CONFERENCE SCHEDULE - THURSDAY, OCTOBER 30

7:30 am – 6:00 pm  
**Conference Registration**  
West Conference Foyer

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

7:30 – 8:45 am  
**Continental Breakfast**  
Regency Ballroom

7:30 – 8:45 am  
**ATE Student/Alum Recognition Breakfast**  
*By Invitation Only*  
Hampton

7:30 am – 6:00 pm  
**Internet Cafe**  
Executive

7:45 – 8:45 am  
**Breakfast Roundtables**  
*See Breakfast Roundtable Schedule*  
Regency Ballroom

8:00 am – 5:30 pm  
**ATE Resource Centers Dissemination Station – Making Your Curriculum or Project Dissemination a Priority**  
Executive

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 Centers can help ensure effective dissemination of your curriculum or project's results and materials. As dissemination conduits, they provide access to a wide range of technology education resources for students, faculty, and industry professionals. Visit the Dissemination Station in the Executive room across from the registration area to see how the ATE Resource Centers can help you. Also, learn more about the new ATE Central, a comprehensive web portal and database that draws together all of the ATE Resource Centers and Projects for one simple search.

9:00 – 10:15 am  
**Plenary Session**  
*Linda L. Slakey, Director, Division of Undergraduate Education, National Science Foundation, VA*

**How to Become a Thought Leader for $0**  

A new generation of online tools can amplify the voice of individuals and turn them into thought leaders with amazing speed. Blogs, podcasts, digital video and social networks enable educators and colleges to bypass expensive advertising and media gatekeepers to take their messages directly to their constituents. With expertise, dedication, and savvy use of search engines and syndication, you can now reach a targeted audience with minimal cost and waste. Researchers no longer have to wait for approvals by publication boards. They can vet their work in public, gain valuable feedback, and publish their work
directly to the Web. This session introduces the most popular social media concepts and provides step-by-step advice on how to put them to work.

10:15 – 10:30 am
Refreshment Break

10:30 – 11:45 am
Concurrent Sessions

Session 1: Workforce Development Challenges and Opportunities – Philanthropic Community Perspectives
Palladian
Dennis Cheek, Vice President for Education, Ewing Marion Kauffman Foundation, MO
Rick McGahey, Program Officer, The Ford Foundation, NY
Glen H. Pearson, President, Society for Manufacturing Engineers Education Foundation, MI
Moderator: Pamela Tate, President and CEO, CAEL, IL

Representatives from national philanthropic organizations with significant programmatic focus on workforce development, postsecondary education and/or the future of learning share their organizations’ perspectives, strategic goals, and programmatic initiatives targeting the challenges facing workers, employers, communities, and the nation.

Session 2: The Power of Learning Communities in Technician Education
Empire
Elaine Craft, SC ATE Center of Excellence, Florence-Darlington Technical College, SC
Ann Davis, Teaching and Learning Center, Pasadena Community College, CA
Elaine Johnson, BIO-LINK: Bridge to Biotech, UC San Francisco, CA
Diego Navarro, Digital Bridge Academy, Cabrillo College, CA
Chrys Panayiotou, OP-TEC, Indian River State College, FL
Moderator: Anthony Benoit, Project TLC, Three Rivers Community College, CT

Academic, emotional, and social challenges prevent many students from succeeding in technology education. First generation college students and members of under-represented groups in particular may have difficulty obtaining college support services. The presenters for this session have created learning communities that bring these services closer to the students who need them and that facilitate peer support to help students surmount these challenges. These communities have accelerated the transition to college and have improved recruitment and retention into technology programs. The session will describe the problems facing such communities and ways to make them work.

Session 3: Rebuilding the Technician Pipeline through Partnerships
Diplomat
Greg Kane, State of CT Department of Education, Project Lead the Way and Engineering by Design, CT
Mirella Jones, MIKIC Employment Coordinator, Metropolitan Community College-Business and Technology, Making It in Kansas City, MO
Will Anderson, Director of Technology, Maryland Business Roundtable, MD
Moderator: Kathy Alfano, ATE Regional Center CREATE, CA

