

2019 FALL CONFERENCE

Moving Industry 4.0 Forward: Models for Competency-Based Credentialing and Career Pathways

September 11–13 • Twin Cities, Minnesota

PROGRAM



Hosted by



MNMFG Partner Institutions



From the President of Bemidji State University and Northwest Technical College



On behalf of Bemidji State University and the Minnesota State Advanced Manufacturing Center of Excellence | ATE Regional Center, located at Bemidji State University, I am pleased to welcome the National Coalition of Advanced Technology Centers to the state of Minnesota.

BSU offers more than 80 undergraduate majors and eight graduate degrees. BSU is a member of the Minnesota State system of colleges and universities and has a faculty and staff of more than 550.

The Minnesota State Advanced Manufacturing Center of Excellence—a National Science Foundation Advanced Technological Education Regional Center—is a consortium of 18 two-year technical and community colleges led by BSU. The center works closely with industry to meet the dynamic, evolving needs of the region's manufacturing employers.

The center is building the next generation of advanced manufacturing talent by:

- Leading Dream It. Do It. Minnesota.
- Coordinating the Minnesota Statewide Tour of Manufacturing.
- Funding statewide advanced manufacturing and STEM youth outreach events.
- Managing 360 eTECH, an online and hands-on education program offered through our consortium.

The center helps industry gain qualified employees by:

- Working closely with industry to develop curriculum that meets their needs.
- Developing learning modules focused on professional skills.
- Supporting project-based learning through robotics.
- Funding program improvement at colleges.
- Leading the adoption of new educational models.
- Developing new and enhancing existing curriculum.

As president of two institutions (Bemidji State University and Northwest Technical College) that work with the Minnesota State Advanced Manufacturing Center of Excellence, I am keenly aware of the impact of manufacturing jobs on our local economy as well as the state of Minnesota and the region.

I am happy to host the NCATC fall conference and I am sure you will enjoy the opportunities to learn, network, connect with colleagues, and spend time with sponsors and exhibitors.

Faith C. Hensrud, Ed.D.
President
Bemidji State University
Northwest Technical College



2019 Board of Directors

President

Jeff Wyco, BridgeValley Community and Technical College (WV)

President-Elect

Kathy Rentsch, Quinsigamond Community College (MA)

Secretary

Marc Goldberg, Portland Community College (OR)

Treasurer

Maria Coons, Harper College (IL)

Immediate Past President

Nick Graff, Dallas County Community College District (TX)

Directors

Tim Baber, College of the Canyons (CA)

Marilyn Barger, FLATE (FL)

Terri Burgess Sandu, Lorain County Community College (OH)

Alan Clayton, Midlands Technical College (SC)

Hope Cotner, Center for Occupational Research & Development (TX)

Donald Hutchison, Macomb Community College (MI)

Chris Lewis, Rock Valley College (IL)

Toni Neary, Haas Tower - Morris Group Inc.

Amanda Sizemore, St. Charles Community College (MO)

Greg Surtman, Tooling U-SME

Presidents Advocacy Council

Dr. Bryan Albrecht, Gateway Technical College

Dr. Perry Ward, Lawson State College

Dr. Greg Rutherford, York Technical College

Dr. Annette Parker, South Central College

Dr. Keith Bird (Emeritus)

NCATC Executive Director: J. Craig McAtee

NCATC Operations Manager: Holly H. Rolf

Conference Schedule at a Glance

Tuesday, September 10, 2019

- 1:00–5:00 P.M. Registration (Level 2, Balcony)
- Noon–4:30 P.M. NCATC Board Meeting (*by invitation only*)
- 6:00–11:30 P.M. Exhibitor Set-up

