FALL CONFERENCE

NCATC

National Coalition of Advanced Technology Centers



An affiliated council of

October 19–20 · Portland, Oregon

What's Next: Innovation-Driven Workforce Transformation



PROGRAM

2017 Fall Conference • October 19-20 • Portland, Oregon

Welcome to Portland Community College



Welcome to beautiful Portland, Oregon, and to Portland Community College.

On behalf of PCC's Board of Directors, faculty, and staff, I am pleased to welcome the National Coalition of Advanced Technology Centers.

From training our community's workforce to preparing students for four-year schools, to leading the way in

educational innovation, the work we do at PCC is at the heart of our region's success.

As the largest postsecondary institution in Oregon, PCC serves nearly 78,000 full- and part-time students. Our district encompasses a fivecounty area, serving nearly two million residents. PCC fills a unique role one that offers high-quality education and opportunities for a diverse student population.

The greater Portland area is a center of innovation and rapid growth. PCC is committed to our partnerships with business and industry, helping to create high-demand programs that educate and train a diverse workforce, and to keeping skilled labor in our region.

We are especially proud of PCC's role in the realization of the Oregon Manufacturing Innovation Center (OMIC). OMIC is a collaborative environment bringing together industry, higher education, and government to develop new tools, techniques, and technologies to address manufacturing challenges through applied research and advanced technical training. OMIC will be a catalyst to enhance the competitiveness of the metals manufacturing industry, serving companies of all sizes through an industry-driven collaborative. PCC is building the OMIC Training Center, focused on serving students through industrysponsored skilled apprenticeship training—leading to postsecondary credentials and family-wage jobs, as well as filling the skill gap that manufacturers face today.

PCC Sylvania's Mechatronics / Automation / Robotics program offers practical knowledge to students, exposing them to the integration of electrical systems, fluid power, electronics, computer controls, instrumentation, and robotics. Students have access to state-of-the-art technology and equipment. They garner problem-solving skills enabling them to launch careers as technicians in manufacturing, servicing, and repairing a wide array of equipment.

PCC's Swan Island Trades Center is a 20,000-square-foot facility housing the college's Apprenticeship and Trades department. The Center and nearby Cascade Campus, along with expertise from PCC's CLIMB Center for Advancement, coordinate continuing education, training, retraining, and professional development for Swan Island businesses at this location.

As always, this year's NCATC conference promises to be rich in opportunities to learn, network, connect with colleagues, and spend time with sponsors and exhibitors. The tours to area businesses and to PCC's Advanced Technology Center at our Rock Creek campus offer the occasion to see our lovely region and to experience first-hand the exciting innovations that are taking place here in the Portland region.

Enjoy!

Mark Mitsui, President Portland Community College





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CONFERENCE SCHEDULE AT A GLANCE