Many of our secondary and postsecondary technical programs, as well as industry employers, are suffering the effects of low enrollments and their increasingly negative impact on the student pipeline. This session will highlight innovative and successful models for the development of student recruitment pipelines and share information on successes and lessons learned. Panelists in this session will discuss strategies to deliver educational solutions that integrate innovative programs with targeted career information to reach students, teachers, and parents; collaborate with the workforce development systems to transition workers to industry employment; and create and adapt exciting curricula to facilitate articulation pathways to AS and BS degree programs.
Session 4: Employers Tell Us What They Need

Ambassador

Jill Heiden, former Vice President of Human Resources, ESAB Welding and Cutting Products, SC
Geoffrey Little, Senior Consultant, The Clements Group, UT
Sandra Porter, Director of Education, Geospiza, Inc., WA
Thomas Wagar, Northeast Sales Engineering Leader, Nortel Networks, NY
Moderator: Ann Beheler, PI, Convergence Technology Center, TX and Dean, Orange Coast College, CA

Hear from a diverse group of industry representatives involved with the ATE program regarding their impressions of the impact of ATE on the workforce and the skills they wish to see in our graduates. Panelists will also discuss current job prospects and answer questions from the audience.

12:00 – 2:30 pm
Showcase II and Lunch
Exhibit Hall

2:30 – 3:15 pm
Showcase II Breakdown

2:45 – 3:45 pm
Workshops and Discussion Sessions

Discussion: Flexible Models for Two-Year A.S. Programs
Track 1
Forum

Marilyn Barger, Florida Advanced Technological Education (FLATE) Regional Center for Manufacturing Education, FL
Karen Wosczyna-Birch, Regional Center for Next Generation Manufacturing, CT

FLATE and its community college partners with the FL DOE have created a 2-year technical degree related to manufacturing. The CT COT and its Regional Center for Next Generation Manufacturing has developed a working 2+2+2. These two seamless pathways have some common elements and include industry driven curriculum enabling students to pursue high tech, high paying jobs as well as continue their education at 4-year institutions. This discussion will provide details about these two statewide programs and how they are working, as well as have participants share their own strategies.

How can you build consensus and get buy-in from various programs and institutions? Should we be consolidating separate technical degree programs with common core skills? How do various traditional and new disciplines maintain their individuality? How do you build in multiple exit and entry points and ensure integrated pathways from high schools to baccalaureate degrees when designing an academic program? How do we evaluate the impact of systemic degree reform?

Discussion: ATE Student Voices – Student Engagement from the Student Perspective
Track 1
Regency

Jessica Alicdan, Southwestern College, CA
Abiodun Adeloa Ajayi, Community College of Baltimore County, MD
Myra Espinoza-Chavez, John F. Kennedy High School/Ohlone College, CA
Norton Troy Martza, Southwestern Indian Polytechnic Institute, NM
Anthony J. Ross, Central New Mexico Community College, NM
Tressa Gardner, Florence-Darlington Technical College, SC

Hear from current ATE students regarding their experiences in technical education programs and in internship programs. Four students will discuss what attracted them to their college program, what kept their interest, how their ATE-supported program has shaped their learning, and how they envision their
careers unfolding. Additionally, they will share their ideas about how the ATE program might improve to
serve future students.

What attracts students to ATE programs? What keeps them there? What improvements do current
students suggest to attract future students to ATE programs?

**Discussion: Transitioning to the New CTE through Career Clusters and Programs of Study**

**Track 2**

**Cabinet**

*Scott Hess*, Career and College Transitions Branch Chief, U.S. Department of Education, OVAE, DC

*Ellen Holland*, Education Program Specialist, U.S. Department of Education, OVAE, DC

*Steve Frank*, on exchange under the Intergovernmental Personnel Act from the Texas Education Agency, TX

*Ray Davis*, on exchange under the Intergovernmental Personnel Act from the South Carolina Department of Education, SC

Learn more about the Office of Vocational and Adult Education’s (OVAE) career cluster initiatives. OVAE has awarded funding to six states to develop a network for creating solutions and removing barriers to creating statewide articulation agreements and rigorous programs of study. Each of the selected states has identified one of four career clusters: STEM, finance, transportation distribution and logistics, and health science. This session will identify how the states are approaching programs of study, development of statewide articulation agreements, partnership development, documentation of the process, and dissemination efforts to build capacity.

Information will also be included on OVAE’s *STEM Transitions: Enhancing Mathematics and Science Rigor Through Evidence-Based Curriculum Projects*, which focuses on raising the mathematics and science rigor of community college courses. Under a cooperative agreement with the League for Innovation in the Community College, 62 curriculum projects have been completed in six STEM-related career clusters: health science, information technology, manufacturing, transportation, STEM, and agriculture.