Wednesday, September 11, 2019

- 7:00 A.M.–5:00 P.M. Exhibits Open (Valley Ballroom)
- 7:30 A.M.–4:30 P.M. Registration Open (Reg Desk, Level 2)
- 7:30–8:30 A.M. BREAKFAST, Exhibitor Dedicated Time (Valley Ballroom)
- 8:45–9:15 A.M. Kickoff (Valley Ballroom)
Presidents Welcome:
Jeff Wyco, President, NCATC
Dr. Faith Hensrud, President, Bemidji State Univ and Northwest Tech College
- 9:30–10:15 A.M. CONCURRENT SESSIONS
- 10:30–11:15 A.M. CONCURRENT SESSIONS
- 11:30 A.M.–12:15 P.M. CONCURRENT SESSIONS
- 12:30–2:00 P.M. LUNCH (Valley Ballroom)
Remarks by **Dr. Annette Parker**, President, South Central College;
Keynote: Carolyn Lee, Executive Dir, Manufacturing Institute/NAM
Uniquely Abled Academy (Video)
- 2:00–2:15 P.M. 2019 Innovation Award (Valley Ballroom)
Sponsored by NOCTI / NBS
- 2:15–2:45 P.M. 2020 NCATC Board Nominees (Valley Ballroom)
- 2:45–3:45 P.M. Strategic Partner / Exhibitor “Scavenger Hunt” (Valley Ballroom)
- 3:45–4:45 P.M. Dedicated Exhibitor Time (Valley Ballroom)
- 4:00–5:00 P.M. First-Time Attendees and New Members Reception (I Blue Heron)
- 4:45–5:30 P.M. Strategic Partner Leadership Team Meeting (*by invitation*) (Executive Ballroom)
- 6:00–9:00 P.M. Social Networking Event at SMAAASH (Mall of American, Level 4 East)

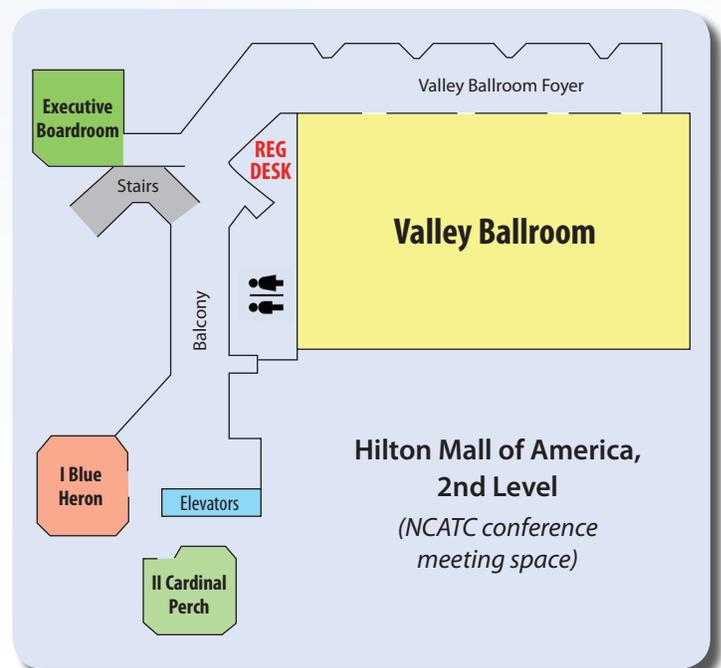
Thursday, September 12, 2019

- 7:30 A.M.–Noon Registration (Reg Desk, Floor 2)
- 7:30 A.M.–7:30 P.M. Exhibits Open (Valley Ballroom)
(Dedicated Times: 7:30–8:00 A.M.; 1:30–2:15 P.M.)
- 8:00–8:45 A.M. BREAKFAST (Valley Ballroom)
Keynote: Deon Clark
Owner and CEO, TCI Solutions

- 9:00–9:45 A.M. CONCURRENT SESSIONS
- 10:00–10:45 A.M. CONCURRENT SESSIONS
- 11:00–11:45 A.M. CONCURRENT SESSIONS
- Noon–1:30 P.M. LUNCH (Valley Ballroom)
- 12:15–12:45 P.M. NCATC Annual Business Meeting and 2020 Board Elections
- 12:45–1:30 P.M. *Keynote: Traci Tapini*
President, Wyoming Machine
- 1:30–2:15 P.M. Break and Dedicated Exhibitor Time (Valley Ballroom)
- 2:45–5:00 P.M. Industry / Innovation Tours
(*Buses load 2:15 outside hotel lobby; DEPART 2:30.*)
- 5:30–7:30 P.M. President’s Reception (Valley Ballroom)

