



2014 FALL CONFERENCE

Making It: Energizing the Manufacturing Workforce through Innovation

Houston, Texas • October 8–10, 2014



CONFERENCE PROGRAM

www.ncatc.org

Hosted by



Welcome to Houston!



On behalf of the Lone Star College System's over 90,000 students, 8,000 employees, and six colleges, it is my pleasure to welcome the National Coalition of Advanced Technology Centers to Texas! Founded in 1973, LSCS is proud to be in its 1,400-square-mile service

area, as the second largest of the 50 community colleges in Texas.

As you well know, one of our primary missions is to contribute to the economic vitality of our communities with relevant, robust, and up-to-date workforce programs that meet our employers' needs. We are fortunate in the Houston area, where our vibrant economy is often compared to a three-legged stool. Houston is the headquarters of many of the leading international energy companies in the world. We have a world class health care system that attracts patients from around the globe. And we have the Port of Houston, one of the world's busiest ports. We are committed to supporting the industries that make Houston such a good place to live with the skilled workforce that they need.

Enjoy the conference! We are glad that you are here.

Dr. Steve C. Head
Chancellor, Lone Star College System



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Conference Schedule at a Glance

Wednesday, October 8

- 7:00 A.M.–4:30 P.M. Registration
- 8:00–9:00 A.M. Breakfast/Keynote
- 9:00 A.M.–6:00 P.M. Exhibits Open
- 10:00–11:00 A.M. Concurrent Sessions
- 11:15 A.M.–12:15 P.M. Concurrent Sessions
- 12:30–1:30 P.M. Lunch/Keynote
- 2:00–3:00 P.M. Concurrent Sessions
- 3:00–3:30 P.M. Break
- 3:30–4:30 P.M. Concurrent Sessions
- 5:00–6:00 P.M. Welcome Reception/Cash Bar
- 6:30–10:00 P.M. Optional Event, An Evening in The Woodlands

Thursday, October 9

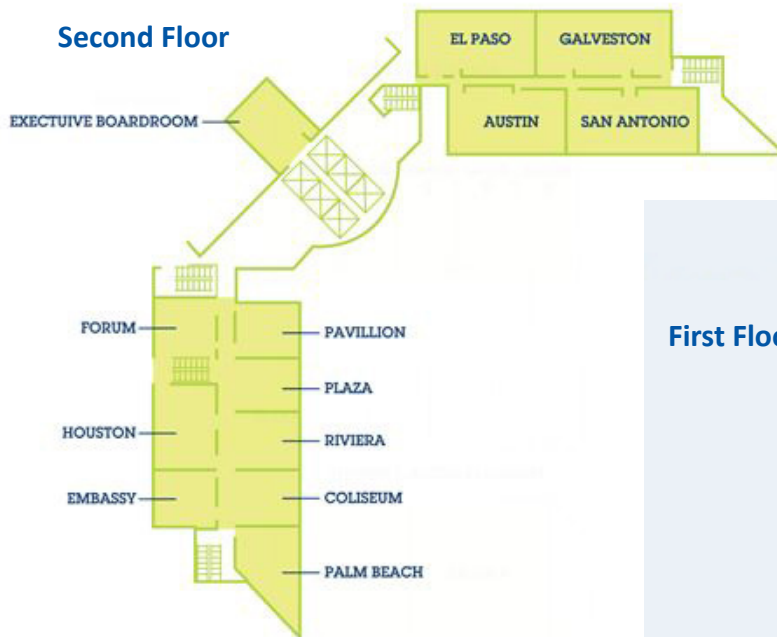
- 7:30 A.M.–Noon Registration
- 7:30 A.M.–6:00 P.M. Exhibits Open
- 7:45–8:30 A.M. Breakfast in Exhibit Hall
- 8:30–9:30 A.M. NCATC Business Meeting
- 9:45–10:45 A.M. Concurrent Sessions
- 11:00 A.M.–12:00 P.M. Concurrent Sessions
- 12:00–1:15 P.M. Lunch/Panel
- 1:30–4:30 P.M. Industry Tours
- 5:00–6:00 P.M. Exhibits Open/Cash Bar
- 6:00–7:30 P.M. Dinner/Keynote