**Discussion: Moving Students from Developmental Math into Technical Programs**

**Track 2**

**Embassy**

*Elizabeth Teles*, National Science Foundation, VA

*Deborah Boisvert*, University of Massachusetts-Boston, MA

*Sue Parsons*, Ceritos College, CA

Community colleges are challenged by the large numbers of students who arrive underprepared to succeed in college level mathematics courses. However, it is vital to our success as a nation that colleges proactively focus on this problem. As more and more good jobs depend heavily on science, technology, engineering, and mathematics (STEM) skills, community college leaders are recognizing the importance of providing pathways where students can move quickly from developmental mathematics courses into technical programs. Among the strategies that are showing promise are learning communities, accelerated learning, intermediate economic payoffs as students progress, and comprehensive support to keep students in college. This session will discuss policies and practices that help students succeed, support for faculty and students to implement programs, and resources available.
Workshop: Rapidly Emerging Career Fields in Sustainable Energy Technology
Track 2
Capitol

Melonee Docherty, Advanced Technology Environmental and Energy Center (ATEEC), IA
Kirk Laflin, Partnership for Environmental Technology Education (PETE), IA

This session will focus on the area of sustainable energy technician education and how green jobs will be critical in meeting the current challenges in the U.S. and global economies. Individuals with programs and those thinking about starting programs will learn where technologies are going, where the programs currently are, and where the professional development opportunities are to develop skills in this area. The session will also present practical information on ATEEC’s online energy resources clearinghouse and how ATE-funded projects and programs can participate in the center's resource-sharing efforts. The clearinghouse provides free, downloadable materials and online services to the sustainable technology field at large, and is developing ways to share existing energy resources such as instructional materials, curricula, technical and educational forums, professional networking, partnering opportunities, and professional development efforts.

Where are the new green jobs for technicians likely to be? Where are the current energy programs? Where are the professional development opportunities? Where are the technologies going?

Workshop: Integrating Computer-based Curriculum in the Science Classroom
Track 3
Congressional A

Kelly McDonald, American River College - North Valley Biotechnology Center, CA
Jeffery O’Neal, American River College - North Valley Biotechnology Center, CA

Presenters will describe a professional development program aimed at training science educators to design and implement computer-based curriculum that engages students and facilitates learning. Students use publicly-available computer tools, databases, and programs to analyze data and solve problems related to current biological issues. Presenters will demonstrate several of these activities, which include hands-on components for workshop participants. This session will benefit educators interested in the benefits and challenges of teaching with technology.

What are the benefits and challenges of using technology to supplement the standard high school and college science classes? How do we keep teachers and students current when the field of science is so dynamic?

Discussion: From Theory to Practice – How Adjunct Faculty Sustain the SpaceTEC Program
Track 3
Council

Delores McNair, University of the Pacific, CA
Frank Margiotta, SpaceTEC: National Aerospace Technical Education Center, FL

Although there is considerable criticism of hiring adjunct faculty in community colleges, ATE programs often rely on instructors who have specialized skills, connections with industry, and current experience in the field. These qualities are typically found in part-time (adjunct) faculty who are full-time industry professionals. In this discussion, we’ll review trends related to adjunct faculty and examine one program that intentionally relies on adjunct faculty to sustain and enhance its program.

How have you capitalized on the expertise of adjunct faculty in your program? What challenges have you faced in successfully integrating adjunct faculty into the college community? What resources do you provide adjunct faculty in support of their teaching?
Workshop: Innovative Intensive Biotechnology Programs Promote Returning Student Success
Track 4
Empire

Elaine Johnson, City College of San Francisco, Bio-Link, CA
Jeanette Mowery, Madison Area Technical College, WI

Innovative biotechnology programs tap into extraordinary talent. Both Madison Area Technical College and City College of San Francisco have immersion programs that provide strong foundational laboratory techniques that move students rapidly into advanced activities coupled with work experience. Students practice molecular biology techniques, protein purification, and cell culture while learning business planning, product production, documentation, and finance. This session provides the nuts and bolts of intensive programs that can be modified for regional needs.

What characteristics attract students into intensive biotechnology programs? What do students need to know upon entering the program in order to succeed? What data can be used to support the need for such programs?