Friday, September 13, 2019

- 7:30–10:00 A.M. Registration (NCATC Information Desk)
- 7:30–8:15 A.M. BREAKFAST, Dedicated Exhibit Time (Valley Ballroom)
- 8:30–9:15 A.M. *Keynote: Steve Kalina*, President, Minnesota Precision Manufacturing Association
- 9:30 A.M.–12:30 P.M. ATC and rms Tours
(*Buses load 9:30 outside hotel lobby; DEPART 9:45.*)
- 12:30–1:00 P.M. Box Lunches, End of Conference



Wednesday, September 11, 2019

- 7:00 A.M.–5:00 P.M. **Exhibits Open**, Valley Ballroom
- 7:30 A.M.–4:30 P.M. **Registration Open**, Registration Desk, Level 2
- 7:30–8:30 A.M. **Breakfast and Exhibitor Dedicated Time**, Valley Ballroom
- 8:45–9:15 A.M. **Kickoff: Presidents Welcome**, Valley Ballroom
Jeff Wyco, President, NCATC; **Dr. Faith Hensrud**, President, Bemidji State University and Northwest Technical College



9:30–10:15 A.M.

CONCURRENT SESSIONS

Executive Boardroom

Moving Forward With Industry 4.0 and a New Advanced Technology Center at Rowan-Cabarrus Community College

Van Madray, Tony Bean, Rowan-Cabarrus Community College

Learn how Rowan-Cabarrus Community College utilized NCATC's services to design and build our Advanced Technology Center. We will also discuss how we embedded NC3's Industry 4.0 Certification into our curriculum programs.

II Cardinal Perch

Raising the Bar Through Competency Training

Sue Mueller, Tooling U-SME

Tanja Stading, South Central College

George Chapple, Daikin Applied Faribault

This session will consist of a panel discussion that focuses on manufacturers using competency-based education to help fill the skills gap. Through partnerships with South Central College and Tooling U-SME, two organizations will share how assessments and certifications are being used to build training programs.

I Blue Heron

Apprenticeship: The Other 4-Year Degree

Claudia Aurand, Jeana Anderson, Germanic American Institute

The (German) Apprenticeship Model, Project Modern Apprenticeship is a smart alternative to the 4-year degree and can help close the socioeconomic and skills gaps. When employers invest in the education and training of their employees, everyone benefits.

10:30–11:15 A.M.

CONCURRENT SESSIONS

Executive Boardroom

AI, VR, and SIM: New Tools for Technical Education

Chris Legarski, Paul Schreffler, Discovery Machine Inc.

Learn how virtual simulation and artificial intelligence are being used to advance the practice of competency-based learning. Discover how organizations are accelerating the pace of technical training using these innovative tools. Find out more about how you can increase student engagement, minimize the cost of training equipment, provide "safe-to-fail" laboratory experiences, and easily model and track desired student task performance and behavior to better meet the goals of a competency model of learning.

10:30–11:15 A.M. *Concurrent Sessions (cont.)***II Cardinal Perch****Live Online: Innovative Training Model for Adult Learners**

Emma Baumann, Jeff McCabe, South Central College

Live Online is a collaborative training program that utilizes videoconferencing technology to provide convenient and affordable industry-driven training to adult learners and incumbent workers across the state of Minnesota. Learn how this model was established as a collaborative partnership between Minnesota State College CE/CT departments, discover the benefits to employers and colleges, learn how the model can align with apprenticeships, and find out how you can implement a similar collaborative program at your institution.

I Blue Heron**High-Potential Candidates + Certified Manufacturing Skills = Value Driven Results**

Julie Gibson, ACT, Inc.