Friday, October 10

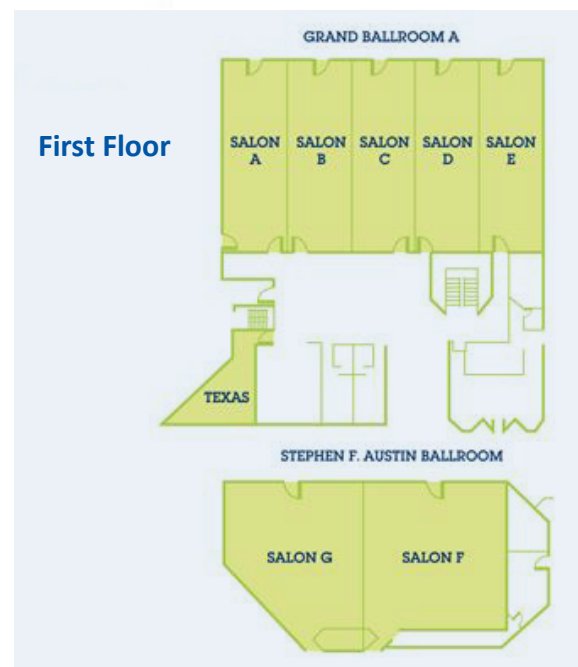
- 7:30–8:15 A.M. Breakfast
- 8:30–9:00 A.M. Load Buses for ATC Tours
- 9:00 A.M.–12:30 P.M. Tours of Lone Star College North Harris and University Park Advanced Technology Centers
- 12:30–1:00 P.M. Depart University Park for Hotel, Boxed Lunches Provided

Exhibits
Stephen F. Austin Ballroom

All general sessions
Salons A, B, C



Meeting Rooms
Sheraton North Houston



Wednesday, October 8

7:30–9:00 A.M.

Salons A, B, C

Breakfast and Keynote



Welcome to Lone Star

Dr. Steve Head, Chancellor, Lone Star College System

9:00 A.M.–6:00 P.M.

Exhibits Open. Stephen F. Austin Ballroom

10:00–11:00 A.M.

Concurrent Sessions

El Paso

Talent Acquisition and Partnering with Lone Star College

The Lone Star team is committed to helping companies make informed decisions about trained candidates. Talent Acquisition provides job placement services at no cost to local companies. This session will highlight the process used by Lone Star's Talent Acquisition department to assist local companies in eliminating candidates that may possess barriers that are not aligned with a company's culture.

Presenters: *Becky Duncan-Ramirez and Shortel Brent, Lone Star College*

Austin

We Created Our Fab Lab – Now What? Survival Beyond the Start-Up Years

A growing number of community colleges have created Fab Labs on their campuses or in their communities. For the most part, these Fab Labs have received great public interest, produced valuable public relations opportunities, and engaged a diverse set of tinkerers, inventors, artists, makers, students and assorted crackpots. What they have not always produced is a sustainable revenue flow. Most Fab Lab start-ups have been funded through a variety of ways nearly all of which have an expectation of some level of self-sufficiency in the future. For many of us, that future is now.

Presenter: *Paul Pierpoint, Northhampton Community College*

Galveston

Manufacturing and Education Collaboration for Student Engagement and Positive Results

Manufacturers have a deep interest in developing the next generation of co-workers, employees and inventors: your students. Learn what resources are available from industry and how to use these resources for your students to improve learning outcomes, make industry connections and see the value of manufacturing careers.

Presenter: *Jo Ann Mitchell, Sandvik Coromant*

11:15 A.M.–12:15 P.M.