Discussion: Career Transition Specialists – Linking Today's Education With Tomorrow's Opportunities
Track 5
Regency

Dale Cox, Gadsden State Community College, AL
Matthew Burttram, Gadsden State Community College, AL

This presentation will describe the Career Coach program, an initiative that places community college funded career specialists in local high schools. The Career Coaches bridge the gap between school and career, providing greater awareness of opportunities that require technical education. The coaches are an integral part of CARCAM STEM Camp recruiting and delivery.

What does the Career Coach provide that a high school counselor doesn't offer students? With budgets ever shrinking, how are the positions funded? What are some reasons why other colleges and states should consider funding similar programs?

Workshop: Mentoring and Mythbusting – Cultivating Gender Equity in Emerging Technologies
Track 5
Hampton

Margaret Semmer, Center for System Security and Information Assurances, IL
Ann Claire Anderson, CORD, TX

The gender equity collaborative was developed as a a National Science Foundation project with the Center for System Security and Information Assurances (CSSIA) at Moraine Valley Community College (MVCC) and CORD (Waco, TX). The two-year project takes a multi-faceted approach toward encouraging high school girls to pursue careers in emerging technologies. This presentation will provide an overview of the collaborative and how resources from this project will help educational institutions retain female students in nontraditional careers, emerging technologies, and STEM. Educators interested in understanding the dynamics of gender bias, learning more about the latest research on gender equity, and developing retention strategies will benefit from this presentation.

In today's society, what are the primary reasons young women do not stay in STEM educational pathways and/or careers? What are the most predominant factors in a woman's socialization that impact career decision making? What are the most effective methods for recruiting and retaining women in STEM programs?
Workshop: Hybrid ET Courses – Matching Course Design to Student Learning Styles and Time Constraints
Track 5
Congressional B

Bill Ware, Piedmont Technical College, SC
Charles Dixon, Piedmont Technical College, SC
Lynn Mack, Piedmont Technical College, SC

Come and discuss our approach for removing barriers to student enrollment, learning, and program persistence in electronics programs. Strategies to be presented will address student problems of class availability, high travel costs, and learning style mismatch. Student concerns dealing with content review and missed content decrease as they develop time management strategies and become self-directed learners. Instructors will find assistance with course organization, attendance issues, and documentation as well as strategies that allow offering low enrollment courses. Come hear how we have addressed self-efficacy issues with female students and discuss our results.

Workshop: Promoting Yourself and Your Work Through Blogging
Track 6
Diplomat


Blogs are an easy and inexpensive way to build your public profile and promote your work. But while a blog is easy to start, getting people to come to it is an entirely different issue. Having expertise and initiative is only part of the process. Successful bloggers know how to optimize for search, reach out to other bloggers for links, and syndicate their content through multiple, free channels. This session offers advice about raising visibility through direct outreach, search engine optimization for blogs, and tactics for driving traffic and awareness.

Workshop: Teaching and Learning in 3-Dimensions
Track 7
Palladian

Michael Mino, Center for 21st Century Skills, Education Connection, CT
Dan Cogan-Drew, Center for 21st Century Skills, Education Connection, CT

Education in the 21st century is evolving into 3-dimensions of teaching and learning in the classroom, online, and in 3-D environments. This session will showcase NSF-funded educators who are developing STEM teaching and learning activities in Moodle and in a private 3-D virtual world in Second Life. STEM educators must embrace new modalities of teaching and learning to address the issue of declining enrollments and lack of interest in STEM programs and careers.

What are the teaching and learning modalities of the 21st century? What is the most effective environment for delivering instruction in the 21st century? How can we leverage all modalities of teaching and learning to engage students in STEM education?

Discussion: GIS for ATE Projects and Centers
Track 7
Governors

Vince DiNoto, GeoTech Center, TX
Mike Rudibaugh, GeoTech Center, TX

ATE researchers are challenged by the need to best represent their data and results to their committee, program officer, and evaluator. Lobbying efforts to secure dollars and students often depends upon telling the best story to legislators. Geographical Information System (GIS) provides the powerful graphical tools
necessary to tell a compelling story. This discussion session will provide an overview of how GIS can be used to address current and future administrative issues facing community colleges.

What types of needs to present data in graphical or analytical terms do you have in your own project? What administrative applications on your campus, such as institutional research and reporting could benefit from the use of GIS? Envision how a GIS application could improve your own college or project/center reporting of data, statistics, or other facts.