Neil Reddy, MSSC

Craig Lamb, Rowan-Cabarrus Community College

Through innovative funding, the North Carolina Manufacturing Institute delivers results in response to a rapidly growing need for manufacturing employees with certified skills and verified work readiness. This session will focus on the specifics of developing a reliable and sustainable supply chain for manufacturing employers' talent needs by linking and leveraging existing national and regional assets through collaboration. The importance and methodology for aligning and validating stackable high-quality credentials using nationally recognized methods will also be addressed.

11:30 A.M.–12:15 P.M. **CONCURRENT SESSIONS****Executive Boardroom****IRAP: The “Gateway Drug” of Choice**

Emily McGrath, NextFlex

Michael Hernandez, Evergreen Valley College

An Industry Recognized Apprenticeship or IRAP approach provides flexibility and opportunity to get industry involved in talent creation. It is low-risk, high-yield, and a great way to get companies and colleges to work together in meaningful ways that benefit them both as well as the students/employees in their programs.

II Cardinal Perch**How to Build an Industry 4.0 Career Pathway**

Scott Bullock, Paul Holslin, Mike Dietrich, LAB Midwest

Eric Van Brocklin, Intermediate School District 917, Rosemount, MN

As Industry 4.0 technologies transform the workplace, education must respond through the development of career pathways that align curriculum to industry-relevant competencies from middle school through college and university. Our presentation will cover what these core competencies are, how they should be taught at each level of education, how certifications and articulated credits should be involved, and how these pathways are already being implemented in the Midwest. Topics will include strategies for developing partnerships between school districts and employers.

11:30 A.M.–12:15 P.M. Concurrent Sessions (cont.)

I Blue Heron

Pathways to Opportunity: Closing Opportunity Gaps Across Oregon

Marc Goldberg, Kate Kinder, Portland Community College

Pathways to Opportunity is a statewide initiative focused on closing opportunity gaps and increasing economic mobility by expanding the federal, state, and local resources available to low-income students. Unmet financial needs are a key barrier to attending and completing college, disproportionately impacting students of color, single parents, and other underserved populations. Find out how a coalition of all 17 community colleges, state agencies, and nonprofits is finding solutions.

12:30–2:00 P.M.

LUNCH Valley Ballroom



Remarks by
Dr. Annette Parker
President
South Central College



Keynote:
Carolyn Lee
Executive Director
Manufacturing
Institute/NAM



The Uniquely Abled Project

Uniquely Abled Academy

Video Highlights with Mike Bastine and Greg Surtman

2:00–2:15 P.M.

2019 NCATC Innovation Award Presentation

Sponsored by NOCTI / NBS, Valley Ballroom



2:15–2:45 P.M.

2020 NCATC Board Nominees, Valley Ballroom

2:45–3:45 P.M.

Strategic Partner / Exhibitor “Scavenger Hunt,” Valley Ballroom

3:45–4:45 P.M.

Dedicated Exhibitor Time, Valley Ballroom

4:00–5:00 P.M.

First-Time Attendees and New Members Reception, I Blue Heron

4:45–5:30 P.M.

NCATC Strategic Partner Leadership Team Meeting (by invitation), Executive Boardroom



6:00–9:00 P.M., Mall of America, Level 4 East

Food, Drink, and Fun for ALL!



Thursday, September 12, 2019

7:30 A.M.–Noon **Registration**, Registration Desk, Level 2

7:30 A.M.–7:30 P.M. **Exhibits Open**, Valley Ballroom (Dedicated Times: 7:30–8:00 A.M.; 1:30–2:15 P.M.)

8:00–8:45 A.M. **BREAKFAST and Keynote**, Valley Ballroom



Deon Clark
Owner and CEO
TCI Solutions



9:00–9:45 A.M.