Concurrent Sessions

El Paso

Kaizen Thinking: The Relentless Pursuit of Waste

For many employees, to be continuously focused on ways to improve work processes is simply not part of the way they operate in the work place. Yet it is this habit, Kaizen Thinking, that can be a major force driving process improvements. Bringing about this shift in the way employees think is a major force behind the power of Lean.

Presenters: *George Friesen and Don Robison, St. Louis Community College*

Wednesday, October 8

Galveston

It Takes a Village: Everyone Has a Stake, Everyone Has a Role

A best practices look at how the small community of Pryor Creek, Oklahoma collaborates to build programs which respond to immediate economic conditions and skill demands for one of the largest rural industrial parks in the nation.

Presenters: *Scott Fry, Oklahoma State University Institute of Technology; Dave Stewart, MidAmerica Industrial Park; John Hawkins, Business Owner/Governors Workforce Council*

11:15 A.M.–12:15 P.M.

Concurrent Sessions (cont.)

Austin

Supporting NCATC Regions Using Additive Manufacturing (AM)

Additive manufacturing is all the rage these days! As this technology continues to mature it is changing the way products are developed, providing enhanced functional prototyping capability and becoming a manufacturing platform for niche market and lower volume complex parts. AM is being combined with analytical software tools to validate product performance and reduce time to market for next generation products. It is a technology that will continue to impact the industry and drive change. NCATC members are often early adopters of new technologies, and additive manufacturing is no exception. This presentation will feature three applications using AM technology to benefit communities: K-12 STEM activities, economic development and entrepreneurship, and business growth and acceleration.

Presenters: *Tom Crampton, Mott Community College; Steve Dunnivant, Gulf Coast State College; James Simmons, Florence Darlington Technical College*

12:30–1:30 P.M.

Salons A, B, C

Lunch and Keynote



Building Pipelines, Building People

Grant Almond, Senior Vice President, Technology and Product Development, National Oilwell Varco

2:00–3:00 P.M.

Concurrent Sessions

Galveston

Private and Public Partnerships (P³)

When attempting to energize the workforce in our region, we look within to determine our readily available resources. These resources could entail collaborations between business and industry, nonprofit and government agencies, as well as economic development authorities. The focus of this workshop is to provide ideas as to how to connect and create relationships to support the workforce.

Presenters: *Donna Baker, Technical College of the Lowcountry; Robert Crenshaw, Department of Economic and Workforce Competitiveness, South Carolina Technical College System*

El Paso

So, You Want to be an ATC When You Grow Up?

What is an ATC? How do you create an ATC? How can NCATC help? Facilitated by the NCATC Member Services Committee including current NCATC Board members and seasoned ATC directors/representatives.

Presenters: *Don Robison, NCATC/St. Louis Community College; John Calver, Thomas Nelson Community College; Steve Dunnivant, Gulf Coast State College; Will Johnson, Great Plains Technology Center*

Wednesday, October 8

Austin

Unpacking Competencies

Using industry standards-based competencies to design learning and motivational activities for additive manufacturing.

Presenters: *Kim Grady and Mel Cossette, National Center for Materials Technology Education*

2:00–3:00 P.M.

Concurrent Sessions (cont.)

San Antonio

Turning Points Into Parts—NextEngine 3D Scanners

An introduction to 3D Scanning and its practical application to CAD/CAM courses. Learn the process of turning measured points from physical objects into 3D models. Understand how 3D models are applied to Additive Manufacturing and CNC Machining. Discover how this knowledge is used in STEM education and commercial applications.

Presenter: *Brad Bryker, Next Engine*

3:30–4:30 P.M.

Concurrent Sessions

Austin

Clearing the Cloud of Confusion about Different Technologies in Additive Manufacturing (AM)

This session will discuss the pros and cons of different types of additive manufacturing technologies.

Presenters: *James Simmons and Jack Roach, Southeastern Institute of Manufacturing and Technology, Florence Darlington Technical College*

El Paso

Stackable Credentials: An Introduction and Explanation

This session will cover the definition, purpose, and current scope and direction of the concept of stackable credentials. The intent is to show a path to align industry goals with educational outcomes.