Workshop: Linking ATE projects to Regional Workforce Initiatives
Track 8
Ambassador

*Patrice Cromwell, Senior Fellow, The Annie E. Casey Foundation, MD*
*Merrilee Mayo, Director, Future of Learning Initiatives, Ewing Marion Kauffman Foundation, MO*
*Glen H. Pearson, President, Society for Manufacturing Engineers Education Foundation, MI*
*Pamela Tate, President and CEO, CAEL, IL*
*Laura Winters, Senior Consultant, CAEL, IL*

Representatives from philanthropic organizations and CAEL (Council for Adult and Experiential Learning) will lead a discussion with ATE Principal Investigators about opportunities for linking their projects with other regional workforce and education initiatives, such as those sponsored by the National Fund for Workforce Solutions.

Discussion: Envisioning What Your Students Can Learn Through a Project-Based Task
Track 9
Senate

*Louise Yarnall, SRI International, CA*
*Elaine Haight, Foothill College, CA*

When instructors choose to integrate project-based learning (PBL) into their courses, they have different goals for student learning. When it comes to assessing this broad range of learning outcomes, one test does not fit all! In our discussion session, we will engage instructors in identifying the PBL learning goals for their students and then share the kinds of assessment that will help them monitor student progress toward these goals.

When you think about doing project-based learning in your class, what do you hope students will learn? How would you give students feedback and grades for their performance?

Discussion: What Information Do You Need to Manage an ATE Program?
Track 9
Regency

*Norena Norton Badway, University of the Pacific, CA*
*Jerry Somerville, University of the Pacific, CA*

What information do you need? Our goal is to help university and program researchers give you the information you need to manage your ATE program effectively. This session is to share what we've learned so far, and to ask you to help us identify other information that might be useful to you.

What issues arise in managing an ATE program about which you wish you had more information? Why do you want that information? How can we provide that information in a way that would be useful to you?
4:00 – 5:00 pm

Workshops and Discussion Sessions

Discussion Session: STEM Teacher Education – Achievement, Impact and Possibilities
Track 1
Council

Julie Guelich, Normandale Community College, MN
Peggy Rejto, Normandale Community College, MN

Participants in this session will discuss the unforeseen impact and opportunity teacher education programs can foster. The partnerships built through EdTrAc have benefited Normandale Community College in unexpected ways, including an on-site secondary math education pathway, the opportunity to provide STEM training for in-service teachers, the identification of avenues for financial aid and academic support for students in STEM areas, and new curriculum in STEM disciplines. EdTrAc has even impacted the college’s long-range facility plan.

How have campus departments and service areas been impacted by teacher education programs at your campus? How can partnerships work to disseminate program achievements and extend benefits of the program to new areas of student need and professional interest? What are some of the grant opportunities that teacher education programs can pursue?

Workshop: Engaging Students in Real-World Interoperability Studies
Track 2
Congressional B

Ann Beheler, Convergence Technology Center, CA
Bill Saichek, Orange Coast College, CA

To meet the growing need for technicians supporting the converged network and the increasing Green IT needs in energy conservation, the Convergence Technology Center (CTC) has implemented strategies to help other colleges to rapidly implement their own convergence programs. Orange Coast Community College, a mentored college, will share how the process worked in their district and how other colleges can benefit from their experiences. Specifics for creating a mentoring program will also be discussed.

How has the mentored college program through the CTC helped to accelerate the implementation of new convergence technology programs? How can this mentoring program be a model for other mentoring programs to help in scaling the dissemination of proven ATE programs?

Discussion Session: Practices, Pedagogies, and Venues for Hybrid, Online Technical Courses
Track 2
Governors

John Souders, OP-TEC: National Center for Optics and Photonics Education, TX
Fred Seeber, Camden County College, NJ

This session will engage attendees in an open discussion about the current status and future expectations of online instruction as a pipeline building tool for technical programs. The National Center for Optics and Photonics, OP-TEC, will briefly report its results of offering an online hybrid introductory-level photonics course and its plans for extending its use to secondary/postsecondary dual-credit offerings and incumbent worker retraining. Attendees will be asked to comment on this plan, share experiences, and provide insights on best practices.