CONCURRENT SESSIONS

Executive Boardroom

Hawaii Industry Sector Strategies and Pathways for Cybersecurity

Jarret Yip, Steve Auerbach, PCATT/Honolulu Community College

The University of Hawaii Industry Sector Strategies initiative tool is an interactive resource that looks not only at occupational data within sectors, but at data across sectors. Users get a holistic snapshot of industry demands and the current spread of occupations in their regions.

II Cardinal Perch

Industry 4.0 Readiness: Competency-Based Certifications

Tony Oran, Festo Didactic

Roger Tadajewski, NC3

The National Coalition of Certification Centers (NC3) Industry 4.0 Certification Program is a comprehensive certification program developed in collaboration with Festo, a global leading industry expert that ensures students have qualifying skills upon graduation, including soft skills such as effective communication, managing others, and critical thinking.

I Blue Heron

Autonomous Technologies 2019

Chris Hadfield, Minnesota State Transportation Center of Excellence

Jonathan Beck, Northland Community and Technical College

This presentation will provide the latest information on autonomous technologies and how it integrates with education and workforce development. Participants will learn how autonomous technologies are implemented in ground, air, and water vehicles. Methods of adding autonomous technologies to a current curriculum/program or starting a new program will be discussed.

10:00–10:45 A.M.

CONCURRENT SESSIONS

Executive Boardroom

Bridging the Skills Gap Through Industry Partnerships

Jeff Thorstad, Hennepin Technical College

Stephan Girard, PMMI

Patricia Andersen, Delkor Systems, Inc

The skills gap is making it more important than ever for industry and education to develop mutually beneficial partnerships. Industry can help schools to recruit and prepare students for current and leading-edge technologies. Nationally recognized competency-based certifications combined with work-based learning such as internships can provide students with the foundation for great careers.

10:00–10:45 A.M. Concurrent Sessions (cont.)

II Cardinal Perch

**Space Coast Consortium Apprenticeship Program (SCCAP)
Industry 4.0 Advanced Manufacturing**

Steven Kane, SpaceTEC Partners, Inc

Bryan Kamm, Kamm Consulting, LLC

SCCAP is an industry-driven apprenticeship program led by a consortium of advanced manufacturers in the space, aerospace, aviation, aircraft and defense industries. Their focus is on implementing world-class apprenticeship programs in occupations that require higher levels of education to perform in today's competitive advanced manufacturing environment. SCCAP's main focus is on automated manufacturing processes including CNC, mechatronics, robotics, additive manufacturing, IT, cybersecurity, and other cyber-physical environments related to globally competitive Industry 4.0 technologies.

I Blue Heron

Preparing Technicians for the Future of Work

Bryan Albrecht, Gateway Technical College

Marilyn Barger, FLATE

Hope Cotner, CORD

The Future of Work is ushering in rapid changes that will directly affect the technician workforce, posing both challenges and opportunities for community college programs. Learn how a National Science Foundation project is creating resources and identifying strategies for helping colleges better prepare their students and communities for the technology transformation and workplace shifts already underway.

11:00–11:45 A.M.

CONCURRENT SESSIONS

Executive Boardroom

**Advanced Technology Centers (ATC) and Centers of Excellence (CoE):
The Journey of NCATC Best Practices**

Kathy Rentsch, Quinsigamond Community College

Jeff Wyco, BridgeValley Community and Technical College

Marc Goldberg, Portland Community College

Tim Baber, College of the Canyons

This session will provide an intimate discussion, recent examples, and an overview of the NCATC Member Services and benefits that member colleges have used to enhance their Advanced Technology Centers (ATC) and Centers of Excellence (CoE) and how they have engaged industry partners in their economic and workforce development strategic focus areas.

II Cardinal Perch

A Unique Solution to Filling the CNC Machinist Skills Gap

Mike Bastine, California Community College's Regional Director for Advanced Manufacturing and the Uniquely Abled Academy, College of the Canyons

Greg Surtman, Workforce Education Strategist, Tooling U-SME

The Uniquely Abled Academy is an innovative program that provides "Fast Track" CNC machinist training to individuals with high-functioning autism. This underemployed population has proven to be an ideal cohort for entry-level machinist careers in manufacturing. A rigorous 12-week, fee-based training program provides industry-recognized credentials, employability skills, and a focused job fair for immediate career placement. This presentation will explain and answer questions about the infrastructure of the training program, the funding, and the benefits to the trainees, employers, and the community. The presenters will explain how you can implement this program at your educational institution and their role in providing this unique program.