Wednesday, Oct 18			8	Thursday, Oct 19 (continued)	
		3:00-5:00 p.m.	Registration (Marriott– Columbia/Willamette)	5:15—6:00 р.м.	NCATC Strategic Partner Alliance (SPA) Leadership Meeting (by Invitation ONLY)
	Thursday, Oct 19			6:00-7:30 р.м.	Reception/Cash Bar
	7:00 a.m2:00 p.m.		Registration (Ballroom Foyer)		(Marriott–Salon E)
7:45 a.m.—7:00 p.m. 8:00—9:00 a.m.		5 a.m.—7:00 p.m.	Exhibits Open (Marriott– Salon E). <i>Dedicated Times:</i> 9:00–9:30 A.M. and 10:15–10:45 A.M.	Friday, Oct 20	
				7:30–11:30 а.м.	Registration (Ballroom Foyer)
				7:30 а.м.–Noon	Exhibits Open (Marriott– Salon E). <i>Dedicated Times:</i> 7:30–8:10 A.M. and 10:30–11:00 A.M.
		8:00–9:00 a.m.	Breakfast/Keynote (Marriott–Salon F)		
9:30–10:15 a.m.		9:30–10:15 а.м.	Concurrent Sessions	7:30–8:10 a.m.	Breakfast (Marriott–Salon E)
10:15–10:45 а.м.		0:15–10:45 a.m.	Break (Marriott–Salon E)	8:10 — 8:40 а.м.	Keynote (Marriott–Salon F)
10:45–11:30 а.м.		0.45–11.30 A M	Concurrent Sessions	8:45–9:30 a.m.	Concurrent Sessions
11:30 A.M.–12:30 P.M.			Lunch/Keynote/ Innovation Award (Marriott–Salon F)	9:45—10:30 а.м.	Concurrent Sessions
				10:30–11:00 a.m.	Break/Dedicated Exhibit Time (Marriott–Salon E)
12:45–1:30 р.м.		12.45 1.20 5.4		11:00–11:45 а.м.	Concurrent Sessions
	TOURS	1:30–2:15 p.m.	Concurrent Sessions Load Buses and Transport	11:45 а.м.–12:20 р.м.	Plenary Session: Expert Panel (Marriott–Salon F)
		2:15-3:00 р.м.	to Tours (Marriott Lobby) PCC ATC Tours	12:30-1:00 р.м.	Lunch/NCATC Strategic Partners Connections
		3:00–3:45 p.m.	Load Buses and Transport		(Marriott–Salon F)
			to Industry Tours	1:00–1:30 p.m.	NCATC Business Meeting and Election
		3:45-5:00 р.м.	Industry Tours		(Marriott–Salon F)
		5:15-6:00 р.м.	Load Buses and Transport to Hotel	1:30-2:30 р.м.	Plenary Session: Expert Panel (Marriott–Salon F)

WEDNESDAY, October 18

3:00-5:00 P.M., REGISTRATION, Marriott-Columbia/Willamette

THURSDAY, October 19

7:00 A.M.-2:00 P.M., REGISTRATION, Ballroom Foyer

7:45 A.M.-7:00 P.M., EXHIBITS OPEN, Marriott-Salon E (Dedicated Times: 9:00-9:30 A.M., 10:15-10:45 A.M.)



8:00–9:00 A.M., BREAKFAST AND KEYNOTE, Marriott–Salon F

Welcome to Portland and PCC

Mark Mitsui, President, Portland Community College

9:30-10:15 A.M. CONCURRENT SESSIONS

Marriott–Salon G

The Haas Commitment to Education

Join Toni Neary to learn more about how Haas Automation has committed to education. Information will include the HTEC teacher training program, Gene Haas Foundation information for scholarships and grants, and HTEC regional and national conferences for educators. This interactive presentation will provide you with ways to enhance, grow, and further support your advanced manufacturing programs. **Toni Neary**, Morris Group Inc.

Marriott-Salon H

Innovative Technologies for Welding Education

The welding industry is challenged to attract, engage, and effectively educate the next-generation welding workforce. Collaboration between education, industry, and suppliers is vital to inspire youth and address the skills gap. Steve Hidden of Miller Electric will share new innovative tools like Multi-Media Resources, Augmented Reality, and Motion Tracking to enhance the learning experience and provide instructor efficiencies. The presentation will also include a hands-on demonstration of the Miller AugmentedArc Augmented Reality Welding Training Device. **Steve Hidden**, Miller Electric Mfg

Marriott–Salon I

Continuous Evolution: A Response to Changing Needs

Milwaukee Area Technical College, founded in 1912, has grown to be one of the largest community technical colleges in the Midwest and offers more than 200 associate degree, technical diploma, certificate and apprentice programs. As a pioneer in advanced manufacturing programs, the college recently created a technical diploma program in Machine Tool Operation with an emphasis on Swiss Turning Center Setup and Operation. This two-semester program provides instruction on the CNC Swiss turning center and single- and multiple-spindle automatic screw machines. Come listen to the team as they share their experience in responding to the needs of local employers in a dynamic environment. **Cheralyn Randall, Dorothy Walker, Mona Schroeder-Beers, Michael Mallwitz**, Milwaukee Area Technical College

10:15–10:45 A.M. BREAK/Dedicated Exhibit Time, Marriott–Salon E

10:45-11:30 A.M. CONCURRENT SESSIONS

Marriott-Salon G

Closing the Skills Gap: MSSC and Amatrol Launch "Skill Boss," a Major Innovation in Workforce Education and Training

