the large number of retiring baby boomers, employers will be looking to hire workers from minority and other underrepresented groups more than ever. As a result, colleges face the challenge of recruiting, supporting, and preparing this untapped pool of potential workers. During this session, the panelists will discuss programs for recruiting students from traditionally underserved populations, and how they are helping these students to succeed in preparing them for a changing technical workforce.

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**Moderator:** Karen Woszynski-Birch, Executive Director, Regional Center for Next Generation Manufacturing, Connecticut Community Colleges’ College of Technology, CT

Employers are recognizing that workforce diversity can give them a competitive edge in both local and global markets. Integrating workers from diverse backgrounds into an organization’s workforce provides a variety of perspectives, experiences, and ideas that can stimulate creativity and innovation. With an increasingly diverse U.S. population and the large number of retiring baby boomers, employers will be looking to hire workers from minority and other underrepresented groups more than ever. As a result, colleges face the challenge of recruiting, supporting, and preparing this untapped pool of potential workers. During this session, the panelists will discuss programs for recruiting students from traditionally underserved populations, and how they are helping these students to succeed in preparing them for a changing technical workforce.

Community and technical college graduates in STEM disciplines are not only expected to possess the technical skills that are required in our fast-changing economic landscape, but also an understanding of the breadth of business operations and entrepreneurial behaviors that allow them to apply their technical skills in a more innovative and adaptive way. This interactive and “hands-on” presentation will showcase two innovative approaches that employ active and collaborative learning to infuse principles of intra- and entrepreneurship into STEM curricula. The session will also feature a representative from the National Association for Community College Entrepreneurship to discuss ways that community colleges can link their traditional role in workforce development with entrepreneurial development to advance economic growth and prosperity in their communities.
SESSION 4: FEDERAL AGENCIES AND STEM – PROGRAMS AND FUNDING YOU NEED TO KNOW ABOUT

Palladian

Alan J. Boykin, Associate Director, Talent Management and Initiatives, Human Capital Initiatives Office of the Undersecretary of Defense for Acquisition, Technology & Logistics, DC
Thomas E. Pinelli, University Affairs Officer, NASA Langley Research Center, VA
Brad Wiggins, Workforce Analyst, Employment & Training Administration, U.S. Department of Labor, DC
Stephanie Willett, Education Program Manager, Science and Technology Directorate, U.S. Department of Homeland Security, DC
Moderator: Jen Worth, Program Manager, Workforce & Economic Development, American Association of Community Colleges, DC

Several federal agencies are focusing on community colleges to increase student access and success to educate workers in the science, technology, engineering, and mathematics (STEM) fields. A panel of federal agency representatives will discuss their STEM programs and priorities; address how these programs align with NSF’s Advanced Technological Education program; and share information on community college funding opportunities. The session will include time to ask questions of the panelists.

12:00 – 1:45 PM
LUNCH PLENARY SESSION
Regency

21ST CENTURY SKILLS – FROM INDUSTRY TO EDUCATION AND BACK

Keynote Speaker: Charles Fadel, Global Education Research Lead, CISCO Systems

In this presentation, we will explore how the 21st century skills movement was started by industry requirements that students graduate not only with traditional knowledge, but with skills such as critical thinking, creativity, communication, and collaboration. A transformation in how to prepare students is now occurring in schools, community colleges, and universities on a global basis. Learn the potential impact of the 21st century skills movement on the future of education and its importance in preparing U.S. workers for positions in the global economy.
The 2010 ATE Birds of a Feather sessions feature a common structure to address a set of overarching questions centered on the conference theme, “ATE Student Success: Building a Diverse and Entrepreneurial Workforce.” The goals of these sessions are to identify key issues and promising strategies for building a diverse and entrepreneurial workforce from across the ATE community, as well as identify measures for effectively gauging progress.

For the sessions, ATE conference participants will separate according to the disciplinary group that most closely aligns with the focus of their ATE project or center. For projects and centers that are multidisciplinary in scope, team members are encouraged to split up among the different disciplinary groups to maximize networking and contribute to discussion within a broader section of the ATE community.

Within each disciplinary group meeting room, participants will then choose a table that focuses on either underserved populations or workplace and entrepreneurial skills. Guided by a facilitator, each group will use a scenario-based learning exercise to discuss a common set of questions. The small groups will then work together to synthesize their responses for a summary to present to the full room.

Reports from all of the disciplinary groups will be combined by ATE Conference staff following the sessions. A brief synthesis of the discussion outcomes will be presented at Friday morning’s plenary. A more detailed report will be prepared and distributed after the conference.

AACC and NSF thank you for participating in this high visibility, high quality, and high stakes opportunity to learn from the ATE community!

SCENARIO FOR DISCUSSION

In recognition of your outstanding leadership and accomplishments as an entrepreneurial educator, you have been recruited to serve on a joint AACC/NSF Blue Ribbon Task Force. The task force has received disturbing information:

1. National surveys of employers indicate that employers want intelligent, conscientious, diverse, hard-working, responsible, ethical, strong problem-solvers who work well in groups, communicate effectively, take charge of their own growth, and understand organizational and business contexts. Employers are dismayed that most postsecondary students currently are not getting the foundational, technical, and 21st century skills needed for the workplace.

2. Additional research shows that both technical educational programs and the U.S. technical workforce do not reflect the overall demographics of the U.S. population. Organizations representing women, various ethnic and racial groups, older students, low-income populations, and people with disabilities or different learning styles are voicing concerns about how poorly our current educational systems serves them.

Your Blue Ribbon Task Force must either:

1. Design pedagogical systems to provide relevant knowledge, skills, and experiences to enable graduates to hit the ground running and be successful quickly as members of the technical workforce in real-world, global organizations. To meet this effort, the following questions must be addressed.

   a. What are the key issues, concepts, and constraints involved in preparing technicians with workplace and entrepreneurial skills?

   b. What are the promising strategies, quality practices, and resources being used to optimally prepare technicians with these skills?

   c. How do we measure success in preparing technicians with workplace and entrepreneurial skills?

   OR

2. Design solutions to successfully attract, serve, and develop people for the U.S. technical workforce from traditionally underrepresented groups and the underserved populations described above. To meet this effort, the following questions must be addressed.

   a. What are the key issues, concepts, and constraints involved in attracting and serving traditionally underrepresented and diverse student populations in preparing them for the workforce?

   b. What are the promising strategies, quality practices, and resources being used to meet the needs of underrepresented and diverse student populations in preparing them for the workforce?

   c. How do we measure success in attracting and serving underrepresented and diverse student populations in preparing them for the workforce?

The input of each member of the Blue Ribbon Task Force is crucial—NSF and AACC greatly value your opinions and contributions. The discussions will be captured and synthesized to produce a report detailing promising strategies and resources in building a diverse and entrepreneurial U.S. workforce.
BIRDS OF A FEATHER DISCIPLINARY GROUPS
AND ROOM ASSIGNMENTS

Agriculture, Environment, and Natural Resources
Ambassador
Facilitator: Michelle Norgren, VESTA Center, MO

Biotechnology, Section 1
Capitol
Facilitator: Elaine Johnson, Bio-Link, CA

Biotechnology, Section 2
Embassy
Facilitator: Linnea Fletcher, Austin Community College, TX

Chemical Processing and Refining Technologies
Senate
Facilitator: Joan Sabourin, American Chemical Society, DC

Energy Production and Energy Efficiency
Empire
Facilitators: Ellen Kabat Lensch, ATEEC, IA
Kathy Alfano, College of the Canyons, CA

Engineering Technology, Section 1
Congressional A
Facilitator: Elaine Craft, SC ATE Center, SC

Engineering Technology, Section 2
Congressional B
Facilitator: Mel Cossette, Edmonds Community College, WA

Geospatial Technologies
Calvert
Facilitator: Ann Johnson, Del Mar College, TX

Information and Communication Technologies
Hampton
Facilitator: Gordon Snyder, ITC Center, MA

Information Assurance, Secure Logistics,
and Forensics Technologies
Governors
Facilitator: John Sands, Moraine Valley Community College, IL

Manufacturing Technologies
Palladian
Facilitator: Beverly Hildebrand, CARCAM, AL

Micro- and Nanotechnologies
Diplomat
Facilitator: Deb Newberry, Dakota County Technical College, MN

Research and Outreach/Learning and Evaluation
Cabinet
Facilitator: Jane Ostrander, DeAnza College, CA

Teacher Preparation
Forum
Facilitators: Christine Cunningham, Museum of Science, MA
Martha Hass, ATLAS and BEST Projects, MA

3:00 – 3:45 PM
STUDENT SHOWCASE SESSION SET-UP
Exhibit Hall

3:45 – 5:00 PM
STUDENT SHOWCASE NETWORKING EVENT
Open to students only
Exhibit Hall

5:15 – 6:30 PM
STUDENT SHOWCASE SESSION AND RECEPTION
Exhibit Hall
### FRIDAY, OCTOBER 29

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tr>
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<td>CONFERENCE REGISTRATION</td>
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<tr>
<td>7:30 – 10:00 AM</td>
<td>INTERNET CAFÉ</td>
<td>Executive</td>
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<td>7:30 – 8:45 AM</td>
<td>CONTINENTAL BREAKFAST</td>
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<tr>
<td>7:30 – 8:45 AM</td>
<td>SHOWCASE III SET-UP</td>
<td>Exhibit Hall</td>
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<td>7:30 – 8:45 AM</td>
<td>ATE STUDENT/ALUM RECOGNITION BREAKFAST</td>
<td>Diplomat</td>
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<td>7:45 – 8:45 AM</td>
<td>ROUNDTABLES</td>
<td>Ambassador</td>
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<tr>
<td>9:00 – 10:15 AM</td>
<td>PLENARY SESSION</td>
<td>Regency</td>
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### THE ART OF ENLIGHTENED SELF-INTEREST

**Keynote Speaker:** Ann Higdon, President and Founder, Improved Solutions for Urban Systems (ISUS)

How can we create greater individual and organizational impact by aligning societal, business, and government interests? Can STEM programs be the breakthrough that blends education with workforce, community, and economic development? It’s happening.
ATE Central is an online portal and collection of materials that highlights the work of the Advanced Technological Education (ATE) projects and centers. ATE Central is designed to help educators, students, and the general public to learn about, and use materials from, the entire depth and breadth of the ATE program.

**ATE Central can help your project or center...**

- Showcase and highlight the valuable work you’re doing
- Bring new users to your site and resources
- Provide outreach opportunities
- Deliver an active dissemination path for information about your project or center
- Connect you and your resources to the National Science Digital Library (NSDL) and other ATE projects and centers

*For more information please visit us during the showcase sessions or at http://atecentral.net*
Share > Your Materials

Dissemination is a key element of the ATE program. Whether projects are locally, regionally, or nationally focused, their impact depends on sharing information. The ATE Resource Center, METEC Online, can help ensure effective dissemination of your curriculum or project’s results and materials.

To share manufacturing and engineering technologies resources, contact:
METEC Online
www.meteconline.org
Sandy Feola - 937.512.2158
sandra.feola@sinclair.edu

Train > The Next Generation
**ROUNDTABLES**

**FRIDAY, OCTOBER 29**

**TABLE 1: ENHANCE DISSEMINATION WITH GOOGLE ADWORDS**  
*Michael Lesiecki, Maricopa Community College District, AZ*

You can expand your outreach and dissemination with a Google AdWords campaign. It is cost effective; but you need to commit the time to do it right. People use “Search” to find what you have to offer—why not help them discover you?