What are the most effective ways to conduct laboratories and hands-on activities in an online environment? What are the challenges in offering online instruction for retraining incumbent workers? How can online courses be better structured to entice more students and incumbent workers to participate in technical programs?
Discussion Session: Project Fast Forward – A National Dual Credit Program for the Deaf
National Dual Credit Program for the Deaf
Track 2
Embassy

Donna Lange, Rochester Institute of Technology, NY
Myra Pelz, Rochester Institute of Technology, NY

Project Fast Forward has established a framework for a national dual-credit program for deaf and hard-of-hearing students. The project partners with 12 high schools from eight states and has over 100 students registered in dual-credit courses. This session will discuss the dual-credit model implemented for this project including its unique professional development component for high school teachers and counselors, the anticipated impact on the student pipeline, and challenges faced in establishing a national dual-credit program.

How do we ensure that the course rigor expected in college courses is being met in the high school classroom? How are partner schools recruited on a national level? How can we work with your community college to increase the number of deaf/hh students in IT programs?

Discussion Session: Entrepreneurial, Soft, IT, and the Shared Core Skills for Technicians
Track 2
Senate

Edgar Troudt, CUNY Kingsborough Community College, NY
Christoph Winkler, CUNY Institute for Virtual Enterprise, NY

Much existing work has infused skills beyond the traditional technical core in order to produce the well-rounded technician. The discussion often focuses entirely on soft skills and is only relevant to a particular discipline. We believe that the discussion needs to be broadened in scope of skills and to encompass all disciplines. This discussion will focus on the basic set of skills common to the majority of technical careers; and the scope will be broadened to include entrepreneurship and IT skills.

What basic soft, entrepreneurial, and IT skills transcend all technical careers? Does IT form the foundation for many technical jobs? Is it possible to design a general course that provides these common skills to students of all technical majors?

Workshop: Teaching Improvement for Community College Faculty
Track 3
Hampton

Joseph Gerda, College of the Canyons, CA

Community college part-time faculty frequently enter the profession with a high degree of expertise in the field and a dearth of classroom experience. This session describes a model for training full-time faculty members in the skills needed to facilitate teaching workshops for improving community college part-time teaching. Attendees will see an overview of the model; learn how faculty members on their own campuses can receive training; and have an opportunity to ask questions and engage in discussion.

In regards to providing professional development for part-time community college faculty, what challenges do you face on your own campus? What strengths and weaknesses do you see in the model? Do you think the model could be applied successfully on your home campus?
Workshop: Face Reality – How to Initiate and Sustain a Comprehensive Secondary School Career Program with Successful Transition to College and Career Pathways  
Track 3  
Congressional A

Susan Roark, Clark Advanced Learning Center, FL  
Melinda Cottrell, Clark Advanced Learning Center, FL

This workshop highlights successful career curriculum designed for secondary students from beginning concepts to a fully-operational program based upon student achievement results showing the district’s highest science test scores and 100% student pass rate on the state math exam. Through Internships, career shadowing, instructor externships, and more, secondary students explore STEM career options, gain real-world experiences, acquire employability skills, and create projects to enhance business operations. Attendees to benefit are instructors, businesses/industries, and curriculum planners.

How do institutions initiate and sustain a successful career program involving interaction and collaboration with the local business community? What effective strategies can secondary schools implement to support student career development as they transition from high school to postsecondary education and/or student-chosen career fields? How can comprehensive secondary school career programs assist both instructors and students in linking classroom learning with the changing business/industry world to enhance education and prepare students for the workplace?

Discussion Session: Creating and Sustaining Successful Professional Development Strategies in Biotechnology for Secondary Science Teachers and Career Counselors  
Track 3  
Regency

Sylvia Oliver, Washington State University Spokane, WA  
Debra Schultz, Washington State University Spokane, WA

Moderators will discuss successful strategies and outcomes of a biotechnology education program designed to assist K-12 educators to successfully infuse technical skills and career awareness into classrooms to inspire and better prepare students for careers in biotechnology. Results are based on work with 90 secondary teachers and counselors from public, private, and alternative schools. Topics of discussion will include professional development strategies, teacher-student research opportunities, industry internships, and institutional collaborations.

What are the opportunities and barriers to infusing new curriculum and lab experiences into the secondary school setting? What level of professional development is needed to promote in-depth learning opportunities for students? What support systems, including collaborations, need to be in place to promote sustainability of professional development programs?