Manufacturing executives have been arguing for decades that they need more workers with deeper technical and creative problem-solving skills to be competitive in global markets. That's where the Skill Boss comes in. This is a cost-effective and portable machine that high schools, community colleges, and manufacturers can use to train people to excel in advanced manufacturing environments. Attend this session to learn much more about the innovative Skills Boss program. **Neil Reddy**, MSSC; **Kent Powell**, Amatrol

Marriott–Salon H

Going Virtual in the "World of Work"

A work-based learning program is now able to track students interested in and registering for internship opportunities within the local community. Gain insight on lessons learned by going virtual for students achieving employability skills. An enrollment tracking model for program management of internships will be discussed (Run Rate format). The model has successfully shown how increasing institutional responsibility for improving student learning, persistence, and completion can be accomplished. Learn from the journey what a traditional face-to-face course goes through, and what is needed within the process for a course curriculum redesign. **Angelo Markantonakis, Debra Neesmith, Hanif Miller, Michael Quillen**, Rowan-Cabarrus Community College

Marriott–Salon I

Technology in the Welding Classroom

Attend this session to learn how Lincoln Electric is using technology to train cheaper, better, and faster; exploring ways to integrate technology into existing programs; and identifying the advancements in technology that have sparked a revolution in the way welders and manufacturers should be trained for the future. This session will explore some of the equipment and best practices used to integrate the latest technology into existing welding and manufacturing programs, in the process helping instructors gain the maximum efficiency and benefits of emerging technologies. **Chris Gandee**, Lincoln Electric

11:30 A.M.-12:30 P.M., LUNCH, Marriott-Salon F



Presentation of 2017 NCATC Innovative ATC Workforce Development Award Winner: **Dr. Alan Grier**, Midlands Technical College, Columbia, SC Sponsored by NOCTI

Business Solutions®





Keynote: Mike Starr, General Manager, Boeing Portland

12:45–1:30 P.M. CONCURRENT SESSIONS

Marriott-Salon G

Goodbye, Résumé! How a "Smart Matching System" for Colleges Makes Competencies the Living Links Between Students and Employers

A technical college in Washington State is pioneering a new "smart matching system" that links students directly with employers based on competencies that are valuable to regional hiring managers. The system uses Artificial Intelligence and Machine Learning, plus good old-fashioned relationship building, to connect students with well-paying jobs in their fields. Hear from the project team and their technology partner, JobWorthy, about how the system works and its potential for bringing handson learning into the digital age. **Richard Hines, Danny Copeland, Claire Korschinowski**, Clover Park Technical College; **Sasha Matison**, JobWorthy

Marriott–Salon H Back to the Future: Standardization of OJT and Worker Qualification

Not since World War II have manufacturers faced a workforce challenge as they do today. The baby boomers are retiring and manufacturers are falling short with skilled succession plans. Now is the time for them to reach back and apply best practices to capture the organizational knowledge and standardization of learning and development methods that will safely and quickly build a new worker toward a desired performance level. ToolingU-SME will present best practices for building a worker qualification program, which will include tools and techniques for the delivery of successful on-thejob training sessions. In addition, we will present how millennials, with their curiosity and desire to push boundaries, offer a unique perspective for the workplace one that can lead to loyal employees and strong business results. **Denise Ball**, ToolingU-SME; **JB Gambill**, Klein Tool

Marriott–Salon I

Employees: Your Competitive Advantage

This workshop will empower you to build an engaged workforce—giving your company a significant competitive advantage. We all know that finding skilled workers is a challenge. Once you find them, ramp-up times for new employees are costly. Your workforce challenges don't have to be such a financial burden. Join Oregon Manufacturing Extension Partnership (OMEP) representatives to learn how to get a scalable training infrastructure that boosts new hire ramp-up speeds and reduces turnover. Topics will include: • How to reduce ramp-up time for new employees • How to make an action plan to combat the skilled worker shortage • How to build a plan for employee development that increases your bottom line and decreases financial risk • How to boost your output through employee engagement. You will come away with immediately actionable implementation strategies. Whether you're a veteran trainer or new to training, this workshop will guide you on the path to increased productivity and shorter ramp-up times. Mike Vanier, Russ Gaylor, OMEP