**TABLE 2: DEFINING ENERGY TECHNICIAN JOBS AND SHARING EDUCATIONAL RESOURCES**  
*Ellen Kabat Lensch, Advanced Technology Environmental and Energy Center, IA*

This roundtable will discuss the existing materials that define energy technician occupations and the need for further definition of this rapidly growing field. The discussion will also encompass existing energy technology resources and current efforts to share this information with business, industry, education, workforce development, and government organizations.

**TABLE 3: USING SKILLS-BASED COMPETITIONS FOR HIGH SCHOOL OUTREACH**  
*John Sands, CSSIA, Moraine Valley Community College, IL*

This roundtable will focus on the effectiveness of using skills-based competitions to engage and attract high school students to technical and engineering programs. The discussion will include the process of working with corporate partners and government agencies in developing high school skills-based competitions.

**TABLE 4: ENGAGING BUSINESS IN THE CLASSROOM**  
*Dale Rogers, Nashville State Community College, TN*

This roundtable discussion will focus on faculty engagement of local business partners in the classroom for authentic learning experiences, and address promising practices, successes, and lessons learned.

**TABLE 5: GROWING A WIND ENERGY TECHNICIAN TRAINING PROGRAM**  
*John Lamorie, Laramie County Community College, WY*

This roundtable will discuss how to grow a wind energy technician training program, including equipment needs, internships and jobs for students, funding needs, and curriculum expansion to online venues.

**TABLE 6: GEOSPATIAL EDUCATORS GROUP**  
*Ann Johnson, GeoTech Center, TX*

The GeoTech Center will host a roundtable for geospatial educators to discuss mutual issues and introduce the new national Geospatial Technology Competency Model.

**TABLE 7: ATE EVALUATION – BUILDING A COMMUNITY OF PRACTICE**  
*Peggie Weeks, Western Michigan University, MI*

The ATE Evaluation Resource Center’s focus on seeding and nurturing a community of practice for evaluators and interested project personnel continues. ATE evaluators are particularly encouraged to attend—but all are welcome to contribute to the conversation and the community.

**TABLE 8: PEER-SUPPORTED STEM ADOPTION – VISIONS ON A PROCESS FOR BROADENING DISSEMINATION OF TECHNOLOGY PROGRAMS**  
*Edgar Troup, CUNY Kingsborough Community College, NY*

This roundtable will discuss the problems that surround intercampus curriculum dissemination and adoption, and introduce an economic data-driven, peer-supported curriculum matchmaker process. Ideal participants come from both sides of the aisle: the faculty member looking for new programs for their campus, and the grantee who has curricular innovations to disseminate.

**TABLE 9: EDUCATOR/STUDENT COLLABORATIVE TECHNOLOGY TEAMS**  
*Jeannette Shaffer, Maricopa Community College District, AZ*

“The reason I know 100% that I want to teach someday is because of training with my teacher.” Discover a unique model for technology training that is easing the pain for technology resistant educators. Discuss and share ideas of how this model may be adapted and improved for future technology training of educators.

**TABLE 10: NATIONAL CERTIFICATION IN CAREER TECHNICAL EDUCATION**  
*Rick Parker, AgrowKnowledge, Kirkwood Community College, IA*

Are nationally recognized certifications backed by a standardized examination and a certifying agency beneficial to students graduating from career technical programs? Do these certifications give students an advantage in the employment market?
## ROUNDTABLES

**TABLE 11: EFFECTIVE MANAGEMENT OF AN ATE CENTER**  
*Robert Spear, Prince George’s Community College, MD*

What are the factors that make the management of an ATE Center effective? This discussion will elicit best practices as well as challenges from participants.

**TABLE 12: PROBLEM-BASED LEARNING IMPLEMENTATION IN STEM DISCIPLINES**  
*Fenna Hanes, New England Board of Higher Education, MA*

The New England Board of Higher Education is implementing its second problem-based learning project. This roundtable will invite open discussion about the design, implementation, fieldtesting, and pedagogical attributes of problem-based learning.

**TABLE 13: ACHIEVING BROADER IMPACT: WHAT DOES SUCCESS LOOK LIKE AND HOW WILL YOU KNOW?**  
*Deborah Boisvert, University of Massachusetts – Boston, MA*

This roundtable will discuss questions and lessons learned from those seeking to scale an innovation. Participants will also consider how such efforts might be more effectively supported by the ATE community, especially those projects undertaken with little prior experience in scaling.

**TABLE 14: ADVANCED TECHNOLOGIES FOR E-LEARNING IN TECHNICIAN EDUCATION**  
*Anand K. Gramopadhye, Clemson University, SC*

How can we make technician education more accessible and more effective through use of today’s advanced technologies to enhance e-learning? Next generation screen technologies and broadband Internet connectivity now make 3D visualization and simulations possible for widespread use in technician education.

**TABLE 15: NANOTECHNOLOGY MEETS CLEAN TECHNOLOGY**  
*Robert Cormia, Foothill College, CA*

Nanomaterials engineering is providing insights and advances in materials critical to solar energy, batteries and fuel cells, and biosynthetic fuels. Join the discussion of nanomaterials characterization and key nanostructures.

**TABLE 16: FORGING AHEAD WITH ARTICULATION**  
*Lynn Songer, Lane Community College, OR*

This roundtable discussion will focus on developing articulation agreements with local colleges and universities. What is working? What needs to be done to develop student-friendly pipelines?

**TABLE 17: THE APPLIED BACCALAUREATE DEGREE – AN EMERGING PATHWAY TO TECHNICIAN EDUCATION**  
*Debra Bragg, University of Illinois, IL*

This roundtable will encourage discussion and solicit feedback from ATE conferees concerning proposed research on the applied baccalaureate as an emerging pathway to technician education. The discussion will focus on proposed goals, activities, and products, and seek input to improve the project.

**TABLE 18: INTEGRATING ROBOTICS INTO ENGINEERING TECHNOLOGY**  
*William Beston, Florence-Darlington Technical College, SC*

What do today’s engineering technicians need to know about robotics? How can this content be integrated into existing programs? How can e-learning help grow sustainable robotics education programs?

**TABLE 19: CAREER PATHWAYS DISCUSSION WITH THE U.S. DEPARTMENT OF EDUCATION**  
*Peirce Hammond, U.S. Department of Education, DC*

This roundtable seeks to engage federal representatives and other ATE conferees in a discussion on successful strategies for engaging underrepresented students in technology programs. Participants will be asked to share effective strategies including marketing materials and any success with social networking methodologies such as Facebook or online mentoring.

**TABLE 20: LEVERAGING FAB LABS IN EDUCATION AND THE STEM WORLD**  
*Jim Janisse, Fox Valley Technical College, WI*

This roundtable will discuss the concept of using Fab Labs in education to increase STEM recruitment and retention. Come join the growing Fab Labs movement as we transition from becoming users to creators and inventors.
FREEMAN A. HRABOWSKI, III, has served as president of the University of Maryland, Baltimore County (UMBC) since May 1992. His research and publications focus on science and math education, with special emphasis on minority participation and performance. He currently chairs the National Academies’ Committee on Underrepresented Groups and the Science & Engineering Workforce Pipeline.

In 2008, he was named one of America’s Best Leaders by U.S. News & World Report, which in 2009 ranked UMBC the #1 “Up and Coming” university in the nation and fourth among all colleges and universities in the nation for commitment to undergraduate teaching. In 2009, Time magazine named him one of America’s 10 Best College Presidents.

He serves as a consultant to the National Science Foundation, the National Institutes of Health, the National Academies, and universities and school systems nationally. He also serves on the boards of the Alfred P. Sloan Foundation, France-Merrick Foundation, Marguerite Casey Foundation (Chair), The Urban Institute, the Constellation Energy Group, McCormick & Company, and the Baltimore Equitable Society.

He is a past member of the board of the Carnegie Foundation for the Advancement of Teaching and the Maryland Humanities Council (member and Chair).

Examples of recent honors include election to the American Academy of Arts & Sciences and the American Philosophical Society; receiving the prestigious McGraw Prize in Education, the U.S. Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring, and the Columbia University Teachers College Medal for Distinguished Service; being named a Fellow of the American Association for the Advancement of Science and Marylander of the Year by the editors of the Baltimore Sun; and being listed among Fast Company magazine’s first Fast 50 Champions of Innovation in business and technology. He also holds honorary degrees from more than a dozen institutions, including Princeton, Duke, Haverford College, the University of Michigan, Georgetown University, and Harvey Mudd College.

With philanthropist Robert Meyerhoff, he co-founded the Meyerhoff Scholars Program in 1988. The program is open to all high-achieving students committed to pursuing advanced degrees and research careers in science and engineering, and advancing minorities in these fields. The program has become a national model, and based on program outcomes, Hrabowski has authored numerous articles and co-authored two books, Beating the Odds and Overcoming the Odds (Oxford University Press), focusing on parenting and high-achieving African American males and females in science. Both books are used by universities, school systems, and community groups around the country.

A child-leader in the Civil Rights Movement, Hrabowski was prominently featured in Spike Lee’s 1997 documentary, Four Little Girls, on the racially motivated bombing in 1963 of Birmingham’s Sixteenth Street Baptist Church.

Born in 1950 in Birmingham, Alabama, Hrabowski graduated at 19 from the Hampton Institute with highest honors in mathematics. At the University of Illinois at Urbana-Champaign, he received his MA (mathematics) and four years later his PhD (higher education administration/statistics) at age 24.
NATIONAL ATE PRINCIPAL INVESTIGATORS CONFERENCE

PLENARY SPEAKER BIOGRAPHIES

CHARLES FADEL is the global education research lead at Cisco Systems, and the Cisco board member at the Partnership for 21st Century Skills, and Innovate/Educate (STEM). He is vice-chair of the Education committee of the Business and Industry Advisory Committee to the Organization for Economic Co-operation and Development, and actively works with three of its education committees. He has consulted with a wide variety of education ministries and boards including Massachusetts, France, Chile, Brazil, Costa Rica, Tunisia, and the Dominican Republic, and has worked on education projects with more than thirty countries and states. Fadel has co-authored a book titled 21st Century Skills – Learning for Life in our Times and frequently lectures on this topic, as well as STEM, and education technology. He is a visiting scholar at Wharton/UPenn where he recently taught a class on Technologies for Learning.

He is presently advising two nonprofit organizations, and an innovative school system in Chile (Innova100). He is also incubating a nonprofit organization addressing the convergence of 21st Century Skills and STEM to better teach statistics and probabilities. He has recently served on the Massachusetts Governor’s Readiness Project as well as its 21st Century Skills task force.

Fadel has been awarded five patents on video, content, and communication technologies. He holds a BS in electronics with course concentration in quantum and solid-state physics with a minor in neuroscience; and an MBA in international marketing. An avid reader, he has autodidactically learned disciplines such as evolutionary psychology, comparative linguistics, and classical history.

ANN HIGDON is president and founder of Improved Solutions for Urban Systems (ISUS). The organization began in 1992 to develop more effective ways to educate and train underachieving and dropout youth. In 1999, ISUS created the first of three dropout recovery career and technical schools. By 2009, the schools placed 2nd, 4th, and 15th highest performing of all 62 Dayton, Ohio public schools.

ISUS students gain industry certifications, work experience, apprenticeships, college credits, and life-changing perspectives. Healthcare students volunteer in hospitals and nursing homes; computer technology students refurbish computers that are gifted to inner-city children; advanced manufacturing students engineer wall panels for construction students who rebuild neighborhoods—now “building green” and installing renewable energy systems.

Prior to ISUS, Higdon created the public/private partnership in Ohio that replaced food stamps with smart cards. She managed large national demonstration projects, supervising a staff of 2,000 in 23 cities. She was a newspaper columnist, writing weekly Color Me Human articles published in the U.S., Mexico, Africa, Russia, and the Caribbean. She also co-hosted a radio talk show, The Hidden Face of Reality.