11:00–11:45 A.M. Concurrent Sessions (cont.)

Blue Heron

Taking Education to the Road

Bruce Peterson, Minnesota West CTC

Keith Olander, Central Lakes College

Chris Hadfield, Dakota County Technical College

Minnesota State Centers of Excellence have created mobile options for bringing career exploration opportunities to schools and communities around the state. These trailers and the educational materials are used in classrooms, at career fairs, and in other STEM environments to share information and experiences about high-quality career opportunities.

Noon–1:30 P.M. **LUNCH** Valley Ballroom

12:15–12:45 P.M. **NCATC Annual Business Meeting and 2020 Board Elections**

12:45–1:30 P.M. **Keynote**



Traci Tapini
President
Wyoming Machine



1:30–2:15 P.M. **Break and Dedicated Exhibitor Time**, Valley Ballroom

2:45–5:00 P.M. **Industry / Innovation Tours** (Choose one. Buses load 2:15 outside hotel lobby; DEPART 2:30 sharp.)

Tour A



ZEISS is an internationally leading technology enterprise in optics and optoelectronics. At their North America headquarters in Maple Grove, MN, ZEISS Industrial Quality Solutions manufactures high-precision measurement equipment. This tour will discuss the history of ZEISS and walk through the lean manufacturing process applied to build ZEISS coordinate measuring machines.

Tour B



Stratasys manufactures 3D printers and 3D production systems for office-based rapid prototyping and direct digital manufacturing. Engineers use Stratasys systems to model complex geometries in FDM thermoplastic and polyjet photopolymers. The company's reach encompasses aerospace, defense, dental, architecture, automotive, creative, medical, and other sectors.

Tour C



Minnetronix Medical designs, develops, and manufactures medical devices for patients and companies across the globe. The company specializes in creating Class II and Class III technologies in four areas: RF energy, fluid and gas management, optical systems, and stimulation and wearable devices.

5:30–7:30 P.M. **President's Reception** Valley Ballroom

Awards, Drawings, Cash Bar, Heavy Hors d'Oeuvres
Free Flow Networking with Exhibitors and Strategic Partners

Friday, September 13, 2019

7:30–10:00 A.M. **Registration**, Registration Desk, Level 2

7:30–8:15 A.M. **BREAKFAST** and **Dedicated Exhibit Time**, Valley Ballroom

8:30–9:15 A.M. **Keynote**, Valley Ballroom



Steve Kalina
President
Minnesota Precision
Manufacturing Association



9:30 A.M.–12:30 P.M. **ATC and rms Tours** (Choose one of three. Buses load 9:30 outside hotel lobby; DEPART 9:45 sharp.)

Tour A

Hennepin Technical College welcomes NCATC to our robotics lab in Eden Prairie. Participants will view our six Fanuc robots along with our UR collaborative robots. Instructors will demonstrate our Amatrol mechatronics system as well as our electro mechanical training equipment. The tour will also include our PLC systems and automated food packaging lines (Denester).
(Photo courtesy of Hennepin Technical College, Automation Robotics, 2019. All rights reserved.)



Tour B

The ATC tour at **Saint Paul College** will include our CNC machine shop, where participants will see mills, lathes, wire EDM, CMMs, plastic injection molds, surface grinders, and an automated CNC cell with a Fanuc robot. The tour will visit the welding shop, which has CNC welding centers, plasma tables, over 80 welding booths, and virtual welding demos. A final stop will be the electro mechanical lab.



Tour C

rms — A Cretex Medical Company

Attendees will see CNC manufacturing capabilities centered around the medical device field as well as our aerospace connector division. CNC capabilities will include multi-axis milling, turning, and swiss. Our new and growing additive titanium machining department will also be on display.