THURSDAY, October 19

1:30–2:15 P.M., LOAD BUSES for TOURS, Marriott Lobby

2:15-3:00 р.м., PCC ATC TOURS

Group A: Microelectrical / Mechatronics (Intel) Lab Group B: Aviation Maintenance (Boeing) Lab Group C: Think BIG Diesel (Caterpillar) Lab Group D: Biotech (Genentec) Lab Group E: Welding (Vigor) Lab Group F: STEAM Labs / Maker Space



3:00–3:45 P.M. LOAD BUSES and TRANSPORT to INDUSTRY TOURS

3:45–5:00 P.M., INDUSTRY TOURS (Each participant will choose one.)

procedures.

NIKE, Inc. World Headquarters campus near Beaverton, Oregon, is just minutes from downtown Portland. The sustainable, stateof-the-art campus stretches across 400 acres and pushes the limits in areas such as management, materials research, product design and development, marketing, finance, sustainability, and hightech manufacturing.

Forest Dental is North America's fastest growing dental equipment manufacturer. Forest products focus both on affordable technical quality and design excellence, including a range of color customization options that are synonymous with Forest. Items manufactured include chairs, lights, instrument delivery trays and carts, including pneumatic, fluid, power, vacuum,

waste and other functions used for dental



Acumed manufactures

surgical and orthopedic medical devices intended for implantation into patients. A particular focus is implant products used for reconstruction and repair from traumatic injuries. The tour features a visit to Acumed's Hillsboro facility.

Closed-toe shoes required for ALL tours.

5:15-6:00 P.M., LOAD BUSES AND TRANSPORT TO HOTEL

5:15–6:00 P.M., NCATC Strategic Partner Alliance (SPA) Leadership Meeting (by Invitation ONLY) 6:00-7:30 р.м., "SMALL PLATES" RECEPTION/Cash Bar, Marriott-Salon E



FRIDAY, October 20

7:30–11:30 A.M., REGISTRATION, Ballroom Foyer

7:30 A.M.-Noon, EXHIBITS OPEN, Marriott-Salon E

7:30-8:10 A.M., BREAKFAST, Marriott-Salon E



8:10-8:40 A.M., KEYNOTE, Marriott-Salon F

Sue Haley, Vice President, Human Resources, Vigor Industrial

8:45-9:30 A.M. CONCURRENT SESSIONS

Marriott–Salon G

Information Technology Pathways, Dual Enrollment: High School Partnerships That Work

In the fall of 2015 Rowan-Cabarrus Community College launched a new certificate for dual enrollment that allowed students to explore topics in computer science and problem solving in a structured program logic environment. Students have the opportunity to complete three college transfer courses in programming and logic as well as a final course that specifically discusses the creation of mobile applications. In this session, we will explore how this computer science certificate is being integrated into two high school districts, and how class credit is being articulated between postsecondary and secondary levels. **Angelo Markantonakis, Zackary Hubbard, Van Madray**, Rowan-Cabarrus Community College

Marriott–Salon H Unmanned Aerial Vehicles (Drones): Technician Program Successes

Unmanned aerial vehicles (UAV) are becoming widely accepted as tools in many commercial sectors. Often referred to as "drones," this amazing technology is

expanding the capability in many professions requiring an occupational skillset that has not existed before. In 2010, Northland Community and Technical College was awarded a Department of Labor ARRA grant to create the nation's first UAV maintenance technician program. This session will focus on Northland's fascinating journey into the world of the unmanned. **James Retka**, **Jonathon Beck**, Northland Community and Technical College

Marriott-Salon I

Advanced Robotics for Manufacturing

The ARM Institute is the newest of 14 Manufacturing Institutes dedicated to advancing the US production capabilities through newly discovered technologies and workforce revitalization. Robotics, embedded intelligence, and AI are ubiquitous in all types of production, allowing for the development of new processes and reshoring production. **Stephen Catt**, **Jay Douglas**, ARM Institute



