

# EVENT PREVIEW



## FABTECH

NORTH AMERICA'S LARGEST METAL FORMING,  
FABRICATING, WELDING AND FINISHING EVENT

# MAKE IT HERE

**SEPTEMBER 13-16**

McCormick Place / Chicago, IL

**2021**

**REGISTER TODAY** [fabtechexpo.com](http://fabtechexpo.com)

EVENT PARTNERS



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### INSIDE:

- SPECIAL EVENTS
- SCHEDULE-AT-A-GLANCE
- CONFERENCE PROGRAMS
- HOTEL & TRAVEL
- PLANNING TOOLS



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## LEARN

Gain valuable, can't miss insights from best-in-class conference programs that target technical, operational, and managerial segments.

## CONNECT

Visionary keynotes and expert panels allow attendees to network, exchange best practices, and learn about the latest industry advancements.

## COMPARE

Discover advanced technologies that improve quality and productivity and compare innovative solutions from exhibitors side-by-side.

# We can't wait to see you at FABTECH

We look forward to FABTECH, and a chance to reconnect with our valued customers. Once again, we can meet face to face, listen to your challenges and offer solutions that best fit your needs. We will have a wide variety of technologies on display featuring connected manufacturing as well as experts that can guide your decision-making process. Until then, stay safe and see you in September!

September 13-16, 2021 Booth A2904

[www.trumpf.com](http://www.trumpf.com)

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## MAKE IT HERE

Network and collaborate with the brightest minds in manufacturing and take a forward-thinking look into the latest trends and innovations—only at FABTECH 2021.

Register to attend TODAY at [fabtechexpo.com](http://fabtechexpo.com)

## FABTECH 2021 FEATURES

- WORLD-CLASS EXHIBITS
- CONFERENCE PROGRAMS
- LIVE PRODUCT DEMONSTRATIONS
- EXPERT-LED DISCUSSIONS

## TECHNOLOGY ON DISPLAY

Additive Mfg/3D Printing

Arc Welding

Assembly

Automation

Bending & Forming

Brazing & Soldering

Business Services

Coil Processing

Cutting

Fastening & Joining

Finishing/Paint & Powder Coating

Finishing/Plating

Gases & Gas Equipment

Hydroforming

Inspection & Testing

Job Shop/Contract Mfg

Lasers

Lubrication

Maintenance & Repair

Material Handling

Metal Suppliers

Plate & Structural Fabricating

Press Brakes

Punching

Resistance Welding

Robotics

Roll Forming

Safety & Environmental

Saws

Software, Machine Controls

Stamping

Thermal Spraying

Tool & Die

Tooling

Tube & Pipe Fabricating or Welding

Tube & Pipe Producing

Waterjet

Welding Consumables

Welding Machines

## MCCORMICK PLACE

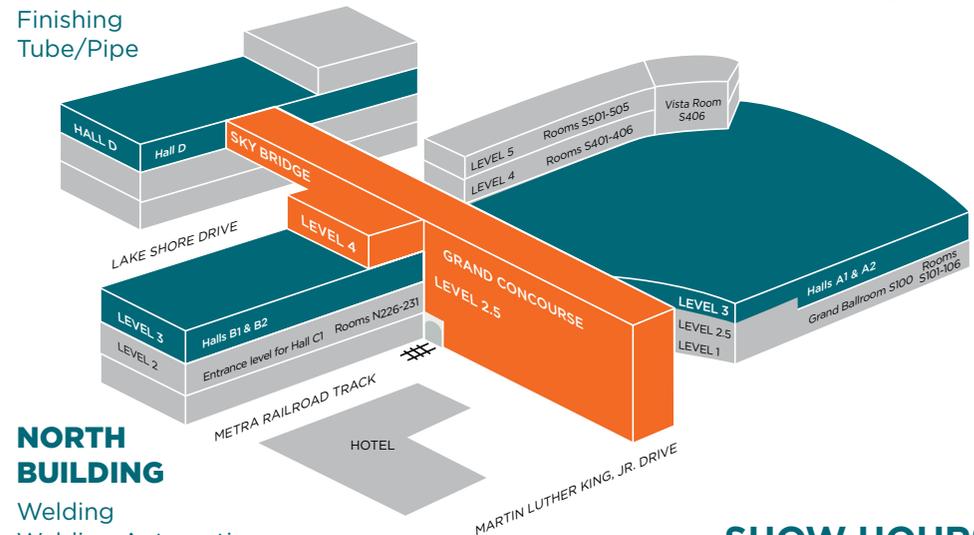
2301 S. Martin Luther King Drive  
Chicago, IL 60616

### LAKESIDE CENTER (East Building)

METALFORM  
Finishing  
Tube/Pipe

### SOUTH BUILDING

Forming & Fabricating  
3D/Additive Mfg



### NORTH BUILDING

Welding  
Welding Automation  
Robotics and Industrial Automation

## SHOW HOURS

Monday, Sept. 13 .....10 AM\* - 6 PM  
Tuesday, Sept. 14 .....9 AM - 5 PM  
Wednesday, Sept. 15 ....9 AM - 5 PM  
Thursday, Sept. 16 .....9 AM - 3 PM

**\*EAST BUILDING (LAKESIDE CENTER) OPENS AT 9 AM**

Visit [fabtechexpo.com](http://fabtechexpo.com) for a complete exhibitor list.



**RAPID + TCT**, the most important additive manufacturing event in North America, will be held alongside FABTECH at McCormick Place. FABTECH attendees will have complimentary access to the RAPID + TCT exhibit hall to evaluate technology and network with the leaders in additive manufacturing.



## HEALTH & SAFETY FIRST

FABTECH leads the way in bringing the industry together in 2021. Our top priority remains the health and safety of all those on-site at the event.

Learn more about what you can expect at the show at [fabtechexpo.com/safetyfirst](http://fabtechexpo.com/safetyfirst).

**MONDAY, SEPTEMBER 13****KEYNOTE PRESENTATION | 8:30 AM - 9:30 AM****FABx TECH TALKS**

This year's FABx will feature a powerful lineup of visionary leaders who are transforming the future of manufacturing. These manufacturers are increasingly integrating technologies like automation, artificial intelligence/AI, and data analytics into all aspects of how they operate, from the production floor to the supply chain. Hear how these leaders stay competitive in this ever-changing tech world.

**FABx SPEAKERS:**

**David Ankin**  
CEO, ToyMakerz, Inc.



**Anna V. O'Brien**  
Smart Manufacturing  
Leader, Panasonic



**Keith Otterstatter**  
Director of Operations,  
Polaris Industries Inc.



**Scott Sawyer**  
Co-Founder &  
CTO, Paperless  
Parts, Inc.



**Jon Sobel**  
Co-Founder,  
CEO, Sight  
Machine

**LEADERSHIP EXCHANGE | 12:30 PM - 1:30 PM****EXPLORE THE FUTURE OF ADVANCED MANUFACTURING**

Advanced manufacturing is transforming the landscape of how we operate daily. Listen to our panel of experts to hear how other organizations are using advanced manufacturing for technology adoption in both products and processes and how to use that technology to remain competitive.



**MODERATOR:**  
**Dave O'Neil**, Vice President, SME Media

**PANELISTS:**  
**Anna V. O'Brien**, Smart Manufacturing Leader, Panasonic  
**Keith Otterstatter**, Director of Operations, Polaris Industries Inc.  
**Scott Sawyer**, Co-Founder & CTO, Paperless Parts, Inc.  
**Jon Sobel**, Co-Founder, CEO, Sight Machine

**TUESDAY, SEPTEMBER 14****KEYNOTE PRESENTATION | 8:30 AM - 9:30 AM**

**ADAM STELTZNER**, Leader & Chief Engineer,  
NASA Mars 2020 Mission, Rover Perseverance

**Into the Unknown: How Leadership, Ingenuity, and Perseverance Put a Rover on Mars**

Only Adam Steltzner and his talented team at Jet Propulsion Lab could follow their "Curiosity" rover success with the stunning Mars 2020 mission to land the rover "Perseverance" on the red planet. The magnificent landing on Mars on February 18, 2021 was akin to hurling a dart from New York City to land in a 5-foot circle in Washington DC. The successful mission stands as an extraordinary leadership accomplishment in the midst of a global pandemic. In his exhilarating keynote, full of fascinating anecdotes and breathtaking images, Steltzner shares his own innovation challenges, leadership struggles, and flawless execution. Most importantly, he shows how you can overcome daunting obstacles in times of uncertainty and change.

**LEADERSHIP EXCHANGE | 12:30 PM - 1:30 PM****STATE OF THE INDUSTRY: Navigating into 2022**

The manufacturing industry is in a constant state of transformation. Manufacturers are faced with pressing questions as they strive to meet needs in supply, labor, and new technologies. What does future steel-making capacity look like in North America? What can shops do to maintain material inventories and minimize risk? How can manufacturers streamline quoting activities, eliminate redundancies and manual intervention when it comes to front office activities and shop floor production? How can automation help increase or save jobs? Our panel of experts will focus on addressing these questions and more as we look ahead to 2022.

**MODERATOR:**

**Dan Davis**  
Editor-in-Chief,  
*The FABRICATOR*®



**Todd Ludlow**  
President, Ludlow  
Manufacturing



**Adria Haines**  
Regional Head  
of Smart Factory  
Solutions, Bystronic



**Bryan Tice**  
Senior Partner,  
Metal Edge  
Partners LLC



## WEDNESDAY, SEPTEMBER 15

**KEYNOTE PRESENTATION | 8:30 AM - 9:30 AM**

### DAVID ANKIN, CEO of ToyMakerz, Inc.

David Ankin is a hands-on entrepreneur, former stunt man, motorcycle racer, and custom motor vehicle fabricator that specializes in one-off custom builds & OEM enhancements for anything with wheels. As the owner of the shop ToyMakerz, Ankin is living his dream creating everything from monster trucks to race cars on his TV show of the same name, ToyMakerz. The series follows his team as they bring unrivaled ingenuity and a unique skill set to motorized builds for a wide array of customers. On stage, Dave will share his secrets to success as a leader in the fabrication business and how his father has been his biggest inspiration.

**LEADERSHIP EXCHANGE | 12:30 PM - 1:30 PM**

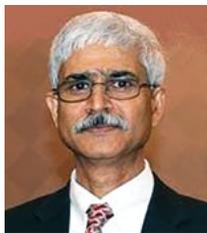
### WHY CAN'T THEY JUST WORK TOGETHER? Importance of Mobile Robot and Standard Robot Interoperability to Increase Adoption

As anyone who has ever designed, built, or deployed robots can tell you - no one robot can do it all. As demand grows for automation, companies are increasingly requiring robots for specialized tasks within logistics and manufacturing applications. It is therefore imperative that robots and mobile robots seamlessly work well together. Thankfully, there are several organizations within the robotics and automation communities working hard to create technology, standards, and best practices to address this.