Higdon and ISUS have received such honors as the Dayton Business Journal Not for Profit Business of the Year and Regional Leadership Awards, the Dayton Daily News Top Ten Women Award, the HUD Secretary’s Award for Excellence, and the Points of Light Award. ISUS was selected by Rotary International as one of the top six programs supported by Rotary Worldwide. In August, Higdon was featured on Lifetime Channel’s Remarkable Women series.

She is a former New Yorker and the mother of four adult children.
Join us for these free interactive web seminars that you can attend from virtually anywhere. Each 90-minute session is presented by a subject matter expert. View the Professional Growth page on our website to register today!

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FREE NETWORKS WEBINARS

NOVEMBER 12 - Electronics Education Today
There is strong evidence that current courses and curricula in electronics technology programs are dated and clinging to past content that is no longer relevant in the modern world. Discuss the future of education in electronic systems technology with industry and education experts.

DECEMBER 10 - Emerging Technologies
The future of technology will be unimaginably good. Journey with a noted futurist as he describes his vision of how the anticipated fusion of virtuality and reality will influence technological education and our world.

FEBRUARY 11 - Minority Males – The Invisible Men
National research indicates that Minority Males are not attending or graduating from college at the same rate as their female counterparts. Examine initiatives designed to improve retention and degree completion rates for this underrepresented group.

MARCH 11 - Energy Utilization Technologies
As technology advances, the distribution and utilization of energy and electricity will become an increasingly important focus of the STEM workforce. Learn about the technologies that will be used to optimize electrical energy utilization and help ensure that education programs and materials are aligned with SMART initiatives.

APRIL 8 - Robotics Now
The confluence of several advanced technologies is bringing the age of robotics ever nearer – smaller, cheaper, more practical and cost-effective. Enhancements such as integrated vision and touch will dramatically change how robots will be utilized in many different environments. Stay abreast with the latest developments in robotics education.

MAY 13 - Sustaining CC Technical Programs
Technology education programs as we know them are at risk of being replaced by new models for workforce and economic development. Explore the significant challenges and solutions in supporting technology programs at our nation’s community colleges.

JUNE 9 - Grant Opportunities and Success Strategies
External resources such as those from federally funded grant programs can help a college or district continue to grow and innovate. Understanding the various opportunities, risks, time commitments, and rewards is crucial. Join a National Science Foundation program officer and an experienced grant developer as they share strategies, helpful hints, and fatal flaws.

www.matecnetworks.org
### SHOWCASE SESSION I

**WEDNESDAY, OCTOBER 27**

**ATE CENTERS**

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<tr>
<th>BOOTH #</th>
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<tr>
<td>101/102</td>
<td>MatEd – National Resource Center for Materials Technology Education</td>
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<td>103/104</td>
<td>GeoTech – National Geospatial Technology Center of Excellence</td>
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<td>TIME Center – Technology and Innovation in Manufacturing and Engineering</td>
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<td>201/202</td>
<td>EvaluATE – Evaluation Resource Center for Advanced Technological Education</td>
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<td>203/204</td>
<td>CARCAM – Consortium for Alabama Regional Center for Automotive Manufacturing</td>
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<td>205/206</td>
<td>MATEC – Maricopa Advanced Technology Education Center</td>
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<td>207/208</td>
<td>VESTA – Viticulture and Enology Science and Technology Alliance</td>
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<td>SC ATE – South Carolina Advanced Technological Education Center of Excellence</td>
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<td>NCME – National Center for Manufacturing Education</td>
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<td>OP-TEC – National Center for Optics and Photonics Education</td>
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<td>BATEC – Boston Area Advanced Technological Education Connections</td>
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<td>CAPT – Center for the Advancement of Process Technology</td>
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<td>409/410</td>
<td>CSSIA – Center for Systems Security and Information Assurance</td>
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<td>MATE – Marine Advanced Technology Education Center</td>
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<td>503/504</td>
<td>FLATE – Florida Advanced Technological Education Center</td>
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<td>505/506</td>
<td>AgrowKnowledge – National Center for Agriscience and Technology Education</td>
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<td>CSEC – Cyber Security Education Consortium</td>
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<td>CyberWATCH – Cyber Security: Washington Area Technician and Consortium Headquarters</td>
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<td>SpaceTEC – National Aerospace Technical Education Center</td>
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<td>AMTEC – National Center for Excellence in Advanced Automotive Manufacturing</td>
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SHOWCASE ABSTRACTS

WEDNESDAY, OCTOBER 27

BOOTH # 101/102
Edmonds Community College
National Resource Center for Materials Technology Education (MatEd)

MatEd is developing a clearinghouse of teaching materials that can easily be integrated into courses, classroom settings, and industry training. The MatEd collection is expanding rapidly and provides materials science labs, hands-on demonstrations, modules, and papers. MatEd partners with 11 higher education institutions nationally, including other ATE-funded centers and projects.

BOOTH # 103/104
Del Mar College
National Geospatial Technology Center of Excellence (GeoTech)

The GeoTech Center provides leadership, expertise, resources, innovative technology applications, and faculty development to community and technical college and secondary school faculty to increase the number, diversity, and quality of the geospatial technology workforce.

BOOTH # 105/106
Community College of Baltimore County, Essex
Technology and Innovation in Manufacturing and Engineering (TIME Center)

Maryland’s manufacturing transformation requires a workforce with increasingly advanced manufacturing and engineering technology skills. The TIME Center showcase will highlight the center’s collaborative efforts with partners to support that transformation through industry partnerships, curriculum improvement, professional development, pipeline rebuilding, and the promotion of manufacturing and engineering technology careers.

BOOTH # 201/202
Western Michigan University
Evaluation Resource Center for Advanced Technological Education (EvaluATE)

EvaluATE promotes the goals of the Advanced Technological Education 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.

BOOTH # 203/204
Gadsden State Community College
Consortium for Alabama Regional Center for Automotive Manufacturing Technology (CARCAM)

CARCAM is an NSF ATE Center that provides a unified, efficient approach through community and technical colleges to meet the demand for highly-skilled technicians for the automotive industry. It is comprised of nine colleges with industry partners that offer education through the automotive manufacturing technology degree and related specialties.

BOOTH # 205/206
Maricopa County Community College District
Maricopa Advanced Technology Education Center (MATEC)

MATEC NetWorks supports semiconductor, automated manufacturing, electronics, and energy utilization education by offering a digital resource library, web seminar series, national conference, and a virtual technology education community. NetWorks is a part of MATEC, a member of the Division of Academic and Student Affairs at the Maricopa Community Colleges.

BOOTH # 207/208
Southwest Missouri State University – West Plains
Viticulture and Enology Science and Technology Alliance (VESTA)

VESTA provides students interested in grape growing and wine making access to quality online coursework, from industry-leading instructors to essential hands-on laboratory and field experiences. This unique partnership between education and industry provides students access to essential technical grape and wine education at anytime from anywhere.

BOOTH # 209/210
Florence-Darlington Technical College
South Carolina Advanced Technological Education Center of Excellence (SC ATE)

SC ATE is significantly expanding excellence in technician education by: providing a central, web-based clearinghouse to increase participation in professional development in the ATE program; expanding the number of educators using SC ATE strategies to increase the number of students in the ATE pipeline; improving the performance of ATE PIs through targeted mentoring; and stimulating high school and community/technical college use of ATE curriculum models and best practices.
SHOWCASE ABSTRACTS

BOOTH # 211/212
Sinclair Community College
National Center for Manufacturing Education (NCME)
NCME serves as a source of materials, support services, and professional development opportunities for manufacturing and engineering technologies educators and industry professionals.

BOOTH # 301/302
CORD
The National Center for Optics and Photonics Education (OP-TEC)
OP-TEC works with secondary, postsecondary, and industry partners to increase and sustain our nation’s capacity to produce photonics 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 # 303/304
Lorain County Community College
National Center in Welding Education and Training (Weld-Ed)
Weld-Ed and the AWS Foundation have been working with industry and education partners to identify the needs of the welding and materials joining industry. Together, they have identified industry hiring needs and the gaps that exist in training delivery. The gaps will be addressed through new curricula development, distance-based instructional components, and professional development opportunities.

BOOTH # 305/306
University of Massachusetts Boston
Boston Area Advanced Technological Education Connections (BATEC)
BATEC developed and is supporting a coordinated, self-sustaining, regional IT education and workforce system to attract a diverse student population to computing careers, promote lifelong learning of technical skills, and support the IT workforce needs of our region. This is accomplished through transforming content and pedagogy, focusing on student success, and creating meaningful partnerships.

BOOTH # 307/308
Dakota County Technical College
Midwest Regional Center for Nanotechnology Education (Nano-Link)
Nano-Link is focused on providing comprehensive, modularized, topic-specific nanoscience content to community colleges, high schools, and industry. The stand alone or embeddable modular content is applicable to any program or career path where aspects of nanotechnology will have an impact.

BOOTH # 309/310
City College of San Francisco
Mid-Pacific Information and Communications Technology Center (MPICT)
MPICT’s mission is to coordinate, promote, and improve the quality of ICT education in a region consisting of northern California, northern Nevada, southern Oregon, Hawaii, and the Pacific Territories. MPICT operates from the City College of San Francisco with five regional partner colleges: Ohlone, Cabrillo, Foothill, Santa Rosa JC, and Truckee Meadows.

BOOTH # 311/312
Collin County Community College
Convergence Technology Center (CTC)
Learn about emerging careers supporting the convergence of voice, video, data, and image into one flexible network. Active in both enterprise and home markets, convergence specialists focus on bringing together products and capabilities of multiple vendors to provide customer solutions, including Green IT needs. The CTC also mentors colleges to launch programs.

BOOTH # 401/402
The Advanced Technology Environmental and Energy Center (ATEEC)
ATEEC is a national center that promotes and supports environmental and energy technology education, and provides low-cost professional development programs each summer.

BOOTH # 403/404
Alabama Southern Community College
National Network for Pulp and Paper Technology Training (npt)
Today’s students are looking for great careers with great companies. The National Network for Pulp and Paper Technology Training provides opportunities for companies to enhance the training and skills of their future employees. The network is committed to establishing a workforce that is ready to implement new technology while exploring renewable energy technology and training.
SHOWCASE ABSTRACTS

WEDNESDAY, OCTOBER 27

**BOOTH # 405/406**
Connecticut Community Colleges’ College of Technology
The Regional Center for Next Generation Manufacturing (RCNGM)

RCNGM has catalyzed technician and engineering education throughout Connecticut through its 2+2+2 seamless pathway utilizing industry and university validated curriculum. This showcase will highlight professional development, curriculum development, articulation, and student recruitment/retention strategies. The center-produced, “Manufacture Your Future” DVD and its accompanying teacher’s guide will be distributed.

**BOOTH # 407/408**
College of the Mainland
Center for the Advancement of Process Technology (CAPT)

CAPT supports the development of a highly-skilled, educated, and diverse process technician workforce for the chemical manufacturing, refining, oil and gas production, and pharmaceutical manufacturing industry sectors. To accomplish this, CAPT focuses on three models: one for pre-hire education in process technology (PTEC), one for new hire training, and one for incumbent training.

**BOOTH # 409/410**
Moraine Valley Community College
Center for Systems Security and Information Assurance (CSSIA)

CSSIA advances cyber security education programs at the secondary and postsecondary levels by providing innovative teaching and learning opportunities through skills-based student competitions, faculty professional development, and modern learning technologies.

**BOOTH # 411/412**
Monterey Peninsula College
Marine Advanced Technology Education Center (MATE)

MATE is a national network of educational institutions, marine industries, professional societies, and professionals working together to improve marine technical education and better prepare America’s workforce for ocean occupations. Major activities include: workforce assessments, partner mentoring, robotics competitions, at-sea internships, ocean drifters, faculty development, career awareness, diversity studies, and curricula.