9:45-10:30 A.M. CONCURRENT SESSIONS

Marriott–Salon G STEMersion

STEMersion is a one-week professional development experience for middle and high school teachers that includes full-day site visits at top businesses. Partnering companies plan activities to highlight how STEM skills are used at their facilities and inform teachers of the career options available with AAS degrees in STEM fields. The program enables participants to take real-world experiences back to their classrooms to prepare students for STEM career pathways. **Jeff Wyco**, BridgeValley Community and Technical College

Marriott-Salon H

OMIC: An Oregon Statewide Collaborative Shaping the Future of Manufacturing

The Oregon Manufacturing Innovation Center (OMIC) brings together industry, higher education, and government to develop tools, techniques, and technologies to address manufacturing challenges through applied research and advanced technical training. OMIC enhances the competitiveness of the metals manufacturing industry. OMIC serves companies of all sizes, maximizing workforce assets in the region and creating an innovation district for advanced manufacturing in Oregon. **Marc Goldberg**, Portland Community College; **Laura McKinney**, Oregon Tech; **Janet LaBar**; Greater Portland Inc.; **Hilary Pickerel**, Vigor Industrial; **Tony Erikson**, Oregon AERO

Marriott-Salon H

Breaking Down Silos to Build In-Demand Pathways

Colleges are increasingly looking to streamline pathways leading to industry-recognized credentials, academic success and jobs. All too often, existing systems create barriers—either through misalignment with industry credentials, creating silos that alienate credit and non-credit services, or failing to advise students on all the options available to them within a given sector. The *Mapping Upward* project focused on creating comprehensive pathways that integrate services and information in a new way. This presentation will look at models that can be used to create unique solutions to old problems. **Hope Cotner**, CORD; **Tom Crampton**, Mott Community College

10:30–11:00 A.M., BREAK/Dedicated Exhibit Time, Marriott–Salon E

11:00-11:45 A.M. CONCURRENT SESSIONS

Marriott-Salon G

Rock Valley College's 7:2:1: Linking Talent with Opportunity

According to one projection, future jobs will have a consistent 1:2:7 ratio. Out of every 10 jobs, 1 will require a postgraduate degree, 2 will require a bachelor's degree, and 7 will require a certificate, credential, and/or associate degree. This presentation will address RVC's efforts to provide opportunities and support for the students representing the "7" in that ratio. **Doug Jensen**, **Gina Caronna**, Rock Valley College; **Michael Duun Jr.**, Rockford Metropolitan Agency for Planning

Marriott–Salon H Mastering the Craft: Remaking Apprenticeship for the Modern Workforce

The apprenticeship—the original training model—has endured because it works: Firms gain workers with the skills they need; apprentices gain skills and credentials and the opportunity to earn while they learn—avoiding student debt; and communities gain skilled workers, enhanced training capacity, and the kinds of networks that make economies, labor markets, and communities work. Along with Colorado, Washington, and American Apprenticeship Initiative communities, the state of California is reimagining apprenticeship for today's workers through the \$30M California Apprenticeship Initiative (CAI), a project of the CA Community College Chancellor's Office. Social Policy Research (SPR) Associates is the evaluation and technical support partner on the project. **Kristin Wolff**, **Vinz Koller**, SPR

Marriott-Salon I

Industry Credentials: Practical Tips for Program Design and Implementation

Manufacturing industry credentials were relatively unknown and unavailable in the Portland region until 2014, when a partnership among regional workforce boards, local community colleges, and manufacturers launched the Certified Production Technician credential. In this session, attendees will learn about the Portland Metro Area's implementation of the CPT and walk away with practical tips for integrating a national industry credential into training programs. **Jesse Aronson**, Worksystems; **Ken Dodge**, Portland Community College

11:45 A.M.-12:20 P.M. , PLENARY SESSION with EXPERT PANEL, Marriott-Salon F

21st Century Apprenticeships: Public-Private Partnerships That Work

Lucinda Curry, Robert C. Byrd Institute • Montez King, NIMS • Kristin Wolff, Vinz Koller, SPR *Facilitator:* Byron Breland, San Jose City Colleges

Over the last three years The Department of Labor's (DOL) Office of Apprenticeship (OA) has invested hundreds of millions of taxpayer dollars in efforts to expand American Apprenticeships. Through ApprenticeshipUSA, DOL will also make investments to help more employers start or grow apprenticeship programs, particularly in highgrowth and high-tech industries such as health care, IT, and advanced manufacturing, where the apprenticeship model has not been as broadly adopted. Through industrydriven partnerships, these investments will focus on leveraging collaborations with workforce development organizations, industry associations, labor groups, and training providers to help multiple employers at a time accelerate the expansion of apprenticeships nationwide. This interactive session will encourage audience questions and participation, as well as highlight the best and most promising practices in advanced manufacturing and technology-related apprenticeships across the country.