**MODERATOR:**  
**Arnie Kravitz**  
Chief Technology Officer  
ARM Institute

#### PANELISTS:



**Samir Patel**, Senior Director of Robotics  
Kawasaki Robotics (USA), Inc.



**Aaron Prather**  
Senior Advisor-Technology  
Research & Planning, FedEx



**Jason Walker**, CEO & Co-Founder,  
Waypoint Robotics



**Ben Waters**, CEO & Co-Founder,  
Wibotic



## THURSDAY, SEPTEMBER 16

**KEYNOTE PRESENTATION | 8:30 AM - 9:30 AM**

### ADAM GENEI, Owner of Mobsteel and Detroit Steel Wheel Co.

#### The Greatest Machines Ever Made: Cultivating the Next Generation of American Workers

Adam will discuss his workforce development formula, which has created a positive, invested, and competitive team, embodying the "out work everyone" attitude. His talk aims to prepare our next generation of workforce for navigating their way through our trades and businesses. Focusing on character, work ethic, and long-term thinking, Adam will share the milestones and learning moments he has experienced while building his worldwide brands Mobsteel and Detroit Steel Wheel Co.

**LEADERSHIP EXCHANGE | 11:00 AM - 12:00 PM**

### ATTRACTING & PREPARING THE NEXT GENERATION OF MANUFACTURING TALENT

The skills gap could lead to a shortage of as many as 2.4 million manufacturing workers in the next decade. How do we get involved and share awareness to encourage the next generation to pursue manufacturing careers? This panel of experts will share how to engage, inspire, and prepare the next generation of manufacturing workforce.



**MODERATOR:**  
**Sheila LaMothe**  
Executive Director, CCAI Finishing  
Education Foundation

#### PANELISTS:



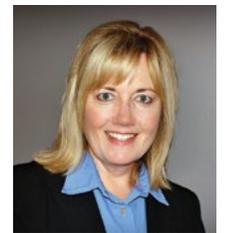
**Ed Dernulc**,  
Director -  
Foundation,  
FMA



**Nichol Lopriore**,  
Executive Director,  
PMA Education  
Foundation



**Rob Luce**, Vice  
President, SME  
Education  
Foundation



**Monica Pfarr**,  
Executive Director,  
AWS Foundation

## ABOUT THE CONFERENCE PROGRAM

The Fabricators & Manufacturers Association, Int'l (FMA), SME, Precision Metalforming Association (PMA), and Chemical Coaters Association International (CCAI) co-sponsor the conference sessions on 3D/additive manufacturing, automation/robotics, cutting, finishing, forming and fabricating, job shop, laser, lean, management, marketing and sales, smart manufacturing, stamping, and workforce development.

The American Welding Society (AWS) presents a comprehensive lineup of welding education. Led by the industry's top professionals, programs focus on best practices and new commercial developments in welding.

### EXPERIENCE LEVELS

The Schedule-at-a-Glance on the following pages provides a quick reference to all the conference programs offered at FABTECH 2021. Note that you can use the following key to find the programs that meet your needs.

- **Basic** – Recommended for the attendee who is new to the industry or needs a refresher on the topic.
- **Intermediate** – Designed for the attendee who already has a basic understanding of the subject matter.
- **Advanced** – For the attendee with several years of experience who is seeking more in-depth information.

### CONTINUING EDUCATION CREDITS

Individuals who attend AWS education programs are awarded 1 PDH (Professional Development Hour) for each hour of program attendance. Individuals seeking FMA Recertification Credits will be awarded 2 credits for each conference session attended (forming and fabricating, cutting, or finishing tracks) plus an additional 2 credits for attending the show. Individuals who attend SME conference programs may be eligible to receive 1 credit per hour attended toward their SME-managed recertification requirements.

### MEMBERSHIP INFORMATION

Discounted rates for members are available on conference programs. Interested in becoming a member of AWS, FMA, SME, PMA, or CCAI? Find details on each of the event partner associations and membership benefits by visiting their websites today!



## MONDAY, SEPTEMBER 13

## SCHEDULE-AT-A-GLANCE

TECHNOLOGY	8:00 AM – 9:30 AM	10:30 AM – 12:00 PM	1:00 PM – 2:30 PM	3:30 PM – 5:00 PM
<b>3D/ADDITIVE MANUFACTURING</b>	<span style="color: green;">■</span> <b>F10:</b> Fundamentals of AM (7 Processes, Hybrid, AM Enabled)	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F11:</b> The Hidden Challenges: Is Additive Manufacturing for You?	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F12:</b> Managing the AM Supply Chain	<span style="color: green;">■</span> <b>NEW!</b> <span style="color: red;">■</span> <b>F13:</b> Ask the Panel of Additive Manufacturing Experts ( <b>BONUS SESSION</b> )
<b>AUTOMATION/ROBOTICS</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>F20:</b> Automation Adoption: What You Need to Know & Why	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>F21:</b> Five Steps to Creating Operational Excellence in Robotic Joining	<span style="color: green;">■</span> <b>WS3:</b> Getting Started with Robotics: A Journey to the World of Robotics & Autonomous Systems Workshop (1:00 PM - 4:00 PM)	
<b>CUTTING</b>			<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>F32:</b> The Most Versatile Machine Tool & 7 Habits of Highly-Effective Nesting Software	<span style="color: green;">■</span> <b>F33:</b> Comparative Cutting
<b>FINISHING</b>			<span style="color: green;">■</span> <b>C12:</b> I Want to Ecoat, Now What?	
			<span style="color: green;">■</span> <b>C22:</b> Powder Coating Basics - A Fundamental Understanding of a Powder Coating System	
			<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>C32:</b> An Architectural Update: Liquid and Powder Coatings	
	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>C100:</b> Industrial Finishing Safety Workshop - Day 1 (9:00 AM - 4:00 PM)			
<b>FORMING &amp; FABRICATING</b>	<span style="color: blue;">■</span> <b>F40:</b> Press Brake for Engineers	<span style="color: blue;">■</span> <b>F41:</b> Tube Bending: Best Practices	<span style="color: blue;">■</span> <b>F42:</b> Coil Processing: Blanking, Leveling, and Deburring	<span style="color: green;">■</span> <b>F43:</b> Roll Forming Basics
<b>JOB SHOP</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>WS7:</b> Business Owners Guide to Protect, Value and Plan for the Future Workshop (8:00 AM - 12:15 PM)		<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F72:</b> Industrial Ventilation & Air Filtration: Understanding Options in System Design	<span style="color: blue;">■</span> <b>F73:</b> Estimating Software to Manage the Job Shop
<b>LASER</b>		<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F31:</b> How Much Laser Power Is Right for Your Business?		
<b>LEAN</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F50:</b> Lean Principle: Blue-Collar Kaizen: Leading Lean & Lean Teams	<span style="color: blue;">■</span> <b>F51:</b> Lean Principle: Getting Started with Your Lean Journey		<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F53:</b> LeanTools: Production Floor Communication to Strengthen Employee Engagement & Standard Work
<b>MANAGEMENT</b>	<span style="color: red;">■</span> <b>F60:</b> Breaking Boundaries for Operational Excellence	<span style="color: blue;">■</span> <b>F61:</b> Business Builders: Make Business Development a Competitive Advantage	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F62:</b> Creating and Sustaining Cultures of Innovation in Manufacturing	<span style="color: blue;">■</span> <b>F63:</b> Strategies for Leading & Managing a Change Initiative
<b>MARKETING &amp; SALES</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>WS8:</b> Market and Build Your Fabrication Story Workshop (8:00 AM - 12:00 PM)		<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F82:</b> From Funnel to Flywheel: How to Maximize Your Marketing for Sales	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: red;">■</span> <b>F83:</b> Learn How to Optimize Your Sales Team's Funnel & Obtain Visibility into Your Sales Forecast
<b>SMART MANUFACTURING</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>F90:</b> Meeting Changing Buyer Expectations Through Digital Transformation	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F91:</b> IIoT to Improve Manufacturing Process	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F92:</b> Digital Tools & Technology to Mitigate Project Risk	<span style="color: blue;">■</span> <b>F93:</b> Leveraging A.I. In Industrial Manufacturing
<b>STAMPING</b>	<span style="color: blue;">■</span> <b>S10:</b> What's Holding You Back? How to Optimize Your Press Line	<span style="color: blue;">■</span> <b>S11:</b> Understanding Servo Metal Stamping Presses, Proper Usage, Troubleshooting and Maintenance	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>S12:</b> Heat Treating Fundamentals, Vacuum Heat Treating and Applications	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: green;">■</span> <b>S13:</b> 5 Steps to Creating Operational Excellence in the Press Shop
<b>WORKFORCE DEVELOPMENT</b>	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F110:</b> Winning the Workplace Challenge: Getting Along and Getting Things Done	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F111:</b> Tutorial on How to Develop or Enhance Virtual Presentation & Internships	<span style="color: red;">■</span> <b>NEW!</b> <span style="color: blue;">■</span> <b>F112:</b> Three Key Areas that are Essential to Become a Better Leader	<span style="color: blue;">■</span> <b>F113:</b> Read (Hidden) Emotions - Know What Others are Thinking and Feeling
<b>WELDING</b>	<span style="color: blue;">■</span> <b>W1:</b> How to Create and Write a Quality Manual for the ATF Program			<b>1:00 PM - 5:00 PM</b>
	<span style="color: blue;">■</span> <b>W2:</b> Overview of Welding Inspection			<b>1:00 PM - 5:00 PM</b>

Detailed Conference Program session descriptions, speakers, pricing, room locations and more can be found at [fabtechexpo.com/conference](http://fabtechexpo.com/conference).