**BOOTH # 501/502**
Springfield Technical Community College
National Center for Information and Communications Technologies (ICT Center)

The mission of the ICT Center is to provide appropriately skilled technicians and technologists with a primary focus on connecting technologies in the workforce. ICT-enabled curriculum and content is available benefitting business, industry, and ICT users.

**BOOTH # 503/504**
Hillsborough Community College
Florida Advanced Technological Education Center (FLATE)

FLATE is dedicated to the promotion and support of technical education and career pathways serving Florida’s manufacturing and advanced technologies business sectors through its strong industry and educational partnerships. It does much of its work for curriculum reform, outreach, and professional development under its “Made in Florida” and “sTEm-at-work” brands.

**BOOTH # 505/506**
Kirkwood Community College
National Center for Agriscience and Technology Education (AgrowKnowledge)

AgrowKnowledge grows educational and business partnerships that strengthen the math, science, and technology skills of college agriculture students. The center does this by delivering high-quality professional development workshops and curriculum to secondary and postsecondary educators, which incorporates new and emerging technologies into agriculture, and food and natural resources programs.

**BOOTH # 507/508**
University of Tulsa
Cyber Security Education Consortium (CSEC)

CSEC is continuing to grow cyber security education and workforce development programs at two-year institutions in OK, AR, CO, KS, LA, MO, TN, and TX. CSEC is also creating “centers of excellence” in the areas of secure coding, automation and control systems, and mobile communications devices. The consortium’s primary objective is to provide high-quality cyber security programs in at least 19 metropolitan areas in its eight-state region.
SHOWCASE ABSTRACTS

**BOOTH # 509/510**
Prince George’s Community College
*Cyber Security: Washington Area Technician and Consortium Headquarters (CyberWatch)*

CyberWatch will display videos of students participating in the Mid-Atlantic Collegiate Cyber Defense Competition; student exercises from the Digital Forensics Competition, part of which was conducted by the Department of Defense Cyber Crime Center; and winning entries from the Security Awareness Poster and Video Contest, jointly sponsored with Educause.

**BOOTH # 511/512**
Brevard Community College
*National Aerospace Technical Education Center (SpaceTEC)*

SpaceTEC will showcase the new national resource center’s web site, curricular materials, lessons learned, and best practices for training and certifying aerospace technicians nationwide.

**BOOTH # 601/602**
Kentucky Community & Technical College System
*National Center for Excellence in Advanced Automotive Manufacturing (AMTEC)*

AMTEC’s showcase will highlight the promising practices of the center to reengineer global impact, and attract, retain, and grow the skill sets of technicians. The showcase includes the National Governors’ Association Best Practice of the Year Case Study and other successful strategies and materials.

**BOOTH # 603/604**
College of the Canyons
*California Regional Consortium for Engineering Advances in Technological Education (CREATE)*

The goal of CREATE is to address the demonstrated high demand for renewable energy technicians in southern and central California as a multi-county consortium. This four-year grant will allow the center to complete objectives in five areas: curriculum development, faculty development, articulation and 2+2+2 pathways, assessment, and dissemination.

**BOOTH # 605/606**
Macomb Community College
*Center for Advanced Automotive Technology (CAAT)*

CAAT will meet the evolving advanced technical education needs of automotive technicians by reforming and promoting curriculum to emphasize advanced automotive technologies that are changing the market.

**BOOTH # 607/608**
Saddleback College
*National Center for Rapid Technologies (RapidTech)*

RapidTech will share successes in building partnerships to assist in sustainability and give examples of project-based learning that have led to student employment as technicians in additive manufacturing. Examples on how the instructional program achieved success with this approach to student learning and garnered the support of industry will be shared.

**BOOTH # 609/610**
City College of San Francisco
*National ATE Center for Biotechnology and Life Sciences (Bio-Link)*

In August 2009, Bio-Link was awarded a continuing grant as a new National Center of Excellence for four years at a level of just over $5 million. As a new National Center of Excellence designed to meet the rapidly changing needs of the biotechnology and related life science industries and prospective technical workforce, Bio-Link will be able to provide the much wider range of services and products now necessitated by the swiftly changing biotech industry.

**BOOTH # 611/612**
Chemeketa Community College
*Northwest Center for Sustainable Resources (NCSR)*

NCSR focuses on ecosystem-based natural resource and environmental science education. The center’s foci are: development of natural resource and environmental science educational materials; dissemination and adaptation of these materials; and providing professional development institutes.

**BOOTH # 613/614**
Pennsylvania State University – University Park
*National Center for Nanotechnology Applications and Career Knowledge (NACK)*

NACK was established in September 2008. Its mission is to provide assistance through curriculum development, remote access to laboratory tools, etc., to existing or developing micro- and nanofabrication education and workforce development programs at postsecondary institutions across the United States.
**SHOWCASE ABSTRACTS**

**WEDNESDAY, OCTOBER 27**

**BOOTH # 006/007**

Montgomery County Community College  
*Northeast Biomanufacturing Center and Collaborative (NBC*)

NBC will display copies of its printed materials: four laboratory manuals for hands-on biopharmaceutical manufacturing education and training, and chapters from a companion textbook under production. Try your hand at virtual chromatography. Be challenged by our biomanufacturing acronym game, with prizes for winners.

**BOOTH # 008/009**

University of New Mexico  
*Southwest Center for Microsystems Education (SCME)*

Microsystems are an enabling technology that support semiconductor, nano- and biotechnology, transportation, homeland security, and consumer product applications with an $8 billion per year market. SCME is increasing the nation’s capacity to produce technologists skilled in microsystems technologies and will showcase its educational materials, professional development, and outreach activities.

**BOOTH # 1**

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. The foundation competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.*

**BOOTH # 2**

American Association of Community Colleges  
*The American Association of Community Colleges (AACC) is the primary advocacy organization for the nation’s community colleges. The association represents 1,200 two-year, associate degree-granting institutions and more than 12 million students. AACC promotes community colleges through five strategic action areas: recognition and advocacy for community colleges; student access, learning, and success; community college leadership; economic and workforce development; and global and intercultural education.*

**BOOTH # 3**

Council for Adult and Experiential Learning (CAEL)  
*The Council for Adult and Experiential Learning (CAEL) is a national leader in the fields of adult learning and workforce development. CAEL provides colleges and universities, companies, labor organizations, and state and local governments with the tools and strategies they need to effectively serve adult learners.*

**BOOTH # 4**

ATE Central  
*ATE Central works to provide an information hub for the ATE community and help educators and others discover the entire depth and breadth of the ATE program. ATE Central.net features materials and services that showcase the work of the ATE program and encourage collaboration, mentoring, and resource sharing within and beyond ATE.*

**BOOTH # 5**

High Impact Technology Exchange Conference (HI-TEC)  
*HI-TEC is produced by a consortium of NSF ATE centers and projects. This national conference allows us the opportunity to present community college educators and stakeholders with professional development, educational materials, collaborative ventures, and insights into emerging market trends essential to developing and advancing the technical workforce of the 21st century. Learn more about sponsorship and dissemination opportunities.*
Save the Date!

High Impact Technology Exchange Conference

Educating America’s Technical Workforce

July 25–28, 2011 • Hyatt Regency • San Francisco

HI-TEC is produced by a consortium of NSF ATE centers and projects. This national conference allows us the opportunity to present community college educators and stakeholders with professional development, educational materials, collaborative ventures, and insights into emerging market trends essential to developing and advancing the technical workforce of the 21st century.

Call for workshop and session presentations opens November 15.

Visit the HI-TEC Booth #5 for sponsorship and dissemination opportunities.

www.highimpact-tec.org
## SHOWCASE SESSION II

### THURSDAY, OCTOBER 28

### ATE PROJECTS

8:00 – 10:15 AM  
Exhibit Hall

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<td>Ivy Tech Community College of Indiana – Bloomington (Lee)</td>
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<td>Advanced Technology Environmental Education Center (SEET Project)</td>
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SHOWCASE ABSTRACTS

THURSDAY, OCTOBER 28

BOOTH # 101
Laramie County Community College (LCCC)
Wind Energy Technology

LCCC is developing career pathways in wind energy technology by utilizing a combination of traditional instruction, hands-on skills development, and computer-based training. The project’s overall goal is to graduate highly-qualified technicians capable of maintaining utility-scale wind turbines.

BOOTH # 102
New England Board of Higher Education
Problem-Based Learning for Sustainable Technology: Increasing the STEM Pipeline (STEM PBL)

STEM PBL is developing six industry and problem-based multimedia challenges in alternative energy, environmental protection, lighting, and sustainable agriculture for use in college and high school classrooms. The project will also develop two professional development courses, a web-based course for in-service teachers, and a college classroom course for pre-service teachers.

BOOTH # 103
Bunker Hill Community College
Computer Forensics Advanced Technology Education Project

High schools, community colleges, colleges, universities, law enforcement, and financial and defense firms have partnered together to develop computer forensics programs and Internet safety campaigns across eastern Massachusetts.

BOOTH # 104
Madison Area Technical College
Consortium for Resources in Renewable Energy Technologies (CERET)

CERET is a collaborative infrastructure among academic, industry, and government stakeholders that seeks to deliver cutting-edge renewable energy education for the existing and future technician workforce. CERET has developed a popular online Renewable Energy Certificate, and recently introduced hands-on Renewable Energy Train-the-Trainer Academies for technical education professionals.

BOOTH # 105
Southwestern College
Geospatial Technology (GST) Program

To build a strong and robust Geospatial Technology program at Southwestern College, our approach has been to develop courses that are fast-track, online, and relevant to today’s workforce needs. In addition, our introductory course fulfills a series of general education requirements, and focuses on quantitative thinking and spatial literacy.

BOOTH # 106
CUNY Kingsborough Community College
The Brooklyn Biotechnology Bridge

This biotechnology showcase will provide information on the recruitment, retention, and training of students; biotechnology curriculum development; and the results and impact of the project’s summer biotechnology workshop for high school faculty.

BOOTH # 201
Red Rocks Community College
Sustaining a Green Collar Workforce: An Interdisciplinary Approach

Red Rocks Community College has made a commitment to the national challenge of creating and sustaining a green workforce. In conjunction with our partners, we have created a two-prong approach to this task: workforce preparation for the renewable energy and environmental technology industries; and integrating sustainability across the curriculum.

BOOTH # 202
Maricopa County Community College District
Achieving Technological Literacy in Arizona for Students and Teachers (ATLAST)

The ATLAST project provides current and future teachers with the knowledge and skills needed to prepare students for an increasingly technology-driven society. ATLAST training sessions balance focus between knowledge of the technology industry in the community, and the ability to use instructional technology to raise the level of student technological literacy.

BOOTH # 203
Lane Community College
Geospatial Thinking Across the Curriculum (Geo-STAC)

Geo-STAC is a professional development opportunity for high school teachers to design, implement, and revise geospatial lessons using web-based GIS technology. Teachers develop lessons that embed spatial thinking and GIS technology in math, global studies, chemistry, environmental science, health, and advanced French.

BOOTH # 204
Sinclair Community College
Faculty Development in Hybrid and Advanced Automotive Technology

This project is designed to train college and high school instructors on hybrid/alternative fuel vehicle systems through a train-the-trainer approach. The safety and technological changes evolving with the electric vehicle industry requires new strategies for diagnosing and servicing these kinds of vehicles. The project is also designed to develop resources and curriculum content.
SHOWCASE ABSTRACTS

**BOOTH # 205**
Butler County Community College  
Faculty Professional Development in Design, Construction, Assembly, and Analysis of a Solid Body Electric Guitar

Guitars in the classroom? Absolutely! Using electric guitars to engage students, this collaborative project provides educators with a relevant, innovative, and dynamic approach to STEM education—while also providing faculty with learning activities that are challenging and captivating to student learners.