Presenters: *Dr. Kendal Lawrence, Lone Star College-North Harris; Michael Young, Lone Star College-Cypress Center*

Galveston

The New Digital Thread in Manufacturing Incorporates Inspection, Measurement and Verification

Today's digital manufacturing world relies on high technology with a skilled workforce to utilize 3D tools. The world of aerospace is the essence and pillars of manufacturing in the USA today. To compete in the 3D world of rapidly evolving methodologies, new applications blended with old world craftsmanship require trained occupational individuals.

Presenter: *Ray Elledge, Verisurf 3D Measurement Software Solutions*

San Antonio

After the Associate Degree: Ramping Up to Multi-Axis Machining

The Certificate in Advanced Machining offers CNC machinists opportunities to continue building their technical skills in a new academic program. A hybrid delivery platform provides workers the opportunity to take the program around his/her work hours.

Presenters: *Diane Dostie and Richard Bolding, Central Maine Community College*

5:00–6:00 P.M.

Welcome Reception

Wednesday, October 8

6:30–10:00 P.M.

Optional Event

An Evening in the Woodlands—A Visit to Market Street

Market Street represents one of the nation’s finest shopping and entertainment destinations. Market Street is luxury in The Woodlands, including upscale shopping and dining. Lone Star College will provide transportation for conference attendees to Market Street following the Wednesday Welcome Reception. Buses will load at 6 pm and leave the hotel at 6:30 pm. The buses will load at 9:30 pm at Market Street to return to the hotel. To preview restaurants and make reservations in advance, visit <http://www.marketstreet-thewoodlands.com/explore/taste/>

Thursday, October 9

7:30 A.M.–6:00 A.M.

Exhibits Open, Stephen F. Austin Ballroom

7:45–8:30 A.M.

Breakfast in Exhibit Hall

8:30–9:30 A.M.

NCATC Business Meeting

9:45–10:45 A.M.

Concurrent Sessions

Austin

Hi-Tech Camping—And No Tents!

There is a battle on to attract young people into modern, advanced manufacturing. Persuading middle school and high school students that there are great careers in manufacturing is not easy. That’s why exposure to various manufacturing processes is crucial, and the earlier, the better. This session will cover different approaches to advanced manufacturing technology summer camps that have been sponsored by Nuts, Bolts & Thingamajigs, the Educational Foundation of the Fabricators and Manufacturers Association International.

Presenters: *John Calver, Thomas Nelson Community College; Nick Graff, Anoka Technical College*

El Paso

Michigan Advanced Technical Training—Education/Employer Collaboration

Michigan is helping companies develop their future workforce through the Michigan Advanced Technical Training (MAT2) program. Focused initially on Mechatronics, IT and technical product design, colleges and companies work together to develop “engineered” curricula focused on skills and competencies. The MAT2 model is a rotating school/work program leading to degrees and stackable credentials combined with company mentorship.

Presenter: *Tom Crampton, Mott Community College*

Galveston

Building a Manufacturing Community

What can you do to excite and attract the next generation of manufacturers? Join Toni Neary from ToolingU-SME as she discusses regional projects throughout the U.S. where industry and educators are working together to attract and excite the next generation of manufacturers.

Presenter: *Toni Neary, ToolingU-SME*

Thursday, October 9

9:45–10:45 A.M.

Concurrent Sessions (cont.)

San Antonio

Enhancing CTE Instruction with Technology

With the increase in the accessibility to smart phones, tablets, and cloud based services, educators should incorporate these technologies into their traditional lecture class or even consider hybridizing their courses. Workforce students have different schedules than traditional college students and hence would benefit from accessing their course material at different times. In this presentation we will examine different strategies and methodologies that could be used to enhance workforce classes with technology.