■ Basic ■ Intermediate ■ Advanced

TECHNOLOGY	8:00 AM - 9:30 AM	10:30 AM - 12:00 PM	1:00 PM - 2:30 PM	3:30 PM - 5:00 PM
3D/ADDITIVE MANUFACTURING	NEW! ■ WS1: Navigating Technology and Design Considerations in Additive Manufacturing Workshop (8:00 AM - 12:00 PM)			■ F17: Viable Power Quality & Legal Issues to Sustain Additive Processes
AUTOMATION/ROBOTICS	NEW! ■ F24: Position Your Business for Future Growth & Speed Up the Workforce with Automation Process	NEW! ■ F25: Do You Know How Much Money You Are Losing Due to Equipment Downtime?	NEW! ■ WS4: An Introduction to the World of AGVs: Identifying the Considerations for a Successful Application Workshop (1:00 PM - 5:00 PM)	
CUTTING		NEW! ■ F35: Advancements in Cutting Automation		
FINISHING	NEW! ■ C14: Automation - Controlling the Process	NEW! ■ C15: Busting the Myths: What Really Matters in Metal Cleaning	NEW! ■ C16: Improving System Performance	
	■ C24: I Want to Powder Coat, Now What?	■ C25: Optimizing Your Powder Coating Operations	NEW! ■ C26: Operating Liquid Systems Efficiently	
	NEW! ■ C34: Pretreatment - Get The Latest and Greatest!	■ C35: See It, Touch It, Fix It - Identifying and Solving Finishing Defects	NEW! ■ C36: Solutions for Metal Cleaning Issues	
	NEW! ■ C100: Industrial Finishing Safety Workshop - Day 2 (8:00 AM - 12:00 PM)			
FORMING & FABRICATING	■ F44: Roll Forming: In-line Punching, Cutoff Dies, and Press Tonnage	■ F45: Machine Safeguarding	■ F46: Roll Forming: Justification and Welding Profiles	NEW! ■ F47: Addressing Modern Day Metals in the Roll Forming Process
JOB SHOP	NEW! ■ F74: Improving Production Outcomes Through Cross-Crew Synthesis	NEW! ■ F75: Made to Order Tooling & Production Scheduling	■ F76: Are Scheduling Problems Really Symptoms: "A Quick Fix for Job Shops"	NEW! ■ F77: Transforming a Tired Manufacturing Company Back to an Industry Leader
LASER	■ F34: Laser Ecosystems for Fiber Laser Cutting & Surface Cleaning		NEW! ■ F36: Advantages of Laser Welding Applications	NEW! ■ F37: Industrial Laser and Cutting Applications & Solutions
LEAN	NEW! ■ WS6: Lean Overview - Principles & Practices Hands-On Learning Workshop (8:00 AM - 12:00 PM)		■ F56: Lean Principle: Value Stream Mapping: Understanding the Whole from Sales to Shop to Customer	■ F57: Lean Principle: A3 Thinking: Developing People & Solving Problems
MANAGEMENT	NEW! ■ F64: Gen Z Is Coming - What You Need to Know for Your Business	NEW! ■ F65: That Was Fun! Where Are We in 2021?	NEW! ■ F66: Connection Perfection: The Business Case for Building Community	NEW! ■ F67: Strategies To Create a Workplace Culture That Works!
MARKETING & SALES	NEW! ■ F84: Winning With Social Media & Website Connections	NEW! ■ F85: Ensuring A Successful Product Launch	NEW! ■ F86: Building an Inside (Outbound) Sales Team	NEW! ■ F87: Client Engagement: Compete on Awesome
SMART MANUFACTURING	NEW! ■ F94: Key Steps to Jump Start Your Smart Manufacturing Journey	NEW! ■ F95: The Manufacturers Data-Driven Playbook	NEW! ■ WS10: Digital Transformation Models for Industry 4.0 Workshop (1:00 PM - 4:00 PM)	
STAMPING	NEW! ■ S14: Planning and Estimating Stamping Dies	■ S15: Processing Parts for Progressive Dies - Evaluating Strip Layouts	■ S16: Processing Parts for Progressive Dies - Engineering Principles and Design Guidelines	■ S17: Automatic In-Die Part Quality Monitoring & Tool Adjustments
WORKFORCE DEVELOPMENT	NEW! ■ F114: Blue-Collar Leadership® & Culture: The 5 Components for Building High-Performance Teams	NEW! ■ F115: The Art of Assertive Communication	■ F116: How to Attract and Keep the Right Talent	
WELDING	W3: AWS/Weld-Ed Conference - Project Based Welding Curriculum		8:00 AM - 4:00 PM	
	W4: Aluminum Welding		8:00 AM - 11:00 AM	
	W5: Advanced NDT Methods and Your Future as a CWI		8:00 AM - 11:00 AM	
	W6: Metallurgy (Intermediate)		1:00 PM - 5:00 PM	

■ Basic ■ Intermediate ■ Advanced

TECHNOLOGY	8:00 AM - 9:30 AM	10:30 AM - 12:00 PM	1:00 PM - 2:30 PM	3:30 PM - 5:00 PM
3D/ADDITIVE MANUFACTURING	NEW! ■ WS2: Pre and Post Processing of Additive Parts Workshop (8:00 AM - 12:00 PM)		■ F101: Continuous Improvement for Additive Manufacturing Initiatives	NEW! ■ F102: Materials and Joining for Plastic & Metal AM Technology
AUTOMATION/ROBOTICS	NEW! ■ F28: Understanding & Automating Your Data to Stay Competitive	NEW! ■ F29: Automating Press Brake & Bending Systems	■ F201: What You Need to Understand Before Thinking About Running Your Shop Lights-Out	NEW! ■ F202: Automation for Metal & Finishing Processes
CUTTING	NEW! ■ F38: Advancements in 3D Plasma and Waterjet Cutting	■ F39: Getting the Most Out of Your Waterjet		
FINISHING	NEW! ■ C18: Robotic Finishing for General Industry	NEW! ■ C19: Finishing's Future Through Automation	NEW! ■ C101: Can I Justify a Batch Powder Coating System?	
	NEW! ■ C28: Finishing Systems - Design and Project Management	■ C29: Automating Your Powder Coating Line	NEW! ■ C201: Mastering Surface Preparation	
	NEW! ■ C38: Advancements in Powder Coating Materials	NEW! ■ C39: Technology Update - Heat Sensitive Substrates	■ C301: Preventative Maintenance and Troubleshooting Your Powder Coating Operations	
	NEW! ■ C200: Powder Coating 101 Workshop in Spanish - Básicos del Recubrimiento en Polvo 101 Taller en Español - Day 1 (9:00 AM - 4:00 PM)			
FORMING & FABRICATING	■ F48: Tube Bending and Hydroforming	■ F49: Roll Forming: Advanced Techniques and Design	■ F401: Coil Processing: Slitting Thin Materials, Leveling, & Deburring	■ F402: Advanced Solutions for Tube and Pipe
JOB SHOP	■ F78: Your Family Business: Everything You Need to Know	NEW! ■ F79: Revolutionizing the Manufacturing Industry with XR Technology	■ F701: Innovative Manufacturers: To Patent or Not to Patent?	NEW! ■ F702: Building Business Resilience Next Steps Now
LASER			NEW! ■ WS5: Laser Fabrication: Welding, Cutting & Additive Workshop (1:00 PM - 5:00 PM)	
LEAN	■ F58: Lean Tools: Go to Gemba	NEW! ■ F59: Lean Tools: Hoshin Kanri	NEW! ■ F501: Lean Tools: Mastering Mixed Model Flow for a High-Performance Operation	NEW! ■ F502: Lean Principle: Long-Term & Four System View of Lean for Manufacturing Success
MANAGEMENT	NEW! ■ F68: How to Build a Better Supply Chain for your Business	NEW! ■ F69: Thriving Under Pressure: Revenue Growth In a New Business Paradigm	NEW! ■ F601: Markets & Energy Incentives for Manufacturing	■ F602: Brainstorming & Problem Solving Tools for Leaders
MARKETING & SALES	NEW! ■ F88: Creating an Inbound Marketing Action Plan for Manufacturers Who Are Prioritizing Online Lead Generation	NEW! ■ F89: How Industrial and Manufacturing Companies Create Predictable Revenue Growth	NEW! ■ WS9: Essential Sales Strategies for Manufacturers in 2021 and Beyond - Workshop (1:00 PM - 5:00 PM)	
SMART MANUFACTURING	NEW! ■ WS11: Smart Manufacturing Bootcamp (8:00 AM - 5:00 PM)			
STAMPING	■ S18: Deep Drawing Cylindrical Shells: Tooling Principles and Design Guidelines	■ S19: Deep Drawing Rectangular Box Shells: Tooling Principles and Design Guidelines	NEW! ■ S101: Reducing Cost and Risk to Timing Associated with Tool Buy-Off	■ S102: Evaluating Your Lubricants for Performance and Safety
WORKFORCE DEVELOPMENT	NEW! ■ WS12: Leadership Skills & Development Workshop (8:00 AM - 12:30 PM)		NEW! ■ F210: Diversity, Equity, and Inclusion; Future-Proofing Your Workforce	■ F211: Why You Can't Get Your People Motivated & What To Do About It
WELDING	W7: Additive/ASME		8:00 AM - 11:00 AM	
	W8: Metallurgy (Advance)		1:00 PM - 5:00 PM	

■ Basic ■ Intermediate ■ Advanced

Detailed Conference Program session descriptions, speakers, pricing, room locations and more can be found at [fabtechexpo.com/conference](http://fabtechexpo.com/conference).

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TECHNOLOGY	8:00 AM – 9:30 AM	10:30 AM – 12:00 PM	1:00 PM – 2:30 PM	3:30 PM – 5:00 PM
<b>AUTOMATION/ROBOTICS</b>	<b>NEW!</b> ■ <b>F203:</b> Optimize Your Automation Joining Process			
<b>FINISHING</b>	<b>NEW!</b> ■ <b>C200:</b> Powder Coating 101 Workshop in Spanish - Básicos del Recubrimiento en Polvo 101 Taller en Español - Day 2 (8:00 AM - 12:00 PM)			
<b>FORMING &amp; FABRICATING</b>	<b>NEW!</b> ■ <b>F403:</b> Form Tapping	<b>NEW!</b> ■ <b>F404:</b> Combination Hybrids - An Arranged Marriage by Manufacturers		
<b>SMART MANUFACTURING</b>	■ <b>F903:</b> The Promise of Industry 4.0 & Lean Management	<b>NEW!</b> ■ <b>F904:</b> Big Data to Analyze Manufacturing and Industrial Companies		

WELDING SESSIONS		
	<b>W9:</b> Weld Cracking	8:00 AM - 11:00 AM
	<b>W10:</b> ASME Codes and Standards Update	8:00 AM - 11:00 AM

**EXPERIENCE LEVELS**

Use this key along with the Schedule-at-a-Glance to find the education level that meets your needs.

- **Basic** – Recommended for the attendee who is new to the industry or needs a refresher on the topic.
- **Intermediate** – Designed for the attendee who already has a basic understanding of the subject matter.
- **Advanced** – For the attendee with several years of experience who is seeking more in-depth information.

Detailed Conference Program session descriptions, speakers, pricing, room locations and more can be found at [fabtechexpo.com/conference](http://fabtechexpo.com/conference).



**2021 SPECIAL PRICING INFORMATION**

The FABTECH event partners want to give back to manufacturing and support training and education needs for 2021 and beyond. We want to help companies prioritize training right now by offering the **LOWEST RATES** ever on our conference programs. **With these special rates, there has never been a better time to take advantage of all the learning opportunities at FABTECH.**

**EXHIBITS ONLY**

**Registration is FREE through September 9.**

Beginning September 10, the cost to attend the exhibits is \$50. AWS, FMA, SME, PMA, and CCAI members may always attend the exhibits for FREE with proof of membership.

**CONFERENCE TRACKS**

- 3D/Additive Manufacturing
- Laser
- Lean
- Stamping
- Automation/Robotics
- Finishing
- Management
- Workforce Development
- Cutting
- Forming & Fabricating
- Marketing & Sales
- Smart Manufacturing

FABTECH Items and Pricing	Early Bird Rates thru July 31		Regular Rates after July 31	
	Member	Non-member	Member	Non-member
1 Session	\$ 75	\$ 95	\$150	\$170
2 Sessions	\$125	\$145	\$200	\$220
3 Sessions	\$180	\$210	\$255	\$285
4 Sessions	\$230	\$270	\$320	\$340
<b>Full Conference: (5 or more sessions) BEST VALUE!</b>	\$275	\$325	\$375	\$395
Half-Day Workshops	\$145	\$165	\$225	\$245
Full-Day Workshops	\$275	\$325	\$375	\$395
Two-Day Finishing Workshops	\$495	\$495	\$545	\$545

**WELDING TRACK**

	Member	Non-member*
AWS/Weld-Ed Conference	\$25	\$50
Half-Day Welding Sessions	\$345	\$430

\* Non-member price for AWS Welding Sessions only includes a one-year AWS Individual Membership.