**BOOTH # 206**
Carnegie-Mellon University  
Transition: Alice 2 to Alice 3 in Community Colleges

This showcase features a collaborative, mentoring project that provides a highly motivating, innovative approach for teaching introductory programming concepts, as well as training and support for community college faculty. Alice 2 is a highly successful programming environment using 3D animation. Alice 3 introduces transition to a production level language, Java.

**BOOTH # 207**
Oregon State University  
Science and Engineering in the Lives of Students

Video components of a professional development program highlight the role of science in construction problems. High school and community college teachers develop strategies for highlighting science directly usable in the everyday lives of students. Students see STEM subjects playing a more meaningful role in their education and future careers.

**BOOTH # 208**
University of Colorado at Boulder  
Enhancing Targeted Research in the Advanced Technological Education Program

The DECA project (Discovering the Educational Consequences of ATE) is a collaborative research effort between seven institutions nationwide. Nine interrelated studies are designed to foster deeper understanding of technician education at two-year colleges by focusing on program improvement, curriculum and materials development, and crosscutting themes such as recruitment and sustainability.

**BOOTH # 209**
Del Mar College  
South Texas Undergraduate Curriculum Consortium for Educating Biotechnical Science Students (SUCCESS)

The SUCCESS biotechnology project supports a number of intensive summer internships. After completing summer internships, students report better performance in science classes, enhanced career options, more self-confidence, and better critical thinking skills. This showcase will present how a research internship can transform students.

**BOOTH # 210**
California State University Monterey Bay Foundation  
Monterey Bay Advanced Networking Education Consortium (MBANEC)

MBANEC is committed to attracting a diverse group of students into computing by helping high school and college students explore opportunities in information technology. The project runs workshops for teachers and students, helps students apply for scholarships, and coordinates a student internship program.

**BOOTH # 211**
Museum of Science  
Advancing Technology Literacy and Skills (ATLAS) of Elementary Educators

The ATLAS project has focused on enriching community college elementary education, science, and related courses with engineering and technology content and pedagogical techniques. Faculty have modified course syllabi with engineering content and activities, collaborated with four-year college partners in developing transfer pathways, and shared their models with community and four-year colleges throughout Massachusetts.

**BOOTH # 212**
Oklahoma State University – Okmulgee (OSU)  
Oklahoma Nanotechnology Education Initiative

This three-year grant is infusing microtechnology and nanotechnology into CareerTech pre-engineering academies, manufacturing, aviation, health care, and automotive courses. OSU-Institute of Technology is developing a two-year associate degree that will advance industries’ use of microtechnology and nanotechnology. The project also offers summer camps to recruit students.

**BOOTH # 301**
Erie Community College  
Computer Security and Investigations: An Integrative Approach to Curriculum Development in Digital Forensics

Erie Community College has developed a certificate program in Digital Forensics. This certificate is a hybrid, as it draws upon the information technology, criminal justice, and computer science curricula. This is the first year that the courses are available after a challenging course development period.

**BOOTH # 302**
Middlesex Community College  
Integrating Nanotechnology and Technician Education into the Curriculum

This project focuses on determining the components of nanotechnology and related technician education programs that will be integrated into the community college curriculum.
SHOWCASE ABSTRACTS

THURSDAY, OCTOBER 28

BOOTH # 303
The Association for Interactive Media Education (AIME)
Advanced Technological Education Television (ATETV.org)

ATETV.org is a multidisciplinary web-based video series with interactive and networking capabilities designed to increase the relevance of technician education to modern practices and ensure an increased number of students entering the high-performance workplace with enhanced competencies.

BOOTH # 304
Turtle Mountain Community College
Turtle Mountain Field Station

This showcase highlights student work done in association with the Turtle Mountain Field Station project at Turtle Mountain Community College. Students worked together to use geospatial technologies to enhance a plant succession project and a trail mapping project. Results from recent workshops will also be presented.

BOOTH # 305
Stark State College of Technology
Great Lakes Fuel Cell Education Partnership

The partnership’s mission is to provide leadership in creating innovative fuel cell related education and training programs to meet the future workforce needs of the fuel cell industry in OH, PA, NY, TN, MI, and IN. The project offers curriculum development and enhancement; professional development; and partnerships with high schools, institutions of higher education, business, and government.

BOOTH # 306
Laney College
Educating Technicians for Building Automation and Sustainability

Laney College is engaged in developing the curriculum and instructional methods needed to prepare building technicians for energy efficient and sustainable building operations and management. The college provides model curriculum and national research on technology trends and skill gaps.

BOOTH # 307
Advanced Technology Environmental Education Center
The SEET Project: Sustainable Energy Education and Training Workshops for Future Energy Technicians

As a model professional development training program, SEET provides, high school and college educators with the opportunity to work with researchers from national laboratories and colleagues from across the country. The workshop curriculum promotes the latest scientific research in sustainable energy, as well as hands-on demonstrations and activities to be translated back into the educators’ classrooms.

BOOTH # 308
Cabrillo College
Math and Science Curriculum for the Digital Bridge Academy

This project introduces underprepared students to the sciences and science/technical careers through immersion in a cohort-based full-time college program. At the program’s core is a team-taught interdisciplinary science course that emphasizes skill and knowledge acquisition through hands-on activities. Research projects, science literacy, and study skills are important components of the program.

BOOTH # 309
University of Hawaii
Partnership for Advanced Marine and Environmental Science Training for Pacific Islanders

This project focuses on improving technological education at the undergraduate and secondary school levels through the community colleges of the Pacific Islands by supporting regionally relevant curriculum development, professional development of community college faculty, internships and field experiences, and by strengthening the scientific infrastructure of the participating institutions.

BOOTH # 310
Seattle Central Community College
SAGE Project - Sustainable Agriculture Education

The SAGE Project aims to address the ecological, environmental, socioeconomic, political, and cultural issues related to sustainable food systems within and beyond the Puget Sound bioregion through experiential education, collaborative research, institutional partnerships, and professional training.

BOOTH # 311
CUNY New York City College of Technology
Learning Product Design Through Hands-on Mechatronic Projects

Mechatronic technology has been identified as one of the top 10 emerging technologies of the 21st century. This project seeks to establish a Mechatronic Technology Center to be used to create hands-on, cross-disciplinary mechatronic product design activities using a concurrent engineering approach adopted by industry.

BOOTH # 312
Minnesota State College – Southeast Technical
Nanotechnology Rural Education Initiative (NANOredi)

NANOredi is partnering with Dakota County Technical College and the University of Minnesota to offer a Nanoscience Technology Certificate for students in rural communities of Southeast Minnesota. These students are interested in pursuing careers in nanoscience, but need transitional opportunities before transferring to a metropolitan college or university.
SHOWCASE ABSTRACTS

BOOTH # 401
San Francisco Film Society
MEMS, Nanotechnology, and the Silicon Run Series

This project adds new chapters to the Silicon Run Video Series with the production of two new videos on the emerging fields of MEMS (MicroElectroMechanical Systems) and nanotechnology. The videos are educational overviews, which have been filmed at prominent industrial locations.

BOOTH # 402
Springfield Technical Community College
Intelligent Infrastructure Systems Education Project

This project seeks to develop powerful, interactive simulations and conventional curricula in the area of intelligent infrastructure systems, which will be disseminated through faculty workshops and web-based delivery. Enabled by sensor network technology, this is a multi-interdisciplinary field that involves many different technologies.

BOOTH # 403
Florida Community College at Jacksonville
Biotechnology and Bioinformatics Program: The Institute For Food Safety

This project aids industry-led initiatives connecting biotechnology students to jobs in food safety. The grant connects with high school students to create career awareness, and helps AS students connect to jobs through collaboration with a major food testing company.

BOOTH # 404
Illinois Valley Community College
Building an Engineering Technology Workforce: A Plan for Reaching Young People, Adults, and Women

Building an Engineering Technology Workforce is a comprehensive recruiting project designed to increase the number of people in engineering technology careers by addressing barriers that prevent target groups from selecting engineering. Activities include a course focused on designing and building a guitar and an ongoing middle school girls’ STEM camp.

BOOTH # 405
Hagerstown Community College
Pathways to Biotechnology and Biomanufacturing Careers

The goal of this project is to accelerate the development of a high quality, sustainable biotechnology/biomanufacturing workforce to meet current and future employer needs. At the core of the project is enhanced development of the partnerships defined in the College and Career Transitions Initiative (CCTI) for a pathway to biotechnology and biomanufacturing careers.

BOOTH # 406
Century Community and Technical College
Investigative Science and Law Enforcement Technology – Phase 2

Century College is focused on developing and enhancing curriculum in partnership with industry to create service learning and technical experiences in the investigative science and law enforcement technology fields.

BOOTH # 407
Bemidji State University
The eTECH Project

The eTECH project is a consortium of eight Minnesota two-year colleges and Bemidji State University. The consortium will work together to address manufacturing workforce needs through an innovative redesign of higher education delivery, and a seamless career pathway. The pathway will be augmented by integrating industry approved credentials within manufacturing curriculum, and offering the curriculum online.

BOOTH # 408
Lane Community College
Simulation and Game Development Immersion Program: A Computer Programming Program through Second Life

This showcase will share lessons learned in using Second Life as an enabling technology for distance courses in introductory game development. Through use of this technology, the project has attracted increased numbers of women and served students who never come to campus.

BOOTH # 409
Northern Essex Community College (NECC)
Applied Science Program

Students in NECC’s Laboratory Science program need to demonstrate, in addition to technical skills, mastery of non-technical 21st century skills. This showcase will provide information on the development of rubrics and the data collected on teamwork, oral and written communication skills, and analytical reasoning.

BOOTH # 410
Western Kentucky University
Water and Wastewater Technician Training Institute

As workforce needs in the water treatment industry rapidly expand, the Water Training Institute serves to educate and train new water treatment technicians with the skills to think critically and implement science, mathematics, and engineering principles into practice to keep pace with new treatment technologies and increased federal regulation.
SHOWCASE ABSTRACTS

THURSDAY, OCTOBER 28

BOOTH # 411
Hofstra University
Project ESTEEM (Equitable Science, Technology, Engineering, Education, and Mathematics)

The project’s mission is to establish confidence by building competence. Project ESTEEM will more fully engage community college women in STEM education by strengthening their knowledge, skills, and leadership abilities; thus enhancing their ability to pursue promising and viable careers. A framework has been developed to enable instructors and curriculum developers to adapt existing STEM materials to create an equitable education environment.

BOOTH # 412
Fox Valley Technical College
Midwest Digital Fabrication Partnership (MDFP)

MDFP is successfully achieving its goals to integrate MIT Digital Fabrication Laboratories (Fab Labs) experiences into selected courses at MDFP organizations; to enrich hands-on, STEM learning experiences; and to assess the impact of Fab Lab experiences to enhance students’ STEM competencies and attitudes.

BOOTH # 501
Lee College
Analyzer Technician Opportunities Project (ATOP)

Analyzers enable industry to run environmentally clean operations, create top-quality products, and ensure community safety. NSF funding allows Lee College and San Jacinto College to fulfill a request from industry to create a credential for entry-level employment in this sophisticated, advanced technology.

BOOTH # 502
Indian River Community College
Biotrain – Biotechnology Regional Access Initiative

Biotrain seeks to improve training and engagement of local residents as skilled members of a growing south Florida biotechnology community. Indian River State College is leading curriculum enhancement, professional development, and attention to underserved students, with a focus on connecting the industry to classrooms.