Workshop: Implementing an Integrated Project-Based Approach in a Developmental Program Using the SCATE Technology Gateway Curriculum  
Track 4  
Empire

Jim Giumarra, Benjamin Franklin Institute of Technology, MA  
Jackie Comog, Benjamin Franklin Institute of Technology, MA  
Tanya Rogers, Benjamin Franklin Institute of Technology, MA

This workshop focuses on the implementation of Technology Gateway, a curriculum using an interdisciplinary, project-based approach to teach developmental math and science while providing opportunities for students to develop communication skills. The presenters will address curriculum development, integrated teaching, student learning, assessment, and the values of project-based learning. The workshop includes an in depth look at one of the projects.
How can project-based learning be used to develop student engagement, teamwork, critical thinking, and creative problem solving? How can faculty work in interdisciplinary ways to create contextualized, real-world scenarios for students?

**Discussion Session: Strategies for Recruiting Minorities and Young Women in Engineering**  
**Track 5**  
**Forum**

*Dayl Walker, Connecticut Business & Industry Association (CBIA), CT*  
*Mary deManbey, Connecticut Business & Industry Association (CBIA), CT*

CBIA's project grant with the Regional Center for Next Generation Manufacturing focuses on recruiting and retaining students in manufacturing programs, with an emphasis on building a pipeline from technical high schools to community college technician training. Minorities and women are targeted through such programs as an engineering learning academy at an inner-city high school, teacher guides and DVDs, and workshops for young women. Educators interested in promoting manufacturing will particularly benefit from this discussion. All participants will receive CBIA's Career Pathways Teacher's guide and DVD on engineering.

What are the clear benefits of developing a learning academy at a high school? How can you inspire young women to enter nontraditional technology careers? What recruiting materials work?

**Discussion Session: Enhancing the Robotics Pipeline**  
**Track 5**  
**Capitol**

*Dennis Faber, TIME Center, Community College of Baltimore County, MD*  
*Jeff Tjiputra, College of Southern Maryland, MD*

Attracting students to technical careers is a tough challenge for many community colleges and building the collaborative networks needed to support those efforts is often the key to success. The TIME Center (Technology and Innovation in Manufacturing and Engineering) and the College of Southern Maryland will share our multi-faceted, comprehensive strategy to attract students into STEM programs by encouraging and enhancing several different robotics initiatives. We also invite discussion on how others are capitalizing on similar robotics interest.

What strategies are session participants employing to leverage student interest in robotics for enrollment gains? What support systems are needed to grow and sustain robotics initiatives over time in order to increase the pool of potential students for our technical programs? What are some of the barriers to capitalizing upon this robotics interest?

**Workshop: Innovation in Teaching and Learning Project – Evolution of Problem-Based Case Learning (PBCL)**  
**Track 7**  
**Ambassador**

*Jim Johnson, Nashville State Community College, TN*  
*Arthur Smith, WGBH Educational Foundation, MA*  
*Skip Cunningham, Olsen Laboratories, NE*

Explore the new Problem-Based Case Learning (PBCL) project, Innovation in Teaching and Learning (ITL), designed for dissemination of PBCL as a practice. Hear from a business partner, WGBH, and ITL leader and respond in guided small group activity to critical features of the project: (1) business partners co-develop PBCL experiences; (2) interaction with resources and community online; and (3) hub and spokes model for implementation of ITL through professional development and train the trainer programs.

How could collaboration with a business partner in the co-development of learning experiences impact student learning, course content, and program development? How could an online resource and
community impact teaching practice, curriculum content, and program development? How could groups of practitioners committed to adoption and adaption of an innovative practice impact organizational change?

**Workshop: The iPhone, the SDK, the Kindle, and the Future of Mobile Learning**  
**Track 7**  
**Diplomat**

*Michael Qaissaunee, Brookdale Community College, NJ*  
*Gordon Snyder, NCTT, Springfield Technical Community College, MA*  
*Vince DiNoto, Jefferson Community and Technical College, KY*

The Apple iPhone and the Amazon Kindle have dramatically changed the way we view the mobile web and electronic or e-books. Traditionally, web browsing on mobile devices has been clumsy and unsatisfying. The iPhone has changed all of that, providing a web browsing experience that approaches the desktop computer. Likewise, the Amazon Kindle has created a platform for e-books that is simple, intuitive and satisfying to the user. In this presentation, we will discuss how these two devices; along with the iPhone software development Kit (SDK) will forever transform mobile teaching and learning.