**CONFERENCE CANCELLATION POLICY:** Cancellations and refund requests (for paid conference registrations) must be made in writing to Attn: Betsy Bonnell: FABTECH Conference Cancellation or sent to [bbonnell@sme.org](mailto:bbonnell@sme.org) no later than September 3, 2021, to receive a full refund minus a \$50 administrative fee. Cancellations received after this date are non-refundable. Substitutions allowed.

## 3D/ADDITIVE MANUFACTURING

## MONDAY, SEPTEMBER 13

8:00 AM - 9:30 AM

**F10: Fundamentals of AM (7 Processes, Hybrid, AM Enabled)**

Carl Dekker - Met-L-Flo Inc.

10:30 AM - 12:00 PM

**NEW! F11: The Hidden Challenges: Is Additive Manufacturing for You?****Is Metal Additive Manufacturing Right for Your Shop?**

Matthew Donovan - Jabil

**Considerations for Adding Additive Manufacturing to Your Current Manufacturing Process**  
Paul Bates - ASTM

1:00 PM - 2:30 PM

**NEW! F12: Managing the AM Supply Chain**

Shai Terem - Markforged

3:30 PM - 5:00 PM

**NEW! F13: Ask the Panel of Additive Manufacturing Experts (BONUS SESSION)**Carl Dekker - Met-L-Flo Inc.  
Matthew Donovan - Jabil  
Paul Bates - ASTM  
Slade Gardner - Big Metal Additive  
Ryan Manning - Big Metal Additive

## TUESDAY, SEPTEMBER 14

8:00 AM - 12:00 PM

**NEW! WS1: Navigating Technology and Design Considerations in Additive Manufacturing Workshop****How AM (3D Printing) Can Accelerate and Advance Your Design**  
Carl Dekker - Met-L-Flo Inc.**Full Scale Functional Prototypes Made by Hybrid Metal AM**

Slade Gardner and Ryan Manning - Big Metal Additive

3:30 PM - 5:00 PM

**F17: Viable Power Quality & Legal Issues to Sustain Additive Processes****The Need for Power Quality During the Additive Process**

Patrick Gannon - ABB Inc.

**Evolving Legal Issues in Additive Manufacturing**

Chris Higgins - Orrick, Herrington &amp; Sutcliffe

## WEDNESDAY, SEPTEMBER 15

8:00 AM - 12:00 PM

**NEW! WS2: Pre and Post Processing of Additive Parts Workshop**Carl Dekker - Met-L-Flo Inc.  
Matthew Donovan - Jabil

1:00 PM - 2:30 PM

**F101: Continuous Improvement for Additive Manufacturing Initiatives****Improving Continuous Improvement Initiatives with Additive Manufacturing**

Michael Mignatti - MakerBot

**Empowering Quality Control & Inspection at Every Level with 3D Scanning**

Andrei Vakulenko - Artec 3D

3:30 PM - 5:00 PM

**NEW! F102: Materials & Joining for Plastic & Metal AM Technology****Joining and Repair of Additively Manufactured Components**

Jacob Rindler - Ohio State University

**Fused Granular Fabrication (FGF) vs. Fused Filament Fabrication (FFF)**

Alex Riestenberg - Cincinnati Inc.

**Directed Energy Deposition (DED): The Triathlete**

Melanie Lang - FormAlloy Technologies Inc.

## AUTOMATION / ROBOTICS

## MONDAY, SEPTEMBER 13

8:00 AM - 9:30 AM

**NEW! F20: Automation Adoption: What You Need to Know & Why****Before You Spend Money on Your First Robot, Here is What You Need to Know**Michael Schlagenhauser and  
Gwendolyn Luscavage - Acuity**Automation Adoption: Why Manufacturers Won't Survive Without Robotics**

Josh Leath - Yaskawa Motoman

10:30 AM - 12:00 PM

**NEW! F21: Five Steps to Creating Operational Excellence in Robotic Joining**

Will Healy III - Balluff Worldwide

1:00 PM - 4:00 PM

**WS3: Getting Started with Robotics: A Journey to the World of Robotics & Autonomous Systems Workshop**Jason Walker - Waypoint Robotics, Inc.  
Bob Rochelle - Gudel Inc.

## TUESDAY, SEPTEMBER 14

8:00 AM - 9:30 AM

**NEW! F24: Position Your Business for Future Growth & Speed Up the Workforce with Automation Process****How to Include the Workforce and Speed Up Mobile Robot Deployment**

Jason Walker - Waypoint Robotics, Inc.

**Adapt Your Manufacturing Process: DO MORE WITH LESS**

Mark Sumner - Acieta

10:30 AM - 12:00 PM

**NEW! F25: Do You Know How Much Money You Are Losing Due to Equipment Downtime?****Continuous Condition Monitoring for Existing Equipment on a Budget**

Will Healy III - Balluff Worldwide

**Do You Know How Much Money You Are Losing Due To Equipment Breakdown?**Michael Schlagenhauser and  
Gwendolyn Luscavage - Acuity

1:00 PM - 5:00 PM

**NEW! WS4: An Introduction to the World of AGVs: Identifying the Considerations for a Successful Application Workshop**Denise Ebenhoech - KUKA  
Rupesh Narkar - Swisslog Logistics Inc.

## WEDNESDAY, SEPTEMBER 15

8:00 AM - 9:30 AM

**NEW! F28: Understanding & Automating Your Data to Stay Competitive****Adapt & Advance - Don't Get Left Behind**  
Bridget Lazlo - Guardian Business Solutions, Inc.**The Scheduling Journey**

David Sheriff - Petros724, Inc.

10:30 AM - 12:00 PM

**NEW! F29: Automating Press Brake & Bending Systems****What to Consider Before Purchasing Your First Automated Bending System**

Todd Kirchoff - Cincinnati Inc.

**Is Press Brake Automation Right for You?**

Marcel Fiedler - Bystronic Inc.

1:00 PM - 2:30 PM

**F201: What You Need to Understand Before Thinking About Running Your Shop Lights-Out**

Michael Schlagenhauser - Acuity

*Automation continued on next page ▶*

## AUTOMATION / ROBOTICS

3:30 PM – 5:00 PM

**NEW!** ■ **F202: Automation for Metal & Finishing Processes****Cad to Path Robot Programming. Is it Myth or Reality?**

Barton Faylor - FANUC America

**How Medium and Small Manufacturers Can Automate (Robot) Metal Fabrication and Finishing Processes**

Mike Shappell - Norton/Saint-Gobain Abrasives

Eddie Erlbacher - PushCorp, Inc.

## THURSDAY, SEPTEMBER 16

8:00 AM – 9:30 AM

**NEW!** ■ **F203: Optimize Your Automation Joining Process****Optimizing Your Welding Automation**

Nick Cowell - Acieta

**Increasing Uptime on Assembly, Weld and Other Automated Cells with High-Performance Weld and Locator Pins**

Peter Harper - IBC Coatings Technologies

**Welding Robots with an Ear for Defects**

Dan Harvey and Ahmad Ashoori - Novarc Technologies

## CUTTING

## MONDAY, SEPTEMBER 13

1:00 PM – 2:30 PM

**NEW!** ■ **F32: The Most Versatile Machine Tool & 7 Habits of Highly Effective Nesting Software****The Most Versatile Machine Tool with Endless Applications**

Tim Fabian - SHAPE Technologies Group

**7 Habits of Highly Effective Nesting Software Programmers at Top Performing Companies**

Tom Stillwell - Hypertherm, Inc.

3:30 PM – 5:00 PM

■ **F33: Comparative Cutting****Plasma Cutting Technology**

Jorge Santana - Hypertherm, Inc.

**Current Advancements in Laser Cutting Technology**

Brian Smith - Precitec

**Versatility of Waterjet**

Arion Vandergon and Tim Holcomb - OMAX Corp.

## TUESDAY, SEPTEMBER 14

10:30 AM – 12:00 PM

**NEW!** ■ **F35: Advancements in Cutting Automation****Oxy-Fuel Cutting - Automation Makes the Difference**

Kurt Nachbargauer and Martin Roubicek - IHT Automation

**E°CUT - The Solution for All Cutting Technologies**

Boris Spangenberg and Oliver Sebastian - Eckelmann AG

## WEDNESDAY, SEPTEMBER 15

8:00 AM – 9:30 AM

**NEW!** ■ **F38: Advancements in 3D Plasma and Waterjet Cutting****Advancements in 3D-Robotic Plasma Cutting**

Kristopher Rich, Steve Liebold and Garen Cakmak - Hypertherm, Inc.

**3D Waterjet Cutting: The Next Dimension**

Brian Sherick - Flow International

10:30 AM – 12:00 PM

■ **F39: Getting the Most Out of Your Waterjet**

Tim Holcomb - OMAX Corp.

## FINISHING

## MONDAY, SEPTEMBER 13

9:00 AM – 4:00 PM

**NEW!** ■ **C100: Industrial Finishing Safety Workshop - Day 1**

Marty Korecky - AkzoNobel Coatings, Inc.

Doug Smilor - John Deere - Moline Technology and Innovation Center (MTIC)

Geoff Raifsnider - Global Finishing Solutions LLC

Rich Saddler - Industrial Finishing Solutions LLC

1:00 PM – 2:30 PM

■ **C12: I Want to Ecoat, Now What?**

Kirk Beaster - BASF Chemetall

Rob Schiller - BASF Corporation

Todd Turnock - Geoge Koch Sons, LLC

■ **C22: Powder Coating Basics - A Fundamental Understanding of a Powder Coating System**

Greg Dawson - Nordson Corporation

John Sudges - Midwest Finishing Systems, Inc.

Michael Withers - Axalta Coating Systems

**NEW!** ■ **C32: An Architectural Update: Liquid and Powder Coatings**

Manuel Mayer - Axalta Coating Systems

Ben Mitchell - Dura Coating Products

## TUESDAY, SEPTEMBER 14

8:00 AM – 12:00 PM

**NEW!** ■ **C100: Industrial Finishing Safety Workshop - Day 2**

Marty Korecky - AkzoNobel Coatings, Inc.

Doug Smilor - John Deere - Moline Technology and Innovation Center (MTIC)

Geoff Raifsnider - Global Finishing Solutions LLC

Rich Saddler - Industrial Finishing Solutions LLC

8:00 AM – 9:30 AM

**NEW!** ■ **C14: Automation - Controlling the Process****Examples of Finishing SCADA Systems for Advanced Automated Finishing Systems**

John Claman - IntelliFinishing

**Metrics on the Screen Go Round and Round, Round and Round...All Day Long!**

Jeff Hale - Gema USA Inc.

■ **C24: I Want to Powder Coat, Now What?**

Chris Merritt - Gema USA Inc.

Tom Whalen - TCI Powder Coatings

Todd Turnock - George Koch Sons, LLC

Kenny Kildahl - Henkel Corp.

**NEW!** ■ **C34: Pretreatment - Get the Latest and Greatest!****Scale and Oxide Removal for Improved Coating Performance**

Brandon Lloyd - Atotech Group

**False Beliefs About Zirconium Pretreatments**

Rashid Zakeri - Circle Proscro, Inc.