BOOTH # 503
St. Louis Community College (STLCC)
Bio-Bench

The Bio-Bench project assisted STLCC in embedding its workforce biotechnology development program into a new post-incubator. The project also established a contract research organization within the facility, where student interns from the biotechnology program work on cutting-edge research projects for clients, under the guidance of a senior research scientist.

BOOTH # 504
Waukesha County Technical College (WCTC)
Developing Advanced Manufacturing Curriculum for Welding and Metal Fabrication

WCTC is heading the development of next-generation manufacturing curricula leading to associate degrees in robotic welding, laser cutting, and advanced metal fabrication/welding. This curriculum will align with AWS, NIMS, PSMO, and MSSC national standards.

BOOTH # 505
Tacoma Community College
Creation of an Instructional Program in Secure Logistics

Tacoma Community College is in the last year of their first grant, “Creation of an Instructional Program in Secure Logistics,” in which they created a certificate and degree in logistics. A second grant, “Secure Logistics Curriculum Enhancement,” will create case studies/classroom exercises for program classes as well as a database of secure logistics best practices.

BOOTH # 506
Ivy Tech Community College of Indiana – Bloomington
Bioscience Alliance for the Midwest (BEAM)

Ivy Tech Community College – Bloomington and its partners are currently developing the regional center BEAM (Bioscience Alliance for the Midwest). This alliance will allow community colleges to better serve the workforce needs of local industry, as well as improve bioscience education and awareness, including career awareness, for all ages.

BOOTH # 507
Ivy Tech Community College of Indiana – Bloomington
Life Sciences Technical Training in Southern Indiana

Ivy Tech Community College – Bloomington has been offering industry project-based internships to students. One student will present her recent project on chromatography resin storage process developments. The showcase will also share the successful outcomes of workshops for high school students, which offered dual credit opportunities.

BOOTH # 508
West Virginia University at Parkersburg
Infusing General Education into Technical Education (IGNITE)

A curriculum map will be provided that demonstrates how mathematics competencies are embedded into welding/technical courses in a project-based manner.
SHOWCASE ABSTRACTS

BOOTH # 509
Black Hawk College

Innovations in Engineering Technology Education

Black Hawk College’s NSF grant led to the development of an interactive 3D sustainable energy systems simulator/calculator CD-ROM; learning modules demonstrating solar, wind, biomass, and geothermal energies; and an engineering technology web site to support students in engineering and sustainable energies. The project targets middle, high school, and community college faculty.

BOOTH # 510
Pennsylvania College of Technology

Natural Gas Technician Education Partnership (NGTEP)

NGTEP addresses the direct educational pipeline of new technician workers needed to support the emerging natural gas industry. The direct workforce within the core industry is defined as those occupations included during exploration, drilling, operations, and pipeline infrastructure development and maintenance. A challenge is supplying a consistent flow of a skilled workforce to serve the needs of this emerging Pennsylvania industry. This project will create an educational pipeline of skilled technicians.

BOOTH # 511
Sierra College

Tech-Explorer: Engaging Students in Science, Technology, Engineering, and Math Education and Careers

This project is delivering mathematics curriculum integrated with an innovative project-based laboratory experience to secondary school students. To strengthen student learning outcomes, the project is creating two instructional modules to teach mathematics concepts integrated into making a catapult; connecting the modules to California education content standards; testing the modules at six high schools; and delivering an in-service summer institute for teachers.

BOOTH # 512
Universidad del Turabo

PRIMER-Tropical Bioprospecting Venture at CETA

The PRIMER-Tropical Bioprospecting Venture will support the professional development of primarily Hispanic high school/college educators in biotechnology within a tropical scenario, using a research-based, entrepreneurial approach for the search of new products. The main activities include summer workshops for teachers, ATE-based academic innovation, and a colloquium Tropical Biotech Forum for the general community.

BOOTH # 601
Nashville State Community College

Problem-Based Case Learning (PBCL)

Nashville State Community College has been developing, refining, and disseminating the teaching/learning method known as Problem-Based Case Learning (PBCL) for over 12 years. Teachers will be available to explain the concept of PBCL, demonstrate the interactive web site, and discuss ways for you to implement PBCL in your classes.

BOOTH # 602
Danville Community College

Nanotechnology Technician Education

This project provides technicians with the skills and knowledge needed for work with nano-scale materials and phenomena. The objectives are to develop curriculum, set-up a lab, recruit students, and deliver instruction on topics pertaining to nanotechnologies and the use of associated high-level lab equipment. This project will also develop and deliver a summer workshop for secondary school math, science, and technology teachers to prepare them for teaching nanoscale technologies.

BOOTH # 603
Association for Computing Machinery (ACM)

Strategic Summit on the Computing Education Challenges at Community Colleges

The ACM Two-Year College Education Committee conducted a strategic summit to address the question: What are the major challenges facing computing education programs at community colleges into the foreseeable future? The grand challenges and associated opportunities are being produced in a final Report of Findings, which is scheduled for publication in early 2011.

BOOTH # 604
WGBH Educational Foundation

Teachers’ Domain

Teachers’ Domain, a National Science Digital Library Pathway with over 500,000 registered users, presents media designed to engage and prepare high school students for further study in advanced technological education. The media is adapted for this audience from ATE projects and centers and public media sources.
SHOWCASE ABSTRACTS

THURSDAY, OCTOBER 28

BOOTH #1
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. The foundation competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.

BOOTH #2
American Association of Community Colleges
The American Association of Community Colleges (AACC) is the primary advocacy organization for the nation’s community colleges. The association represents 1,200 two-year, associate degree-granting institutions and more than 12 million students. AACC promotes community colleges through five strategic action areas: recognition and advocacy for community colleges; student access, learning, and success; community college leadership; economic and workforce development; and global and intercultural education.

BOOTH #3
Council for Adult and Experiential Learning (CAEL)
The Council for Adult and Experiential Learning (CAEL) is a national leader in the fields of adult learning and workforce development. CAEL provides colleges and universities, companies, labor organizations, and state and local governments with the tools and strategies they need to effectively serve adult learners.

BOOTH #4
ATE Central
ATE Central works to provide an information hub for the ATE community and help educators and others discover the entire depth and breadth of the ATE program. ATE Central.net features materials and services that showcase the work of the ATE program and encourage collaboration, mentoring, and resource sharing within and beyond ATE.

BOOTH #5
High Impact Technology Exchange Conference (HI-TEC)
HI-TEC is produced by a consortium of NSF ATE centers and projects. This national conference allows us the opportunity to present community college educators and stakeholders with professional development, educational materials, collaborative ventures, and insights into emerging market trends essential to developing and advancing the technical workforce of the 21st century. Learn about sponsorship and dissemination opportunities.
The mission of TeachingTechnicians.org is to connect technician educators with exemplary NSF/ATE and STEM professional development.

Are you new to ATE? Create an account, select topics of special interest and receive personalized notification. Event postings range from Agricultural Technology to Welding.

Do you want to increase participation at your events? Post at TeachingTechnicians.org and reach over 500 registered users.

Sponsored by SC ATE
**SHOWCASE SESSION III**

**FRIDAY, OCTOBER 29**

**ATE PROJECTS**

10:15 AM – 12:30 PM
Exhibit Hall

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SHOWCASE MAP

OMNI SHOREHAM EXHIBIT HALL • WASHINGTON, DC
SHOWCASE ABSTRACTS

FRIDAY, OCTOBER 29

**BOOTH # 101**
Clemson University  
*Center for Aviation and Automotive Technology Education Using Virtual E-School (CA2VES): Workforce Preparedness for Automotive and Aviation Technicians*  
Clemson University, in collaboration with SC ATE; and in partnership with SpaceTEC, CARCAM, and the automotive and aviation industry of South Carolina, proposes to develop a Regional Center for E-Learning–CA2VES to conduct advanced automotive and aviation technical education using virtual classrooms, personalized learning, and e-learning technologies.

**BOOTH # 102**
Greenville Technical College  
*Virtual Simulated Inspection (ViSIns) Laboratory: Using Interactive 3D Knowledge Objects to Promote Learning for Non-Destructive Inspection in Aviation Maintenance Technology*  
Research efforts use technology to close the gap between aviation education and the hangar environment to create a safer flying experience for all passengers. This project has explored the use of virtual reality (VR) to aid in training aircraft maintenance technicians in visual inspection tasks at Greenville Technical College’s Aircraft Maintenance Technology program.

**BOOTH # 103**
Concord Consortium  
*Simulations for Performance Assessments that Report on Knowledge and Skills (SPARKS)*  
This web-based computer simulation monitors, records, and interprets students’ key presses and mouse clicks to assess their hands-on, problem-solving skills with electronics equipment in an introductory college electronics course. The computer acts as a coach, looking over the student’s shoulder, and gives detailed progress reports and advice without blown fuses and damaged lab equipment.

**BOOTH # 104**
Lane Community College (LCC)  
*Leading Alternatives in National Energy Solutions (LANES)*  
The Lane Community College Energy Management program has completed the first year of a three-year NSF-funded grant. The project was designed to place LCC’s nationally recognized Energy Efficiency two-year degree program online; but it’s not your typical “all comers” online program.

**BOOTH # 105**
Polk Community College  
*Linux Integration Networking Connections (LINCS)*  
LINCS is an advanced, comprehensive, NSF-funded, four-year degree program specializing in Linux system administration. It includes online courses, interactive exchanges, and laboratory experiences that provide a seamless transition between two-year and four-year degree programs.

**BOOTH # 106**
Montgomery County Community College  
*An Enhanced Science and Technology Educator Training Institute: Helping Teachers and Faculty Motivate, Recruit, and Train the 21st Century Science and Technology Workforce*  
Student engagement enhances student learning. As science educators, we need an in-depth knowledge of our subject material as well as appropriate “tools of the trade” to effectively engage our learners. This project strives to assist educators in acquiring both of these essentials.

**BOOTH # 201**
CUNY Kingsborough Community College  
*Enhancing Soft and Entrepreneurial Skills Training for Two-Year College Technicians Using a Contextualized Business Simulation Program*  
The STEM Virtual Enterprise program brings soft and entrepreneurial skills to IT and biotechnology classrooms. The program has students simulate a business in the classroom, and build a product or service relevant to their discipline. The student businesses interact through a global network.

**BOOTH # 202**
Baltimore City Community College (BCCC)  
*Development of Robotics Technician Curriculum*  
Entering the third year of its ATE project, BCCC is operating the newly established Robotics Technology program and improving existing technology programs through robotics instruction. Extensive efforts are being carried out at Baltimore City High Schools to recruit underrepresented students into STEM majors.

**BOOTH # 203**
Lee College  
*ATE Workshops for Physics Faculty*  
This project offers two types of workshops for high school and two-year college faculty—a three-day immersion professional development workshop offered at least three times a year, and a biannual laboratory activity development workshop.

**BOOTH # 204**
Northern Illinois University  
*Development and Field Test of an Internet-based Multimedia Simulation and Remote Laboratory System of Laser Cladding Technology for Technicians*  
This project developed laser cladding simulation modules and a supporting remote laboratory. It introduces this technology to the disciplines of aviation maintenance and welding, enabling students to view industrial laser operation and part processing training in a robotically-guided laser cell, which otherwise would not be possible in a conventional community college laboratory.
SHOWCASE ABSTRACTS

**BOOTH # 205**
Concord Consortium
*Electron Technologies: Modeling Pico Worlds for New Careers*
Partnering with Parkland College, the Concord Consortium offers interactive models and simulations for teaching and learning nanoscience and nanotechnology.