How would you define the current state of mobile learning? What applications do you see for the iPhone in teaching and learning? What applications do you see for the Amazon Kindle in teaching and learning?

**Discussion Session: Effective Practices in Developing, Using, and Maintaining Digital Resource Libraries**  
**Track 7**  
**Regency**

*Sandra Mikolaski, Bellevue Community College, WA*  
*Rachael Bower, Internet Scout Project, WI*

Digital resource libraries often play an important role in a project's dissemination activities. Absent a strategy to make them known and accessible to a broad base of potential users, they often miss connecting with much of their audience and fail to achieve their potential benefit. This session will provide opportunities for discussion of best practices and experiences in the use of digital resource libraries and for learning about work currently underway on the ATE Center project as well as a project led by NWCET and the LIFE Center at University of Washington on new models for resource centers.

What are the attributes of an effective digital resource library from the perspective of a user? What are the attributes of an effective digital resource library from the perspective of a resource developer/provider? From a user perspective, what are the biggest challenges in accessing and using resources from most digital libraries?

**Discussion Session: Success Stories of Integrating Work Experiences into Technical Education**  
**Track 8**  
**Regency**

*James Swindell, Calhoun Community College, AL*  
*Patricia Taylor, Thomas Nelson Community College, VA*

This discussion session will provide an overview, best practices, and lessons learned from two examples of Co-op programs at SpaceTEC partner colleges, Calhoun Community College’s Co-operation Program with local industry and Thomas Nelson Community College’s Co-op program with the NASA Langley Research Center. This session will benefit institutions and industry partners seeking to establish highly-effective cooperative educational programs and those seeking to grow existing programs by learning from other’s successes and challenges.

How do you approach industry/government to form partnerships and co-op programs? How do you structure a co-op package that will attract the best students and meet industry/government objectives?
Discussion: Assessing Student Performance in Problem-Based Learning
Track 9
Regency

Nicholas Massa, Springfield Technical Community College, MA
Michele Dischino, Central Connecticut State University, CT

Problem-based learning (PBL) is emerging as an exciting alternative to traditional lecture-based instruction. In PBL, students learn by actively and collaboratively solving authentic problems presented in a real-world context. One of the challenges associated with PBL, however, is the assessment of student learning outcomes. Traditional measures of content knowledge are often inadequate for assessing and evaluating higher level thinking skills. In this interactive discussion session, we invite you to explore with us the various assessment strategies currently being employed by practitioners of PBL in technology education.

How is learning assessed in PBL? What are the different models for assessment in PBL currently being employed in technology education? What assessment strategies have been demonstrated as most effective for PBL in technology education?

Workshop: Exploring Dimensions and Practices of Scaling Up
Track 9
Palladian

Deborah Boisvert, University of Massachusetts Boston, MA
David McNeel, Nashville State Community College, TN
Michael Lesiecki, Maricopa Community College District, AZ

Achieving scale in the implementation of an innovation across a target population is a common objective among ATE centers and projects. Too often, a successful pilot, when implemented, fails to live up to the expectations set by the pilot or is unable to be implemented effectively when applied to other situations. Participants in this workshop will compare and contrast successful practices and experiences of scaling; work with a five-dimension, research-based model for successful scaling up; and achieve new insights into moving forward in achieving scale in their own projects or initiatives.

What constitutes a successful dissemination plan? What successful practices have you used or observed in scaling up? Is sustainability necessary for achieving scale across a target population?

Discussion Session: ATE Professional Development Evaluation
Track 9
Cabinet

Arlen Gullickson, Western Michigan University, MI
Lori Wingate, Western Michigan University, MI

This discussion focuses on NSF’s expectations for ATE professional development and how to improve professional development evaluation utility and credibility. Findings from the 2007-08 ATE annual survey provides the basis for a discussion among principal investigators and evaluators about the current status of ATE-supported professional development and its evaluation. Participants will learn about criteria and approaches for evaluating professional development and how to use evaluation to help meet NSF’s expectations and enhance student outcomes.

How do your evaluation practices fit with NSF’s expectations for ATE-supported professional development? How do you know if you’ve been successful with your professional development efforts? To what extent does your local evaluation capture credible evidence of professional development effectiveness?
4:30 – 5:15 pm  
**Student Showcase Session Set-up**  
Exhibit Hall

5:15 – 6:30 pm  
**Student Showcase Session and Reception**