**Buffering of Nano Ceramic Technology**

Evan Lach - Henkel Corp.

10:30 AM – 12:00 PM

**NEW!** ■ **C15: Busting the Myths: What Really Matters in Metal Cleaning**

Steve Byron - Coral Chemical Company -

A Quaker Houghton Company

Kelly McCabe - PEM Inc.

Aaron Ratka - Diamond H2O

■ **C25: Optimizing Your Powder Coating Operations**

Ken Kaluzny - Quaker Houghton

John Cole - Parker Ionics

John Sudges - Midwest Finishing Systems, Inc.

■ **C35: See It, Touch It, Fix It - Identifying and Solving Finishing Defects**

David Schimpff and Maxwell George - DuBois Chemicals

Tabitha McLeish - The Sherwin-Williams Company

*Finishing continued on next page ►*

## FINISHING

1:00 PM – 2:30 PM

**NEW!** ■ **C16: Improving System Performance****Hooks, Hangers, Fixtures — The Way to Continuously Improve Your Finishing System**

Daniel Nesper - DuBois Chemicals

**In-House Chemical Paint Removal — The Ideal Choice for Hook and Rack Cleaning**

Stephen Taylor - Atotech Group

**NEW!** ■ **C26: Operating Liquid Systems Efficiently****Fluid Flow and Pressure: Why and How to Manage Both**

Blake Erickson - Graco Inc.

**How to Increase the Efficiency of Your Liquid Finishing Application Process**

Martin Powell - Carlisle Fluid Technologies

**Eliminating The Seven Deadly Sins of Liquid Finishing**

Michael Elbersen - Autoquip Automation

**NEW!** ■ **C36: Solutions for Metal Cleaning Issues****Wastewater in a Circular Economy: Impacts and Opportunities in the Metal Finishing Industry**

Bob Hultz - MacDermid Envio Solutions

**Remanufacturing Cleaning — Innovations that Improve Cleaning and Reduce Costs!**

Joe McChesney - KYZEN

## WEDNESDAY, SEPTEMBER 15

9:00 AM – 4:00 PM

**NEW!** ■ **C200: Powder Coating 101 Workshop in Spanish - Basicos del Recubrimiento en Polvo 101 Taller en Español - Day 1**Jeniffer Viveros - Henkel Corporation  
Samantha Tischler - BASF/Chemetall  
Jesus A. Sánchez Perales - AkzoNobel Powder Coatings

Gerardo Contreras - PPG

Carlos Montero - Gema Mexico Powder Finishing

Sal Garcia - Nordson Corporation

Pedro Castillo - Therma-Tron-X, Inc./TTX Mexico

Enrique Escobedo - Helmut Fischer S. de R.L. de C.V.

8:00 AM – 9:30 AM

**NEW!** ■ **C18: Robotic Finishing for General Industry**

Derek DeGeest - DeGeest Corporation &amp; LestaUSA

**NEW!** ■ **C28: Finishing Systems - Design and Project Management****Finishing System Design for Success**

Bill Oney - Therma-Tron-X

**Key Steps to Delivering a Great Project... Every Time**

Doug Smilor and Adam Smith - John Deere - Moline Technology and Innovation Center (MTIC)

**New Washer and Oven Technology for the Finishing Industry**

Steven Onsager - LaX Engineered Solutions

**NEW!** ■ **C38: Advancements in Powder Coating Materials****Extreme Edge Coverage and Corrosion Protection**

Kathryn Shaffer - PPG

**Latest Developments in Metallic Effect Powder Coatings**

Michael Withers - Axalta Coating Systems

**Using Bio-Based and Recycled Materials in the Powder Itself**

Jeremy Erickson - Sherwin-Williams

10:30 AM – 12:00 PM

**NEW!** ■ **C19: Finishing's Future Through Automation****Little Bytes Make Great Meals**

Jeff Watson - Manufacturing Infrastructure Solutions, LLC

**Autonomous Robots for High-Mix Finishing**

Francois Simard - Omnirobotic

■ **C29: Automating Your Powder Coating Line****Powder Coating - Control and Consistency**

Teddy Piepkow - Nordson Corporation

**Making the Jump! Shifting Gears from Manual Powder Coating to Automated**

Hector Flores - Wagner Industrial Solutions

**NEW!** ■ **C39: Technology Update - Heat Sensitive Substrates****Curing Heat Sensitive Substrates — The Tricks of the Trade**

Marty Sawyer - Trimac Industrial Systems

**Powder Coating of Natural and MDF Substrates**

J.R. Rogers - Wagner Industrial Solutions

1:00 PM – 2:30 PM

**NEW!** ■ **C101: Can I Justify a Batch Powder Coating System?**Nick Dawson - Pneu-Mech Systems Mfg.  
Frank Mohar - Nordson Corporation  
Kelly McCabe - PEM Inc.**NEW!** ■ **C201: Mastering Surface Preparation****Make Shotblasting Work for You!**

Carl Panzenhagen - Blast Cleaning Technologies

**The Critical Role of Abrasives in Blast Cleaning**

Kumar Balan - Ervin Industries

**Cost Effective Blasting Plan**

Osamu Yoshida - Roberts Sinto Corp.

■ **C301: Preventive Maintenance and Troubleshooting Your Powder Coating Operations**Michael Wittenhagen - TCI Powder Coatings  
John Cole - Parker Ionics

## THURSDAY, SEPTEMBER 16

8:00 AM – 12:00 PM

**NEW!** ■ **C200: Powder Coating 101 Workshop in Spanish - Basicos del Recubrimiento en Polvo 101 Taller en Español - Day 2**Jeniffer Viveros - Henkel Corporation  
Samantha Tischler - BASF/Chemetall  
Jesus A. Sánchez Perales - AkzoNobel Powder Coatings

Gerardo Contreras - PPG

Carlos Montero - Gema Mexico Powder Finishing

Sal Garcia - Nordson Corporation

Pedro Castillo - Therma-Tron-X, Inc./TTX Mexico

Enrique Escobedo - Helmut Fischer S. de R.L. de C.V.

## FORMING AND FABRICATING

## MONDAY, SEPTEMBER 13

8:00 AM – 9:30 AM

■ **F40: Press Brake for Engineers**

Steve Benson - Asma LLC

10:30 AM – 12:00 PM

■ **F41: Tube Bending: Best Practices****Tube Bending: Best Practices, Processes and Outcomes**

Randy Krickeberg - Sharpe Products

**Novel Lubrication for Tube Forming & Mandrel Tube Bending**

Christopher Fletcher - Tower Metalworking Fluids

1:00 PM – 2:30 PM

■ **F42: Coil Processing: Blanking, Leveling, and Deburring****Lasers' Growing Role in the Blanking Market**

Jay Finn - LaserCoil Technologies, LLC

**Safe, Economical Coil Storage: A Decade's Look-Back**Michael Baach - Philpott Solutions Group, Inc.  
Steve Detweiler - Philpott Rubber & Plastics

3:30 PM – 5:00 PM

■ **F43: Roll Forming Basics****Roll Forming Basics**

Brian Rodgers - Formtek, Inc.

**Modern Lubricants for Roll Form Processes**

David Kinnard - Tower Metalworking Fluids

## TUESDAY, SEPTEMBER 14

8:00 AM – 9:30 AM

■ **F44: Roll Forming: In-line Punching, Cutoff Dies, and Press Tonnage****Increasing Value to Your Roll Forming Lines with In-line Punching and Cutoff Dies**

Paul Williams - Hill Engineering/Formtek, Inc.

**When the Press Tonnage Rating Is Really Not That Tonnage**

Paul Williams - Hill Engineering/Formtek, Inc.

*Forming & Fabricating continued on next page ▶*

## FORMING AND FABRICATING

10:30 AM - 12:00 PM

■ **F45: Machine Safeguarding**

Douglas Raff - Paragon Industrial Controls Inc.

1:00 PM - 2:30 PM

■ **F46: Roll Forming: Justification and Welding Profiles**Justification for Roll Forming  
Brian Rodgers - Formtek, Inc.

## Welding Roll Formed Profiles - Select the Right Welding Method

Jack Pennuto Jr. - TRUMPF Inc.

3:30 PM - 5:00 PM

NEW! ■ **F47: Addressing Modern Day Metals in the Rollforming Process**

Rob Taylor - TEKFAB, Inc.

## WEDNESDAY, SEPTEMBER 15

8:00 AM - 9:30 AM

■ **F48: Tube Bending and Hydroforming**Modern Tube Bending Machinery  
Greg Miller - Tubular Solutions Inc.

## Latest Tube Bending Machine Concepts - Creating Future Opportunities for Today's Manufacturing Technologies

Christoph Roehm - WAFIOS AG

## New Development Within High Pressure Hydroform Technology

Brad Clark - Quintus Technologies

10:30 AM - 12:00 PM

■ **F49: Roll Forming: Advanced Techniques and Design**Rollforming Solutions - Functional, Lightweight, and Freedom in Design  
Bill Johnson - Welsler Inc.

## Using Hydraulics in High-Performance Punching and Cutting of Rollformed Products

Mark McGuire - TEKFAB, Inc.

1:00 PM - 2:30 PM

■ **F401: Coil Processing: Slitting Thin Materials, Leveling, & Deburring**

Slitting Ultra Thin, Thin and Surface Critical Materials

Mike McGuire - Novus Machine Group LLC

## Leveling &amp; Deburring: Modern Metal Processing

Denis Weinfurtner - ARKU Inc.

3:30 PM - 5:00 PM

■ **F402: Advanced Solutions for Tube and Pipe**

Advanced Cutting Solutions for Scrap Reduction and Improved Efficiency in Tube and Pipe Production

Chris Murray - Thermatool Corp.

## HF Weld Process Optimization

Sasha Tupalo - Thermatool Corp.

## Utilizing Technology to Increase Tube &amp; Pipe Process, Quality &amp; Profitability

Chris Murray - Thermatool Corp.