Presenters: *Albert Urbina and Randy Williams, Lone Star College*

11:00 A.M.–Noon

Concurrent Sessions

Austin

Changing the Way America Thinks About Manufacturing

This session will present and discuss national Manufacturing Day as a vehicle to change the nation's perception of manufacturing careers and jobs. It will showcase the many resources that have been developed for all sectors of the manufacturing community and showcase best practices. It will also include an interactive group activity so participants can experience a small portion of this exciting national effort.

Presenters: *Marilyn Barger, Florida Advanced Technological Education Center of Excellence (FLATE); Pat Lee, Fabrication & Manufacturing Association Intl (FMA)*

El Paso

Industry Partnerships: Why Employers are Our #1 Customer

Oklahoma State University Institute of Technology utilizes an extensive industry partnership model to provide students with state-of-the-art curriculum, instruction, internships, and equipment. This model has resulted in a better than 98% placement rate among graduates with many receiving multiple job offers before graduation. Come and learn how OSUIT engages industry leaders to provide the necessary tools for students to succeed.

Presenters: *Mark Hays and Scott Fry, Oklahoma State University Institute of Technology*

Galveston

Educating Photonics Systems Technicians: 1 of 4 Specializations Built on an Electronics Core

Employment trends for technicians in the physical sciences are calling for broad-based technical knowledge and skills, with a specialization in an emerging technology, such as photonics, robotics & automation, instrumentation & control, biomedical equipment, etc. The AAS degree curriculum for preparing these techs typically includes a technical core of electronics, plus 3-4 specialty courses in one of these emerging technologies. The Photonics Systems Technician (PST) curriculum, which has been tested and proven successful by OP-TEC, will be described.

Presenters: *Dan Hull, OP-TEC, the NSF ATE National Center for Optics and Photonics Education; Natalia Chekhovskaya Kearney, LASER-TEC, Indian River State College*

San Antonio

Automotive Manufacturing Technical Education Collaborative: A Collaborative Methodology to Develop State of the Art Curriculum and Establish a Skilled Workforce Pipeline

AMTEC is a collaboration of community and technical colleges and industry partners who seek to better prepare highly skilled technicians and manufacturing engineers for work in automobile manufacturing and technology.

Presenters: *Danine Tomlin and Craig Hopkins, AMTEC*

Thursday, October 9

Noon–1:15 P.M.

Salons A, B, C

Lunch/Panel

A Competitive Workforce for the Global Economy

Panelists



Lilia Correa,
Training
Director for
North
America,
Tenaris
University



Tom Standley,
Program Mgr,
School of
Applied Tech-
nology – FMC
Corporate
University



Roy Allice,
Director,
Training and
Technical
Services,
Stewart and
Stevenson



Moderator: Linda Head, Associate Vice Chancellor, Workforce Education and Corporate Partnerships, Lone Star College System

Panel Description: Houston serves as the center for oil and gas for the U.S. A large percentage of those companies with large headquarters in Houston are not drilling for oil but supplying the tools and equipment used on modern-day rigs onshore and subsea – around the globe. These corporate leaders in training and development will describe the workforce they need to remain competitive in today’s economy.

1:30–5:00 P.M.

Industry Tours



FMC Technologies, Inc. is a global provider of technology solutions for the energy industry. With facilities in 17 countries, FMC Technologies designs, manufactures, and services technologically sophisticated systems and products such as subsea production and processing systems, surface wellhead systems, high-pressure fluid control equipment, and marine loading systems for the oil and gas industry. The tour will include an overview of FMC Business, the FMC Learning Center at LSC UP, and the Gears Road facility. Following a safety briefing, attendees will be introduced to the Non-Metallics Lab, the Welding Lab, the Subsea Machine Shop, and the Low Assembly Bay and High Assembly Bay for Subsea Trees. **Personnel visiting the facility are required to wear long pants and shirts with sleeves, short or long. No sandals, flip-flops, open-toed shoes or tennis shoes are allowed in the training facility or classrooms. Safety glasses and hard hats will be provided.**