**BOOTH # 206**
University of Massachusetts – Boston
*The Synergy Collaboratory for Research, Practice, and Transformation*
The Synergy Collaboratory is focused on creating a national network of knowledge, skills, and expertise focused on practices and processes of scale. This is being accomplished through a program of professional growth, team development, and knowledge management using synergy methodologies to develop skills and competencies necessary to achieve scale within a broader range of projects and initiatives in the ATE community.

**BOOTH # 207**
Miami-Dade Community College – Wolfson Campus
*Biotechnology Research Learning Collaborative*
Clostridium taeniosporum is a Gram positive anaerobic bacterium, closely related to Clostridium botulinum Group II strains. Genomic DNA was purified from samples grown by emulating optimal growth conditions. Purified DNA will be used to create a DNA library for sequencing through Roche 454 pyrosequencing technologies.

**BOOTH # 208**
Learning with Math Machines, Inc.
*Math Machines and Algebraic Thinking*
Math Machines are dedicated to improving connections among mathematics, science, engineering, and technology. With our low-cost equipment, software, and instructional materials, students enter free-form algebraic functions to produce a variety of immediate, physical, and dynamic outcomes. Math Machines show the application of algebra in modern control systems and other career-related processes.

**BOOTH # 209**
Central Maine Technical College
*Virtual Ideation Platform (VIP)*
VIP is immersing students in a virtual product design environment that enables them to collaborate and bring product concepts and designs into pilot production. This creates a model to help manufacturers compete globally with a workforce that understands and can work in a virtual environment.

**BOOTH # 210**
Partnership for Environmental Technology Education
*A National Collaboration to Strengthen the Advanced Environmental Technology Education Program at Tribal Colleges*
The mission of this project is to strengthen environmental science and technology programs at Tribal Colleges consistent with the unique needs and traditions of these communities. More specifically, this project will strengthen STEM education at Tribal Colleges while acknowledging there is a critical cultural component to the study of environmental science by Native Americans.

**BOOTH # 211**
Ohio Supercomputer Center
*Computational Science Program for Ohio Community and Technical Colleges*
Three community colleges and the Ohio Supercomputer Center have established a shared AS degree program emphasizing computational science. An overview of the program and an example modeling and simulation project used for virtual labs focusing on the major curriculum topics will be provided.

**BOOTH # 212**
Mississippi State University
*TIME – Technology Initiative in Manufacturing & Engineering*
TIME is a collaborative effort among Mississippi State University’s Center for Science, Mathematics, and Technology, East Mississippi Community College, and Itawamba Community College. The project provides a model to unite education and industry while producing qualified technicians for the high tech fields driving the state and national economy.

**BOOTH # 301**
Arapahoe Community College
*Colorado ATE Partnership (CATEP)*
The goal of CATEP is to strengthen the skills of potential employees by integrating employability skills with technical skills, as required by Colorado’s high growth aerospace, bioscience, energy, and IT industries.

**BOOTH # 302**
Connecticut’s Community Colleges’ College of Technology
The Life Support and Sustainable Living program was established for four-year universities and community colleges to integrate science, engineering, technology, and professional skills; strengthen pathways between high schools and higher education institutions; provide faculty development opportunities; engage a diverse student population in STEM disciplines; and develop multimedia curriculum modules using problem-based learning.
SHOWCASE ABSTRACTS

FRIDAY, OCTOBER 29

**BOOTH # 303**
Foothill College  
*Destination Problem-Based Learning: A Large Scale Materials Development Project*

The Destination: PBL project develops workshops, online wizards, and assessment tutorials to support faculty creating and implementing scenario-based learning tasks. The project is recruiting biology, bioinformatics, and biotech faculty for its faculty inquiry cohort; and co-sponsors the Pacific Region Learning Summit at Leeward Community College in Hawaii in May.

**BOOTH # 304**
Central Community College (CCC)  
*Shaping High-Quality Integrated Nebraska Education (SHINE)*

CCC and its partners will work closely with Nebraska educational institutions and business and industry organizations to implement project SHINE. The project will enable faculty to engage students in mathematics and science activities based on the critical skills found in regional business and industry, as well as to build career awareness.

**BOOTH # 305**
CBIA Education Foundation  
*Problem-Based Learning of Life Support and Sustainable Living*

Today’s employers seek graduates with more than technical knowledge; they look for graduates who can join their organization and immediately function productively with the ability to quickly assume leadership positions. This program provides creative solutions to environmental, medical and science applications, as well as project planning, leadership, and teamwork training.

**BOOTH # 306**
Gateway Community and Technical College  
*Mechatronics Technician*

This project established a short-term certificate to prepare multiskilled operators and technicians for careers in advanced manufacturing. The certificate has been successfully deployed within existing technical programs, to incumbent workers in industry, and within the college’s Early Scholars program.

**BOOTH # 307**
Quinsigamond Community College  
*Massachusetts Technician Education Collaborative (Mass-TEC)*

Partnering with education, industry, and community-based organizations, Mass-TEC aims to produce more engineering technicians to meet regional advanced manufacturing workforce demands. Through grassroots public communications, outreach events, and workshops, Mass-TEC broadens the understanding and awareness of career influencers, creating stronger advocacy for technical employment and education pathways.

**BOOTH # 308**
National Council for Geographic Education  
*Integrated Geospatial Education and Technology Training (iGETT)*

iGETT enables two-year colleges to integrate remote sensing and GPS technologies into their GIS programs by providing comprehensive faculty instruction and carefully developed online teaching resources.

**BOOTH # 309**
Orangeburg-Calhoun Technical College  
*Diverse Engineering Pathways: Curriculum Innovation and Best Practice for Recruitment, Retention, and Advancement of Engineering Technology Majors*

Through high school and university articulations and partnerships, an engineering technology career ladder involving Project Lead the Way and mechatronics dual credit has been developed. Recent results include a statewide K-16 articulation agreement. This showcase will focus on the model and its extension to other programs and institutions.

**BOOTH # 310**
Pearl River Community College  
*Electrical Distribution Technician Training System*

Electrical transmission industries in the Gulf South, in partnership with Pearl River Community College, are developing an AAS curriculum to develop electrical utility technologists. Along with curriculum development, an outdoor physical skills laboratory and training grounds is under development.

**BOOTH # 311**
University of Maine at Machias  
*A New Collaborative Model for Geospatial Technology Education and Workforce Studies in a Rural Region*

This project represents a collaboration of community colleges, universities, and K-12 institutions in a rural region of Maine to expand and improve geospatial technology education through innovative programs, workforce research, and outreach programs.

**BOOTH # 312**
Sheridan College  
*Energy Technician Education Project (ETEP)*

ETEP has revamped two AAS programs to provide graduates to the energy industries with the knowledge, skills, and abilities identified by the industry. A pipeline for these and other STEM programs is being fostered through summer science programs for middle school students and workshops for junior and senior high school teachers.
SHOWCASE ABSTRACTS

BOOTH # 401
College of Lake County
A Regional Photonics Initiative

The Regional Photonics Initiative is designed to provide employee training for corporations in the greater Chicago area in photonics and related fields. The program infuses photonics courses into existing programs to provide students a background that will allow them opportunities in photonics-related industries.

BOOTH # 402
Sinclair Community College
Aviation Diesel Engine Maintenance Program Development

This project features faculty development, curriculum development for two courses on aviation diesel-cycle engines for national dissemination, and expansion of 2+2 articulation. Areas of study include theory of operation, maintenance, troubleshooting, and repair.

BOOTH # 403
North Seattle Community College
Seattle Hub for Industry-Driven Nanotechnology Education (SHINE)

SHINE promotes awareness of nanoscience among the public, K-12 students, and STEM educators, while expanding the diversity and number of trained nanotechnicians entering the local workforce and/or transferring to pursue further nanotechnology education. Project activities are designed to entice students through inquiry-based demonstrations.

BOOTH # 404
Old Dominion University
Collaborative Research - Marine Career Tech (MCTech):
STEM Careers in Shipbuilding and Marine Industry

MCTech is a multifaceted project involving professional development of college faculty and secondary school teachers, curriculum and education materials development, and career pathways. This project aims to improve technician education at the community college level by preparing faculty and students with industry relevant instructional modules, and by attracting secondary school students to these pathways to provide a highly competent workforce for the maritime and marine industry.

BOOTH # 405
Virginia Space Grant Consortium
Geospatial Technician Education through Virginia Community Colleges (GTEVCC)

GTEVCC is a collaborative, statewide project aimed at establishing model academic pathways in geospatial technology to provide Virginia employers with a larger pool of skilled geospatial technicians. The project includes educational materials development, a web portal, faculty and teacher professional development, and mentoring.

BOOTH # 406
Lansing Community College
Capital Region Area Information Technology Apprenticeship

Lansing Community College has developed an apprenticeship program to help students get their foot in the door in a highly-skilled IT workforce. This initiative, along with the Michigan Department of Information Technology, received an innovation award in October 2009 from the National Association of State Chief Information Officers for a cross-boundary IT internship/apprenticeship and economic growth partnership project.

BOOTH # 407
Fashion Institute of Technology (FIT)
Advancing Design-Related Technological Education: A Three-Way Partnership (TECH-FIT)

The TECH-FIT project promotes “thinking green” across the curriculum. Specifically focused on introductory science, it is intended to better prepare FIT graduates to meet industry demands for the design, development, and manufacture of green and sustainable products such as textiles, toys, home products, cosmetics, and packaging.

BOOTH # 408
El Camino College
Advanced Aerospace Manufacturing Education Project

The Aerospace Manufacturing Education project is a collaboration of El Camino College, Butler Community College, Oregon Institute of Technology, and Purdue University to develop curricula for manufacturing technology and engineering programs in areas related to aerospace manufacturing.
**Showcase Abstracts**

**Friday, October 29**

**Booth # 409**  
Pikes Peak Community College  
*A Pilot Project to Implement a Tiered Internship Model for Students in Geospatial Technology (TIMSGeotech)*  
Pikes Peak Community College, in partnership with industry, is creating and implementing a tiered internship program to enhance the quality of technicians working in the GeoTech industry. The project aligns educational practices with industry expectations including new recruitment strategies and targeted program improvements to support the TIMSGeotech model.

**Booth # 410**  
Community College of Aurora  
*Community College GIS Faculty Institute*  
Despite industry need for GIS skills, most community college students in Colorado have no idea what GIS is. This project has trained a multidisciplinary group of faculty to implement GIS lessons in their courses. Students are being exposed to GIS concepts in a wide range of contexts such as anthropology, biology, history, geography, mathematics, literature, geology, and IT.

**Booth # 411**  
Edison Community College  
*Green Building and Alternative Energy Curriculum Infusion*  
The goal of this project is to promote the use of environmentally sound practices in construction projects in the Southwest Florida region by infusing curricula at the secondary and postsecondary levels. Program improvements will be designed to achieve multiple objectives, including increased awareness of the environmental impacts of construction projects and building methods to mitigate such impacts.

**Booth # 412**  
Carnegie Institution of Washington  
*DC Biotech: Improving Opportunities for Urban Minority Students*  
DC Biotech has been assisting the Washington D.C. public schools to establish career pathways in biotechnology at McKinley Technology High School and Ballou Senior High School. See how far we’ve come!

**Booth # 1**  
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. The foundation competitively awards grants for research and education in the science, technology, engineering, and mathematics fields.

**Booth # 2**  
American Association of Community Colleges  
The American Association of Community Colleges (AACC) is the primary advocacy organization for the nation’s community colleges. The association represents 1,200 two-year, associate degree–granting institutions and more than 12 million students. AACC promotes community colleges through five strategic action areas: recognition and advocacy for community colleges; student access, learning, and success; community college leadership; economic and workforce development; and global and intercultural education.