## THURSDAY, SEPTEMBER 16

8:00 AM - 9:30 AM

NEW! ■ **F403: Form Tapping**

Understanding How Form Tapping Works Plus Troubleshooting Advice

Costikyan Jarvis - Jarvis Cutting Tools

## Cost Benefit Analysis on Using Specials vs. Standard Tools

Costikyan Jarvis and Alissa Blouin - Jarvis Cutting Tools

10:30 AM - 12:00 PM

NEW! ■ **F404: Combination Hybrids — An Arranged Marriage by Manufacturers**

Jeff Tyl - Murata Machinery, USA

## JOB SHOP

## MONDAY, SEPTEMBER 13

8:00 AM - 12:15 PM

NEW! ■ **WS7: Business Owners Guide to Protect, Value and Plan for the Future Workshop**

Succession - The 3-Step Magic Formula to Get the Highest Price When Selling Your Company

Soraya Gutman - Your CrossTALKS

## Protecting Original Design: The Importance of IP for Fabricators

David Adler - Adler Law Group

## Current State of Mergers and Acquisitions for Metal Fabrication Companies

Matthew Bradbury and Bobby Lewis - Business Acquisition &amp; Merger Associates

## Saving Sunshine...How This Business Owner Saved Her Company From a Million Dollars in Debt

Susan Frew - Raincatcher

## 12 Value Creation Leadership Lessons — Reconfirmed!

Joel Strom - Chief Value Officers

## How to Use the R&amp;D Tax Credit to Lower Your Tax Liabilities and Build a Competitive Advantage

John Madsen - Black Line Group

1:00 PM - 2:30 PM

NEW! ■ **F72: Industrial Ventilation & Air Filtration: Understanding Options in System Design**

Alysha Yinger - RoboVent

3:30 PM - 5:00 PM

■ **F73: Estimating Software to Manage the Job Shop**

Future of Fabrication: Using Estimating Software to Bring a Shop from a Model T to a Tesla

Eric Borman - Progressive Metal Manufacturing Company

## The Art &amp; Science of Accurate Job Costing for High-Mix, Low-Volume Manufacturers

David Lechleitner - Ultra Consultants

## TUESDAY, SEPTEMBER 14

8:00 AM - 9:30 AM

NEW! ■ **F74: Improving Production Outcomes Through Cross-Crew Synthesis**

Sharon McCollick - Strong Point Strategy, LLC

10:30 AM - 12:00 PM

NEW! ■ **F75: Made to Order Tooling & Production Scheduling**

Strategic Scheduling for Made-to-Order Tooling

Jeanne Naysmith - TST Tooling Software Technology, LLC

## Methods for Efficiently Managing Shifting Bottlenecks and Proactively Planning for Capacity in High-Variety, Make-to-Order Production

Prasad Velaga - Optisol LLC

1:00 PM - 2:30 PM

■ **F76: Are Scheduling Problems Really Symptoms: "A Quick Fix for Job Shops"**

Vincent Bozzone - Delta Dynamics Inc.

3:30 PM - 5:00 PM

NEW! ■ **F77: Transforming a Tired Manufacturing Company Back to an Industry Leader**

Joel Strom - Chief Value Officers

## WEDNESDAY, SEPTEMBER 15

8:00 AM - 9:30 AM

■ **F78: Your Family Business: Everything You Need to Know**

Henry Hutcheson - Family Business USA

10:30 AM - 12:00 PM

NEW! ■ **F79: Revolutionizing the Manufacturing Industry with XR Technology**

Stephen Robertson - SIMPAC America Co. Ltd.

Job Shop continued on next page ►

## JOB SHOP

1:00 PM – 2:30 PM

**F701: Innovative Manufacturers: To Patent or Not to Patent?**

Marshall Honeyman - Erise IP, P.A.

3:30 PM – 5:00 PM

**NEW! F702: Building Business Resilience Next Steps Now**

Michael Hart - Plex Systems Inc.  
Christine Hansen - Epicor Software Corp.  
Bridget Lazlo - Guardian Business Solutions, Inc.  
Jason Ray - Paperless Parts, Inc.

## LASER

## MONDAY, SEPTEMBER 13

10:30 AM – 12:00 PM

**NEW! F31: How Much Laser Power Is Right for Your Business?****High Power Fiber Lasers: What's the Limit?**

Tyson Lowder - nLIGHT Inc.

**Overcoming the Optical Challenges for Optimal Performance in High Power Laser Cutting**

Brian Smith - Precitec

**Lyrics of a Metalhead**

Ken Gross - nLIGHT Inc.

**Putting All This Laser Power to Work For You**

Troy Wilson - Cincinnati Inc.

## TUESDAY, SEPTEMBER 14

8:00 AM – 9:30 AM

**F34: Laser Ecosystems for Fiber Laser Cutting & Surface Cleaning****Laser Ecosystem - Dynamics Through Full Digital Control**

Michael Sharpe - FANUC America Corporation

**Large-Area Surface Cleaning and Ablation with Fiber Lasers**

Rouzbeh Sarrafi - IPG Photonics

1:00 PM – 2:30 PM

**NEW! F36: Advantages of Laser Welding Applications****Advanced Laser Spot and Plug Welding Utilizing Pattern Recognition and 6D Seam Detection**

Jason Woolley - Abicor Binzel

**Ensuring Laser Micro Welding Success in Manufacturing**

Mark Boyle - AMADA WELD TECH, INC.

**Advantages of Remote Laser Welding Utilizing Seam Tracking and Gap Bridging**

Jay Flowers - Abicor Binzel

3:30 PM – 5:00 PM

**NEW! F37: Industrial Laser and Cutting Applications & Solutions****High Power Diode Lasers and Industrial Applications**

Oleg Raykis - Laserline Inc.

**Selecting the Correct Purity for Your N2 Assist Gas Maximizes On-Site Nitrogen Generation System Efficiency and Reduces ROI Time Period**

Mark Lauterwasser - nano - air &amp; gas solutions

**How to Mitigate the Risks of Dust Collector Fires from Spark Generating Metal Processes**

Paul Johnson - Blender Products  
Karen Wear - Donaldson Company, Inc.

## WEDNESDAY, SEPTEMBER 15

1:00 PM – 5:00 PM

**NEW! WS5: Laser Fabrication: Welding, Cutting & Additive Workshop**

**Moderators:** Neil Ball - Directed Light  
Geoff Shannon - Coherent Inc.

**Industrial Lasers Overview: Fiber, Disk and Diode**

JP Lavoie - Coherent

**Introduction to Industrial Laser Welding**

Thomas Kugler - Laser Mechanisms, Inc.

**Laser Hot Wire Processing**

Kyle Smith - Lincoln Electric

**Laser Cutting, An Overview From Fundamentals to New Development Trends**

Rouzbeh Sarrafi - IPG Photonics

**Understanding Fiber Lasers Functions and Capabilities**

Dustin Diehl - Amada America, US

**Advanced Beam Control Strategies in Fiber Laser Processing**

Rouzbeh Sarrafi - IPG Photonics

**Metal Additive Manufacturing Technology Overview of Laser Metal Fusion (LPBF) and Laser Metal Deposition (DED)**

Roland Spiegelhalder - TRUMPF Inc.

## LEAN

## MONDAY, SEPTEMBER 13

8:00 AM – 9:30 AM

**NEW! F50: Lean Principle: Blue-Collar Kaizen: Leading Lean & Lean Teams**

Mack Story and Ria Story - Top Story  
Leadership/Blue-Collar Leadership

10:30 AM – 12:00 PM

**F51: Lean Principle: Getting Started with Your Lean Journey**

Jeff Sipes - Back2Basics, LLC

3:30 PM – 5:00 PM

**NEW! F53: Lean Tools: Production Floor Communication to Strengthen Employee Engagement & Standard Work****Advancing Production Floor Communication to Strengthen Standard Work**

Sharon McCollick - Strong Point Strategy, LLC

**Employee Engagement, the Key to a Successful Lean Manufacturing System**

Joe Mazzeo - Integrated Lean and Quality Solutions LLC

## TUESDAY, SEPTEMBER 14

8:00 AM – 12:00 PM

**NEW! WS6: Lean Overview – Principles & Practices Hands-on Learning Workshop**

Anthony Manos - Profero, Inc.

1:00 PM – 2:30 PM

**F56: Lean Principle: Value Stream Mapping: Understanding the Whole: From Sales to Shop to Customer**

Mike Osterling - Osterling Consulting, Inc.

3:30 PM – 5:00 PM

**F57: Lean Principle: A3 Thinking: Developing People & Solving Problems**

Mike Osterling - Osterling Consulting, Inc.

## WEDNESDAY, SEPTEMBER 15

8:00 AM – 9:30 AM

**F58: Lean Tools: Go to Gemba**

Jeff Sipes - Back2Basics, LLC

10:30 AM – 12:00 PM

**NEW! F59: Lean Tools: Hoshin Kanri****Hoshin Kanri (Policy Deployment) in a Small Manufacturing Company**

Dave Lippert and Lee Burroughs - Hamilton  
Caster & Mfg. Co.

1:00 PM – 2:30 PM

**NEW! F501: Lean Tools: Mastering Mixed Model Flow for a High-Performance Operation**

Kevin Duggan - Institute for Operational  
Excellence

3:30 PM – 5:00 PM

**NEW! F502: Lean Principle: Long-Term & Four System View of Lean for Manufacturing Success****How to Ensure Long-Term Lean Manufacturing System Success**

Joe Mazzeo - Integrated Lean and Quality  
Solutions LLC

**Tools Without Context Create Waste: A Four-System View of Lean**

Audie Penn - Faro Partners, LLC

## MANAGEMENT

**MONDAY, SEPTEMBER 13****8:00 AM - 9:30 AM****NEW! ■ F60: Breaking Boundaries for Operational Excellence**

Vince Bovino - Bovino Consulting Group

**10:30 AM - 12:00 PM****■ F61: Business Builders: Make Business Development a Competitive Advantage**

Mark Frasco - COACT Associates, Ltd.

**1:00 PM - 2:30 PM****NEW! ■ F62: Creating and Sustaining Cultures of Innovation in Manufacturing**

Gary Covert - Gary Covert Consulting

**3:30 PM - 5:00 PM****■ F63: Strategies for Leading & Managing a Change Initiative****Leading a Change Initiative**

Mark Ernst - Ernst Enterprises, LLC

**Why Managing Change Is Crucial To Have A Successful Shop**

Michael Schlagenhauer - Acuity

**TUESDAY, SEPTEMBER 14****8:00 AM - 9:30 AM****NEW! ■ F64: Gen Z Is Coming - What You Need to Know for Your Business**

Lisa Ryan - Grategy

**8:00 AM - 9:30 AM****NEW! ■ F65: That Was Fun! Where Are We in 2021?**

Chris Kuehl - Armada Corporate Intelligence

**1:00 PM - 2:30 PM****NEW! ■ F66: Connection Perfection: The Business Case for Building Community**Lori Sussle Bonanni - elssus, LLC  
Miranda Wilcox - Thrive Potential, LLC  
Sandy Sloane - Solutions by Sloane**3:30 PM - 5:00 PM****NEW! ■ F67: Strategies To Create a Workplace Culture That Works!**

Lisa Ryan - Grategy

**WEDNESDAY, SEPTEMBER 15****8:00 AM - 9:30 AM****NEW! ■ F68: How to Build a Better Supply Chain for Your Business**Michael Schlagenhauer - Acuity  
Aaron Stamm - Acuity**10:30 AM - 12:00 PM****NEW! ■ F69: Thriving Under Pressure: Revenue Growth In a New Business Paradigm****Thriving Under Pressure**

M.J. Clark - Integrated Leadership Systems

**Revenue Growth In a New Business Paradigm**

Rahul Sarkar - Clarity Manufacturing Consulting

**1:00 PM - 2:30 PM****NEW! ■ F601: Markets & Energy Incentives for Manufacturing****Where Are the New Markets for Metal Forming, Fabricating, Welding and Finishing? The Answer is Blowing in the Offshore Wind**

Ross Gould - Business Network for Offshore Wind

**Energy Incentives for Manufacturing**Joe Sawatske - Eide Bailly  
Kristin Gustafson - Eide Bailly**3:30 PM - 5:00 PM****■ F602: Brainstorming & Problem Solving Tools for Leaders****Problem Solving - There Is No Magic Pill**  
Mark Netzel - Die-Matic Corporation**Brainstorming Tools for Concept Development and Selection**

Jeff Opperman - JR Automation

## MARKETING &amp; SALES

**MONDAY, SEPTEMBER 13****8:00 AM - 12:00 PM****NEW! ■ WS8: Market and Build Your Fabrication Story Workshop****Market Outlook: What Next?**

Michele Nichols - Launch Team Inc.