12:30–1:00 P.M. **Box Lunches, End of 2019 NCATC Fall Conference**



Special Thanks to Our Exhibitors

ACT • Amatrol • Enoma • Festo
Florida Advanced Technological Education Center (FLATE)
Germanic-American Institute
Haas • Haldeman-Homme, Inc.
Jack Martin & Associates Educational Services, LLC
LAB Midwest • Lincoln Electric
Minnesota State Energy Center of Excellence
Minnesota State Transportation Center of Excellence • MSSC
Minnesota State Northern Center of Agricultural Excellence (AgCentric)
National Resource Center for Aerospace Technical Education (SpaceTEC)
National Center for Autonomous Technologies
NOCTI • National Robotics League
National Tooling and Machining Association (NTMA)
Tooling U-SME • Verisurf • Zeiss

***Special Thanks to the 2019
NCATC Fall Conference Planning Committee***

Jeremy Leffelman (Chair), **Sue Selland-Miller**, **Jaimee Meyer**, **Ching Olson**, **Kris Williams**,
Nick Lowery, Bemidji State / Minnesota State Advanced Manufacturing Center of Excellence
Matt Leaf, **Amanda Robinson**, Hennepin Technical College
Jennifer Huston, Saint Paul College
Rebekah Kent, Central Lakes College
Jon Olson, Anoka-Ramsey Community College
James Retka, Northland Community & Technical College
Matthew Feuerborn, Ridgewater College
Bruce Peterson, **Rose Patzer**, Minnesota West Community & Technical College /
Minnesota State Energy Center of Excellence
Dawn Regnier, **Tom Bradley**, **Roxanne Hayenga**, Minnesota West Community & Technical College
Jason Bruns, Minnesota State University – Mankato /
Minnesota State Engineering Center of Excellence
Chris Hadfield, Dakota County Technical College / Minnesota State IT Center of Excellence
Wilson Garland, Metropolitan State University / Minnesota State IT Center of Excellence
Paula Hoffman, P. R. Hoffman Consulting
Nicholas Graff, Dallas County Community College District / NCATC
Hope Cotner, CORD / NCATC
Craig McAtee, NCATC

Thank You, Conference Sponsors!

Gold Sponsors



Haas Automation is the largest machine tool builder in the United States, and one of the largest builders of CNC (computer numerically controlled) machines in the world. All Haas products are manufactured in the company's 1.1-million-square-foot facility in Southern California and distributed through a network of more than 170 Haas Factory Outlets, in more than 60 countries. Every HFO has complete showroom facilities, factory-trained service personnel, extensive spare-parts inventories, and fully stocked service vehicles to provide the industry's best service and support.

Haas is committed to supporting education through various initiatives including its HTEC network, which counts over 2000 educational institutions nationwide and over 1000 internationally. HTEC affiliated schools provide training at high schools, community colleges, trade centers, and universities.



ZEISS is an internationally leading technology enterprise operating in the fields of optics and optoelectronics. The ZEISS Group develops, produces and distributes measuring technology, microscopes, medical technology, eyeglass lenses, camera and cinema lenses, binoculars and semiconductor manufacturing equipment. With its solutions, the company constantly advances the world of optics and helps shape technological progress.

ZEISS is divided up into the four segments of Industrial Quality and Research, Medical Technology, Consumer Markets, and Semiconductor Manufacturing Technology. The ZEISS Group is represented in more than 40 countries and has over 50 sales and service locations, more than 30 manufacturing sites and about 25 research and development centers around the globe.

Silver Sponsors



Industry leader in manufacturing training. More than eighty years of working with manufacturers to build training programs and support workforce learning



World leader in the design, development, and manufacture of arc welding products, robotic arc-welding systems, plasma and oxyfuel cutting equipment

Jack Martin
& Associates
Educational
Services, LLC



Publisher of pre-apprenticeship guides designed to prepare students for electrical, construction, machine, and industrial qualifying exams