**Booth # 3**  
Council for Adult and Experiential Learning (CAEL)  
The Council for Adult and Experiential Learning (CAEL) is a national leader in the fields of adult learning and workforce development. CAEL provides colleges and universities, companies, labor organizations, and state and local governments with the tools and strategies they need to effectively serve adult learners.

**Booth # 4**  
ATE Central  
ATE Central works to provide an information hub for the ATE community and help educators and others discover the entire depth and breadth of the ATE program. ATE Central.net features materials and services that showcase the work of the ATE program and encourage collaboration, mentoring, and resource sharing within and beyond ATE.

**Booth # 5**  
High Impact Technology Exchange Conference (HI-TEC)  
HI-TEC is produced by a consortium of NSF ATE centers and projects. This national conference allows us the opportunity to present community college educators and stakeholders with professional development, educational materials, collaborative ventures, and insights into emerging market trends essential to developing and advancing the technical workforce of the 21st century. Learn about sponsorship and dissemination opportunities.
2010 ATE STUDENT/ALUMNI PARTICIPATION

AACC AND NSF WISH TO CONGRATULATE THE FOLLOWING ATE STUDENTS AND RECENT ALUMNI SELECTED TO ATTEND THE 2010 ATE CONFERENCE.

Suzette Jane Bana, Ohlone Community College
Matthew Bianchi, Springfield Technical Community College
James V. Bothe, Jr., Stark State College of Technology
Justin Joseph Bourassa, Dakota County Technical College
Curtis Brown, El Centro College
Brandon Busch, Lee College
Amelia Cabezas, University of Connecticut
Jennifer Robles Chancellor, Del Mar College
Elizabeth L. Clayton, Harold Washington College
Jesus Antonio Cubillo Vargas, Lompoc High School
Indraneel Chandrasen Dabhade, Clemson University
Kevin Dipple, Collin College
Thomas D. Dorman, Saddleback Community College
Andrew Ryan Engel, Stark State College of Technology
Andy Antonio Ferruzca, Lompoc High School
Emilio Flores, Manchester Community College
David Goldberg, Manchester Community College
Michael R. Greene, Bristol Community College
Tamara Griffiths, Del Mar College
Amy M. Gullickson, Western Michigan University
John C. Hanson, IV, Moraine Valley Community College
Corey Hedgers, Century College
Dale Eugene Herzog, Quinsigamond Community College
Debra Hill, Moraine Valley Community College
Amanda Hoff, Harold Washington College
W. Paul Jameson, Palomar College
Dane Evan Johnson, Palomar Community College
Taylor Jordan, Madison Area Technical College
Edward Lee Kert, Baltimore City Community College
Emily Klass, Illinois Valley Community College
Karissa Kudrna, Ridgewater College
Brian Helwon Lee, Lansing Community College
Bryant Lekander, Dakota County Technical College
Katherine Leon, Miami Dade College
Kyle Adam Lundquist, Naugatuck Valley Community College
Kapil Chalil Madathil, Clemson University
Luke Maltas, Illinois Valley Community College
Kelley M. McDonald, Dakota County Technical College
Arthur Miramontes, Southwestern College
Matt Mongin, Sinclair Community College
Patrick Neff, University of North Texas
Gabriel Nieba, Baltimore City Community College
Matt Parker, Miami Dade College
Courtney Peterson, South Dakota State University
Deborah M. Por, Bristol Junior Community College
Jose Ramirez, Lompoc High School
David Riera, Miami Dade College
Sarena Socolosky, Manchester Community College
Kirubaa Thavayoganthan, Florence-Darlington Technical College
Rachel Torres, Modesto Junior College
Jason J. Walker, Southwestern Indian Polytechnic Institute
Matthew Winters, Century College
Robert Coventry Woodruff, IV, Madison Area Technical College

NATIONAL ATE PRINCIPAL INVESTIGATORS CONFERENCE
# STUDENT SHOWCASE

**THURSDAY, OCTOBER 28**

**ATE STUDENTS**

5:15 – 6:30 PM  
Exhibit Hall

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HELPFUL INFORMATION

REGISTRATION
Registration is located in the West Conference Foyer of the Omni Shoreham Hotel. You must be fully registered to receive a name badge, conference program, and other materials.

Hours of operation:
- Wednesday, October 27, 10:00 a.m. – 8:00 p.m.
- Thursday, October 28, 7:00 a.m. – 6:00 p.m.
- Friday, October 29, 7:30 a.m. – 12:00 p.m.

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.

BUSINESS CENTER
The business center at the Omni Shoreham is located next to the West Registration Desk and Foyer. Hours: Access is available 24 hours with room key card. Please note that AACC does not maintain any photocopying equipment.

INTERNET CAFÉ
The café is located in the Executive Room across the foyer from the West Registration desk.

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).

EMERGENCY PROCEDURES
Dial “0” on any house phone and report your situation to the operator. If the fire alarm should sound, wait for verbal instructions. Please check for exits nearest your location and do not use the elevators in case of a fire emergency.

SMOKING POLICY
Smoking is allowed only in designated outdoor areas and in designated sleeping rooms in the hotel. There is no smoking in the hotel common areas.

MESSAGES
There is a message board located next to the registration area for participant use.

TIKETS
Tickets will be collected at the preconference workshops that require them. If available, additional tickets can be purchased at conference registration. Once on site, the costs of unused tickets can not be refunded. However, AACC will assist with matching a buyer for unused tickets, if possible. Please see the staff at the conference registration desk.
AREA RESTAURANTS

Within walking distance of the Omni Shoreham Hotel

AFGHAN GRILL
2309 Calvert Street  (202) 234-5095
Serving unique Afghan cuisine for over 25 years. Open for lunch & dinner daily, 11am-11pm.

CAFÉ INTERNATIONAL
2633 Connecticut Avenue  (202) 265-8333
Coffee house & deli with breakfast & lunch fare and computer access for a nominal fee.

CAFÉ PARADISO
2649 Connecticut Avenue  (202) 265-8955
Excellent Northern & Southern Italian dishes. Serving lunch & dinner seven days a week.

CHIPOLTE
2600 Connecticut Avenue  (202) 299-9111
Casual Mexican Grill, offering freshly made burritos, fajitas, & tacos for lunch & dinner seven days a week.

JANDARA THAI
2606 Connecticut Avenue  (202) 387-8876
Serving excellent authentic Thai cuisine. Specialties include crispy whole flounder, grilled rockfish & soft shell crab.

LEBANESE TAVERNA
2641 Connecticut Avenue  (202) 265-8681
Known for “family friendly” & “consistently excellent” authentic Middle Eastern fare, as stated in Zagat’s restaurant guide.

LITTLE INDIA
2623 Connecticut Avenue  (202) 232-5030
Exotic Indian cuisine, featuring many vegetarian entrees, as well as lunch buffet seven days a week.

MEDATERRA
2614 Connecticut Avenue  (202) 797-0400
Offering Mediterranean-American cuisine with an Egyptian flare in a modern art deco setting.

MR. CHEN’S CHINESE
2604 Connecticut Avenue  (202) 797-9668
Authentic Chinese cuisine using organic vegetables along with a health-conscious cooking style. The “price is right” as cited by the Washington Post. Delivery available.

MURPHY’S IRISH PUB
2609 24th Street  (202) 462-7171
Serving casual lunch & dinner entrees in a convivial setting. Also features TV sports & live Irish music nightly.

NEW HEIGHTS
2317 Calvert Street  (202) 234-4110
A long-time, upscale DC favorite with award-winning New American cuisine. Open for dinner Monday-Saturday.

OPEN CITY CAFÉ
2331 Calvert Street  (202) 332-2331
Breakfast, Lunch & Dinner in a casual, coffee-house setting. Also features a full-service bar & late-night hours.

PETITS PLATS
2653 Connecticut Avenue  (202) 518-0018
Traditional French cuisine in a very nice, relaxing setting with private upstairs dining room and a delightful Sunday Brunch.

PIZZE
2653 Connecticut Avenue  (202) 518-1160
Casual carry-out bistro with excellent hand-made pasta and pizzas prepared in a wood burning pizza oven.

RAJAJI
2603 Connecticut Avenue  (202) 265-7344
Specializing in Northern & Southern Indian cuisine and tandoori specialties in a casual atmosphere.

TASTE OF INDIA
2621 Connecticut Avenue  (202) 483-1115
Extensive selection of authentic homemade Indian dishes, as well as a reasonably-priced lunch buffet.

TONO SUSHI
2605 Connecticut Avenue  (202) 332-7300
Traditional Japanese cuisine with freshly prepared sushi, teriyaki & tempura dishes. Open daily for lunch & dinner.

WOODLEY CAFÉ
2619 Connecticut Avenue  (202) 332-5773
Serving great burgers & casual American fare in a family-friendly environment.
NSF ATE PROGRAM STAFF

DEBORAH ALLEN
ATE Program Director

DAVID B. CAMPBELL
ATE Co-Lead Program Director

V. CELESTE CARTER
ATE Lead Program Director

EUN-WOO CHANG
ATE Program Director

CONNIE DELLA PIANA
ATE Program Director

JOYCE EVANS
ATE Program Director

NING FANG
ATE Program Director

SCOTT GRISSOM
ATE Program Director

MICHAEL R. HANEY
ATE Program Director

DAVID A. HANYCH
ATE Program Director

CORBY HOVIS
ATE Program Director

DEXTER JORDAN
ATE Program Assistant
CONFERENCE STEERING COMMITTEE

MANY THANKS TO THE FOLLOWING INDIVIDUALS FOR THEIR DEDICATED ASSISTANCE IN PLANNING THE 2010 ATE CONFERENCE.

Lynn Barnett, American Association of Community Colleges, DC
Rachael Bower, University of Wisconsin – Madison, WI
David Campbell, National Science Foundation, VA
V. Celeste Carter, National Science Foundation, VA
Elaine Craft, SC ATE Center of Excellence, SC
Linnea Fletcher, Austin Community College, TX
Ellen Hause, American Association of Community Colleges, DC
Linda Inabinet, American Association of Community Colleges, DC
James B. Jones, Mid-Pacific ICT Center, CA
Donna Lange, Rochester Institute for Technology, NY
Annette Parker, AMTEC, KY
Gerhard Salinger, National Science Foundation, VA
John Sounders, OP-TEC, TX
Karen Woszyna-Birch, Connecticut Community and Technical Colleges, CT
FUTURE ATE CONFERENCE

PLEASE MARK YOUR CALENDARS AS THE FOLLOWING DATES HAVE BEEN SELECTED FOR THE 2011 ATE PRINCIPAL INVESTIGATORS CONFERENCE.

October 26-28, 2011
Omni Shoreham Hotel
Washington, DC
ASSOCIATION FOR COMPUTING MACHINERY
TWO-YEAR COLLEGE EDUCATION COMMITTEE

A REPORT OF FINDINGS
from the
STRATEGIC SUMMIT ON THE COMPUTING EDUCATION
CHALLENGES AT COMMUNITY COLLEGES

NSF ATE AWARD #0901159
AVAILABLE EARLY 2011

Contact Elizabeth Hawthorne for more information ehawthorne@acm.org

This collection of challenges and associated opportunities which are detailed in the Report of Findings will help provide a foundation for future grant proposals and other initiatives.
Help your students get connected to opportunity.

Tap into the weekly online video channel and social network that provide you with all the information you need to help students connect with opportunities in Advanced Technological Education.

To learn more, visit us online at ATETV.org

Facebook.com/ATETV  Twitter.com/ATETV  YouTube.com/ATElevision  Also available on iTunes

ATETV is a free resource sponsored in part by the National Science Foundation.
ATE Student Success:
Building a Diverse and Entrepreneurial Workforce
October 27–29, 2010