In today’s world, manufacturers need a machine tool partner that can deliver what they need, when they need it. Mazak gives customers constant access to new, cutting-edge solutions, while further solidifying its position as a leading provider of innovative, productive machine tools and systems. Led by Mr. Dana Scott, General Manager, Mazak USA, the tour will include the Global Infrastructure of Mazak Area, CNC Program and Operation Training Room, Customer Support Areas for Application Engineering and Service and Tech Support, and the Technology Demonstration Area. **All attendees will sign in. No special attire requirements.**



National Oilwell Varco is a worldwide leader in the design, manufacture, and sale of equipment and components used in oil and gas drilling and production, the provision of oilfield inspection and other services, and supply chain integration services to the upstream oil and gas industry. The tour will include an NOV presentation and safety briefing in the auditorium, a tour of the training facility classrooms and hands-on areas, and a Cyberbase and Amphion Simulator demonstration. **Personnel visiting the facility are required to wear long pants and shirts with sleeves, short or long. No open-toed shoes are allowed in the training facility or classrooms. Safety glasses will be provided.**

5:00–6:00 P.M.

Exhibits Open/Cash Bar

Thursday, October 9

6:00–7:00 P.M.

Salons A, B, C

Dinner/Keynote

Aligning Education and the Economy

Richard C. Froeschle, Director, Labor Market & Career Information Texas Workforce Commission



The Great Recession is now firmly in the rearview mirror but job growth has been slow and uneven. All signs point to continued general job market expansion but not all industries, occupations and skill sets are growing at the same pace, nor are all educational credentials valued equally by the labor market. An increasing number of jobs require additional postsecondary education, but what one studies can have a significant impact on earnings and job potential. This session covers a broad array of the demographic, structural, and business factors that are converging to influence future job creation and worker skill requirements in the economy.

Friday, October 10

7:30–8:30 A.M.

Breakfast in Salons A, B, C

8:30–9:00 A.M.

Load Buses for ATC Tours

9:00 A.M.–12:30 P.M.

Tours of Lone Star College North Harris and University Park Advanced Technology Centers

Lone Star College System is committed to a seamless collaboration between associate degree, non-credit fast-track certificates, and customized corporate training at each of our campuses. Join our workforce leadership on a tour of our facilities for manufacturing and oil and gas.



First, Lone Star College–University Park Energy and Manufacturing Institute that opened April 2014—from concept to ribbon cutting in a little over two years. A state-of-the-art facility with 18 technical labs, six computer labs, and general classrooms. The first complete training facility in the United States that incorporates both manufacturing and oil and gas in one, along with computer software supporting both industries.



Next, Lone Star College–North Harris, our first and the most diverse of the six campuses, to see the automotive, HVAC, engineering technology, and welding labs. Several of these labs were completed within the past five years. With an even mixture of workforce programs and academic transfer-in, you won't want to miss seeing this facility and talking with the vice president and dean about their successes and challenges.

12:30–1:00 P.M.

Depart University Park for Hotel

Box lunches provided.

Thank You, Conference Sponsors!

GOLD



SILVER



PLATINUM



Special Thanks to Our Exhibitors

- | | |
|--|------------------------------|
| Amatrol | Nida Corporation |
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| Fabricators & Manufacturers Assn. | Siemens |
| Festo Didactic, Inc. | SpaceTEC |
| FLATE | Stratasys |
| Indian Hills Community College | Technical Laboratory Systems |
| LASER-TEC | The Quality Group, Inc. |
| Manufacturing Skill Standards Council (MSSC) | ToolingU-SME |
| NBS Manager | Verisurf |

Special Thanks to the Lone Star College System 2014 NCATC Fall Conference Planning Committee

Linda Head • Any Cooper, Lead • Cecilia Martinez
Becky Duncan-Ramirez • Theresa Benavides • Pattie Harakal
Melissa Gonzalez • Michael Young • Kendall Lawrence • Mark Curtis-Chavez