12:30–1:00 р.м., LUNCH / STRATEGIC PARTNERS CONNECTIONS, Marriott–Salon F

1:00–1:30 P.M., NCATC BUSINESS MEETING AND ELECTION, Marriott-Salon F

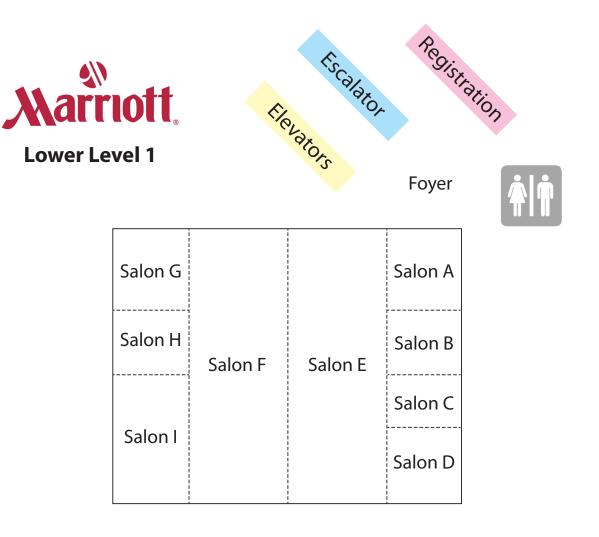
1:30-2:30 P.M., PLENARY SESSION with EXPERT PANEL, Marriott-Salon F

Emerging, Advanced Technician Skills for the 21st Century Workforce

Brynt Parmeter, NextFlex • Lena Tran, San Jose City Colleges/Evergreen Valley College Kathi Greene, NIIMBL: Bio-Pharmaceutical Manufacturing Institute • Chris Scherer, Oregon MEP Jay Douglas, Advanced Robotics for Manufacturing (ARM) Institute • Facilitator: Mary Ann Pacelli, NIST MEP

The Manufacturing USA Network is a nationwide network of the individual Manufacturing Innovation Institutes, established by the Revitalize American Manufacturing and Innovation Act of 2014. The program seeks to address the complex manufacturing-related technology transition challenges that arise between early-stage research and technology adoption. Manufacturing USA accelerates the development of an advanced manufacturing workforce through activities aimed at developing a domestic advanced manufacturing capability to meet current needs and to support critical emerging technologies. Manufacturing USA Institutes partner with education institutions to sponsor initiatives including internships for high school, community college, and university students; educational resources for K–12 educators; career information workshops for middle and high school students; technology-specific training for manufacturing employees; and training programs to help future veterans prepare for civilian life and manufacturing jobs.





Special Thanks to the 2017 NCATC Fall Conference Planning Committee

PORTLAND COMMUNITY COLLEGE

Marc Goldberg, Associate Vice President of Workforce Development and Continuing Education Kate Chester, Community Engagement Director Matthew Altman, Science and Technology Division Dean Janis Nichols, Community Relations Manager Irene Giustini, Math, Aviation and Industrial Tech Division Dean Sherry Bjork, Executive Assistant to the AVP of Workforce Development and Continuing Education

NCATC: Don Robison, Craig McAtee, Holly Rolf, Nick Graff, Tom Crampton, Hope Cotner

Thank You, Conference Sponsors!



About







Established in 1988, the National Coalition of Advanced Technology Centers (NCATC) is a network of higher education resources that advocates and promotes the use of technology applications that enhance economic and workforce development programs and services. With over 160 member institutions ranging from colleges and universities to the corporate community, NCATC provides technical assistance through its Membership Assistance Program, grant evaluation, publications, and access to best practices from the nation's top ATCs. To learn more, visit www.ncatc.org.



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