**20 Key Marketing & Sales Tactics That are Bulletproof (In Case Another Pandemic Comes)**

Holly McCully and Josh Curcio protocol 80, Inc.

**5 Strategies to Take a WOE Marketing Sales Program to WOW**

Daniel Gartlan - Stevens &amp; Tate Marketing

**Telling Stories: How to Build a Strong Manufacturing Brand**

Keith Booton - Ivor Andrew

**Humanizing Customer Service in a Technology World**

Holly O'Donnell - Slone Solutions, LLC

**1:00 PM - 2:30 PM****NEW! ■ F82: From Funnel to Flywheel: How to Maximize Your Marketing for Sales**

Daniel Gartlan - Stevens &amp; Tate Marketing

**3:30 PM - 5:00 PM****NEW! ■ F83: Learn How to Optimize Your Sales Team's Funnel & Obtain Visibility Into Your Sales Forecast**

Laura Munsch - Marketing Angle

**TUESDAY, SEPTEMBER 14****8:00 AM - 9:30 AM****NEW! ■ F84: Winning With Social Media & Website Connections****How to Advertise on Facebook Without Being Evil**

Jenny Lockhart - 9 Clouds

**Winning Websites Have The Something Extra, A Human Connection**

Nicole Wagner - Stevens &amp; Tate Marketing

**10:30 AM - 12:00 PM****NEW! ■ F85: Ensuring A Successful Product Launch****Getting More from Your People in a Hybrid or Remote Workforce**

Michele Nichols - Launch Team Inc.

**5 Steps to Ensuring Your Next B2B Manufacturing Product Launch Is Successful**

Dan Konstantinovskiy - RH Blake

**1:00 PM - 2:30 PM****NEW! ■ F86: Building an Inside (Outbound) Sales Team**

Ty Swain - Growth Dynamics

**3:30 PM - 5:00 PM****NEW! ■ F87: Client Engagement; Compete on Awesome****Taking the Temperature of Client Engagement**

Holly O'Donnell - Slone Solutions, LLC

**Compete on Awesome, Not on Price**  
Susan Frew - Raincatcher**WEDNESDAY, SEPTEMBER 15****8:00 AM - 9:30 AM****NEW! ■ F88: Creating an Inbound Marketing Action Plan for Manufacturers Who Are Prioritizing Online Lead Generation**

Holly McCully - protocol 80, Inc.

**10:30 AM - 12:00 PM****NEW! ■ F89: How Industrial and Manufacturing Companies Create Predictable Revenue Growth**

Todd Hockenberry - Camberley Consulting

*Marketing & Sales continued on next page ►*

## MARKETING &amp; SALES

1:00 PM – 5:00 PM

**NEW!** ■ **WS9: Essential Sales Strategies for Manufacturers in 2021 and Beyond! – Workshop**

**The State of Sales & Marketing in Manufacturing**

Michele Nichols - Launch Team Inc.

**Defining Top Performance in the “New Role” of Sales**

Ty Swain - Growth Dynamics

**The Dying Rep Model - Applying Measurable Processes to the Manufacturing Sales Function**

Anthony Colarusso - SALT Marketing

**Creating Short and Long-Term Plans for Sales Video for B2B Technical Buyers**

Robert Weiss - MultiVision Digital

**6 Keys to Online Lead Generation: How To Drive Demand**

Nicole Wagner - Stevens & Tate Marketing

## SMART MANUFACTURING

## MONDAY, SEPTEMBER 13

8:00 AM – 9:30 AM

**NEW!** ■ **F90: Meeting Changing Buyer Expectations Through Digital Transformation**

Jason Ray - Paperless Parts, Inc.

10:30 AM – 12:00 PM

**NEW!** ■ **F91: IIoT to Improve Manufacturing Process**

Casey Greer - Amada America

1:00 PM – 2:30 PM

**NEW!** ■ **F92: Digital Tools & Technology to Mitigate Project Risk**

Justin Goldston - Penn State University

3:30 PM – 5:00 PM

■ **F93: Leveraging AI in Industrial Manufacturing**

**Driving Zero-Downtime, Zero-Defect Manufacturing with Industrial AI**

Mo Abuali - IoTco, LLC

**AI for Good - Leveraging AI for Sustainable Practices in the Manufacturing Industry**

Justin Goldston - Penn State University

## TUESDAY, SEPTEMBER 14

8:00 AM – 9:30 AM

**NEW!** ■ **F94: Key Steps to Jump Start Your Smart Manufacturing Journey**

**The Roadmap to Jump-Start Your Smart Manufacturing Journey**

Will Healy III - Balluff Worldwide

**Five Key Steps for Ongoing Digital Transformation**

Paul Vragel - 4aBetterBusiness, Inc.

**No Job Shop is Safe: Avoiding the Top Cybersecurity Pitfalls**

Scott Sawyer - Paperless Parts

10:30 AM – 12:00 PM

**NEW!** ■ **F95: The Manufacturers Data-Driven Playbook**

Nathan McMurtrey - Eide Bailly

1:00 PM – 4:00 PM

**NEW!** ■ **WS10: Digital Transformation Models for Industry 4.0 Workshop**

David Lechleitner - Ultra Consultants

Jason Ray - Paperless Parts, Inc.

## WEDNESDAY, SEPTEMBER 15

8:00 AM – 5:00 PM

**NEW!** ■ **WS11: Smart Manufacturing Bootcamp**

Jonathan Kim - Amada America, Inc.

Jim Wenson - Sinto America, Inc.

Miguel Hernandez - Amada America, US

Mo Abuali - IoTco, LLC

David Lechleitner - Ultra Consultants

Eric Fogg - Machine Metrics

Will Healy III - Balluff Worldwide

Mehdi Bentanfous - KINEXON

Javier Ortiz - New Forge

Harold Gibbs - TeamViewer

Johan Mlouka - Flyability SA

Ben Harrington - suitX

## THURSDAY, SEPTEMBER 16

8:00 AM – 5:00 PM

**NEW!** ■ **F903: The Promise of Industry 4.0 & Lean Management**

**The Promise of Industry 4.0 - Hype or Reality?**

Fred Tillman - ECI Software Solutions

Duane Clement - Data Inventions

**Lean Manufacturing is as Relevant in Industry 4.0 as Ever!**

Michael Schlagenhauser - Acuity

10:30 AM – 12:00 PM

**NEW!** ■ **F904: Big Data to Analyze Manufacturing and Industrial Companies**

**How Venture Capitalists Are Using Big Data to Analyze Manufacturing and Industrial Companies**

Thomas Thurston - WR Hambrecht + Co

**Driving Change with Your Data; Use Cases, Best Practices, and the Goal of Implementing an Industry 4.0 Strategy**

Jim Wenson - Sinto America, Inc.

## STAMPING

## MONDAY, SEPTEMBER 13

8:00 AM – 9:30 AM

■ **S10: What's Holding You Back? How to Optimize Your Press Line**

Robert Meyer - Nidec Minster Corporation

10:30 AM – 12:00 PM

■ **S11: Understanding Servo Metal Stamping Presses, Proper Usage, Troubleshooting and Maintenance**

Jeffery Fredline - MECO

1:00 PM – 2:30 PM

**NEW!** ■ **S12: Heat Treating Fundamentals, Vacuum Heat Treating and Applications**

Tim Steber - Solar Atmospheres

3:30 PM – 5:00 PM

**NEW!** ■ **S13: 5 Steps to Creating Operational Excellence in the Press Shop**

Will Healy III and Jason Hughes - Balluff Worldwide

## TUESDAY, SEPTEMBER 14

8:00 AM – 9:30 AM

**NEW!** ■ **S14: Planning and Estimating Stamping Dies**

Jeff Bennett - Tool Planners, Inc.

10:30 AM – 12:00 PM

■ **S15: Processing Parts for Progressive Dies - Evaluating Strip Layouts**

Peter Ulintz - Precision Metalforming Association

1:00 PM – 2:30 PM

■ **S16: Processing Parts for Progressive Dies - Engineering Principles and Design Guidelines**

Peter Ulintz - Precision Metalforming Association

3:30 PM – 5:00 PM

■ **S17: Automatic In-Die Part Quality Monitoring & Tool Adjustments**

James Barrett III - Link Electric & Safety Control

## WEDNESDAY, SEPTEMBER 15

8:00 AM – 9:30 AM

■ **S18: Deep Drawing Cylindrical Shells: Tooling Principles and Design Guidelines**

Peter Ulintz - Precision Metalforming Association

10:30 AM – 12:00 PM

■ **S19: Deep Drawing Rectangular Box Shells: Tooling Principles and Design Guidelines**

Peter Ulintz - Precision Metalforming Association

1:00 PM – 2:30 PM

**NEW!** ■ **S101: Reducing Cost and Risk to Timing Associated with Tool Buy-Off**

Kidambi Kannan - AutoForm Engineering USA, Inc.

*Stamping continued on next page ►*

**STAMPING**

**3:30 PM – 5:00 PM**

**■ S102: Evaluating your Lubricants for Performance and Safety**

Bob Anderson - Tower Metalworking Fluids

**WORKFORCE DEVELOPMENT**

**MONDAY, SEPTEMBER 13**

**8:00 AM – 9:30 AM**

**NEW! ■ F110: Winning the Workplace Challenge: Getting Along and Getting Things Done**

Tanya Williamson - Married to the Ring LLC, D/B/A Tanya Williamson & Associates

**10:30 AM – 12:00 PM**

**NEW! ■ F111: Tutorial on How to Develop or Enhance Virtual Presentation & Internships**

**Curriculum Design in the World of COVID-19**  
Sebastian Ceron - CWB Association

**The Advanced Manufacturing Virtual Internship: A Gamechanger in Workforce Development**  
Allison Giddens - Win-Tech, Inc.

**1:00 PM – 2:30 PM**

**NEW! ■ F112: Three Key Areas That are Essential to Become a Better Leader**

Cullen Hackler - Porcelain Enamel Institute, Inc.

**3:30 PM – 5:00 PM**

**■ F113: Read (Hidden) Emotions - Know What Others are Thinking and Feeling**

Dan Seidman - Read Emotions

**TUESDAY, SEPTEMBER 14**

**8:00 AM – 9:30 AM**

**NEW! ■ F114: Blue-Collar Leadership® & Culture: The 5 Components for Building High Performance Teams**

Mack Story and Ria Story - Top Story Leadership/Blue-Collar Leadership

**10:30 AM – 12:00 PM**

**NEW! ■ F115: The Art of Assertive Communication**

M.J. Clark - Integrated Leadership Systems

**1:00 PM – 2:30 PM**

**■ F116: How to Attract and Keep the Right Talent**

**Engaging Younger Generations to Manufacturing**  
William LaRue - TFC Inc.

**How to Attract and Keep the Right Talent**  
Marion Wells - Human Asset Management  
Shelly Ottenbaker - WayPoint Marketing Communication

**3:30 PM – 5:00 PM**

**NEW! ■ F117: Give Your Employees C.R.A.P... The Success Formula for Building Employee Loyalty**

Jeff Kortess - Human Asset Management LLC

**WEDNESDAY, SEPTEMBER 15**

**8:00 AM – 12:30 PM**

**NEW! ■ WS12: Leadership Skills & Development Workshop**

**Good Leadership Is Key for Employee Retention**  
Lisa Ryan - Grategy

**Transforming Others Through Effective Coaching**  
M.J. Clark - Integrated Leadership Systems

**Delegation Strategies to Help You Be a More Effective Manager**  
Mark Ernst - Ernst Enterprises, LLC

**Teach These Four Leadership Skills to Unlock the Potential of Your People and the Power of Your Organization**  
Sharon McCollick - Strong Point Strategy, LLC

**Be the "One" Manager Your Employees Remember**  
Mark Ernst - Ernst Enterprises, LLC

**Leadership Competencies, the Key to Understanding Leadership Success**  
Joe Mazzeo - Integrated Lean and Quality Solutions LLC

**1:00 PM – 2:30 PM**

**NEW! ■ F210: Diversity, Equity, and Inclusion: Future-Proofing Your Workforce**

**Future-Proofing Your Workforce**  
Robert Tessier - Airgas, an Air Liquide Company

**Candid Conversations: Diversity, Equity, and Inclusion... "Are You Ready to Talk?"**  
Kevin Coleman - KMC EMPOWERMENT LLC

**3:30 PM – 5:00 PM**

**■ F211: Why You Can't Get Your People Motivated & What To Do About It**

C.W. DeBettignies - Gainsharing Inc.



**MONDAY, SEPTEMBER 13 - THURSDAY, SEPTEMBER 16**

**3D/ADDITIVE MANUFACTURING SHOWCASE**

3D/Additive Manufacturing has proven to be a formidable technology in manufacturing. This year, FABTECH will feature a presentation showcase in the 3D/Additive Manufacturing Pavilion to provide access to information on this fast-growing technology. The showcase, located in South Hall, features industry-leading companies sharing 20-minute presentations on the latest in the Additive Manufacturing community.



## EDUCATIONAL SESSIONS

**MONDAY, SEPTEMBER 13****1:00 PM - 5:00 PM****W1: HOW TO CREATE AND WRITE A QUALITY MANUAL FOR THE ATF PROGRAM**

One of the requirements of the ATF program is writing a quality manual for the implementation of the quality system in a welding shop. This conference will help you develop ideas for you to write the quality manual and provide you with tips on the process.

Emil Pagoaga - American Welding Society

**W2: OVERVIEW OF WELDING INSPECTION****1:00 PM - 2:00 PM****Overview of Visual Inspection and Nondestructive Testing**

An overview of surface and volumetric inspection methods used for welding inspection.

Scott Witkowski, Republic Testing Laboratories, LLC

**2:00 PM - 3:00 PM****The CWI Program and Endorsements**

What's new with the CWI certification and education programs, including new endorsements.

Richard Campbell, Bechtel

**3:00 PM - 4:00 PM****Various NDT Certification Programs**

An overview of various NDT programs, including ASNT SNT-TC-1A compared with CP-189, ISO, and ASME's ANDE program.

David Bajula, ACUREN

**4:00 PM - 5:00 PM****COVID 19: A Catalyst for Increased Adoption of Drones in Remote Visual Inspection**

Applications of drones (Unmanned Aerial Systems -UAS) and other remote visual inspection aids for welding inspection with

an overview of ASME Section V work to maintain continuity in alternate platforms of remote inspection.

Kimberley Hayes, Valkim Technologies, LLC

**TUESDAY, SEPTEMBER 14****W3: AWS/WELD-ED CONFERENCE - PROJECT BASED WELDING CURRICULUM****8:30 AM - 8:45 AM****Welcome / Introductions**

Monica Pfarr, Executive Director AWS Foundation, PI Weld-Ed

Rick Polanin - AWS VP, CoPI Weld-Ed, Professor ICC

**8:45 AM - 9:15 AM****Advantages of a Welding Project Based Curriculum**

Rick Polanin, AWS VP, CoPI Weld-Ed, Professor ICC

**9:15 AM - 10:00 AM****Yuba Community College Project Fabrication**

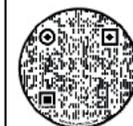
Dan Turner, Professor, Weber Yuba Community College

**10:00 AM - 10:15 AM - BREAK****10:15 AM - 11:00 AM****Plummer Lecture**

**Building the Next Generation of Welders**  
James N. Colton II, Assistant Professor of Welding at the Pennsylvania College of Technology

**11:00 AM - 11:45 AM****Lincoln Foundation Project Awards****11:45 AM - 12:30 PM****Lunch - Hypertherm Plasma Cutting for Student Projects***Welding continued on page 34 ►*A MASTERPIECE OF  
ARTIFICIAL INTELLIGENCEVisit us at  
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A2923ADVANCED  
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**MITSUBISHI LASER**

## EDUCATIONAL SESSIONS

**12:30 PM – 1:15 PM****Miller Electric Projects****1:15 PM – 2:00 PM****AWS Poster Competition Used as a Student Project****2:00 PM – 2:45 PM****Innovations in Project Based Teaching**

Attending Instructors Discussion

**2:45 PM – 3:30 PM****AWS Foundation Scholarship Opportunities**

Monica Pfarr, Executive Director AWS Foundation

**3:30 PM – 4:00 PM****Wrap-Up, Evaluations****W4: ALUMINUM WELDING**

This session will address some of the more important differences between the welding of aluminum and steel.

**8:00 AM – 9:00 AM****Part 1: An Overview of Aluminum Welding**

Tony Anderson, ITW Welding North America

**9:00 AM – 10:00 AM****Part 2: Basic Aluminum Metallurgy**

Carson Williams, Hobart Aluminum

**10:00 AM – 11:00 AM****Part 3: Filler Metal Selection for Aluminum Welding**

Galen White, Hobart Aluminum

**W5: ADVANCED NDT METHODS AND YOUR FUTURE AS A CWI****8:00 AM – 9:00 AM****Computed and Digital Radiography**

Computed (CR) and Digital Radiography (DR) compared with film radiographic testing (RT).

David Bajula, Acuren

**9:00 AM – 10:00 AM****Advanced Ultrasonic Testing**

Use of phased array ultrasonic testing (PAUT), time of flight diffraction (TOFD), other automation of UT

Chris Goocher, ProSpec NDE

**10:00 AM – 11:00 AM****What's Next in Your Career as a CWI?**

Question and answer session with presenters who are CWIs. Discuss questions such as if you are a Welder, what is there for you if you become a CWI; and if you are already a CWI, what can you do with that, such as become a SCWI, supervise other NDT personnel, other options.

Richard Campbell, Bechtel

**1:00 PM – 5:00 PM****W6: METALLURGY (INTERMEDIATE)**

Intermediate metallurgy provides a fundamental introduction to metallurgical concepts of crystal structure, alloy strengthening, diffusion, dislocations, and phase diagrams. We will build upon these concepts by exploring their kinetic effects on carbon steels, through time-temperature-transformation diagrams, microstructure, and material properties.

Ben Pletcher, Bechtel

**WEDNESDAY, SEPTEMBER 15****W7: ADDITIVE/ASME****8:00 AM – 9:00 AM****Research Works to Support Development of Section IX Rules for GMAW-AM**

Teresa Melfi, The Lincoln Electric Company

**9:00 AM – 10:00 AM****Development of an ASME Section VIII Code Case for Using Titanium for Pressure Boundary Parts Using Electron Beam Direct Energy Deposition Wire Fed Additive Manufacturing Process**

John O'Hara (Sciaky)

Benjamin Sprengard (Enerfab)

**10:00 AM – 11:00 AM****Robotic Arc DED AM for Components and Emerging Qualification Schemes**

Dennis Harwig, EWI/OSU

**1:00 PM – 5:00 PM****W8: METALLURGY (ADVANCE)**

Advanced Metallurgy builds upon the intermediate course by exploring gas and liquid metal reactions during welding, changes within the heat affected zone, and kinetic correlations between welding heat input and structural changes. We will explore stainless steel alloys through elemental additions, how to use Schaeffler/WRC diagrams for dissimilar metal welding, and how microstructural stability affects corrosion properties. We will wrap up with a brief overview of the other alloys families and how metallurgy affects their weldability.

Ben Pletcher, Bechtel

**THURSDAY, SEPTEMBER 16****8:00 AM – 11:00 AM****W9: WELD CRACKING**

This track will explore why welds crack, where they crack, the importance of preheat and joint geometry, use of undermatching filler metals to avoid cracking and challenges introduced by dissimilar welds. Various examples and actual case histories will be used to illustrate these factors.

William F. Newell, Euroweld, LTD

**W10: ASME CODES AND STANDARDS UPDATE****8:00 AM – 9:00 AM****What's New in the 2021 Edition of ASME Section IX**

Walter Sperko, Sperko Engineering Services, Inc.

Lynn Sturgill, Sturgill Welding &amp; Code Consulting

**9:00 AM – 10:00 AM****Qualifying GMAW Additive Manufacturing to ASME Section IX**

Teresa Melfi, The Lincoln Electric Company

**10:00 AM – 11:00 AM****What's New in the 2021 Edition of ASME Section VIII**

Tom Pastor, The Hartford Steam Boiler Inspection &amp; Insurance Company

Welding continued on next page ►

## AWS SOCIETY EVENTS

**MONDAY, SEPTEMBER 13****7:00 AM – 8:30 AM****AWS PRAYER EVENT**

This year's speaker at the AWS Prayer Event will be Mr. Rob Purvis. Currently, he is the AWS Director, for District 22, in Northern California, and is extremely proud of his almost 34 years of membership.

**8:30 AM – 10:00 AM****AWS OPENING SESSION / ANNUAL BUSINESS MEETING**

During the AWS Opening Session and the 102 Annual Business Meeting, 2021 AWS President Robert W. Roth, will give the Presidential Report and Dr. W. Richard Polanin will be inducted as the AWS President for 2022. Following the induction, the 2021 Class of AWS Counselors, Fellows and the CWI Lifetime Achievement Award winner will be introduced. This meeting is open to AWS members and show registrants at limited capacity.

**10:30 AM – 11:30 AM****COMFORT A. ADAMS LECTURE**

The Comfort A. Adams lecture this year is titled "Applying Solidification Theory to Aluminum Weldability and Consumable Development" by Dr. Carl E. Cross. Dr. Cross has worked for 45 years in weld development and research in industry, academia, and national laboratories. Specializing in Aluminum arc weldability, he has published extensively on weldability testing, grain refinement, and solidification cracking. At Martin Marietta he was on the ground floor for developing high strength welds for the Space Shuttle. Many years in the nuclear weapons industry at Rocky Flats and Los Alamos gave him experience in developing challenging dissimilar metal welds.

**6:30 PM – 8:30 PM****AWS OPENING RECEPTION**

On behalf of the AWS president and first lady, we invite you to attend the AWS Opening Reception. This reception is the official kick off to FABTECH 2021 for AWS members. Attendees will have the opportunity to hear from our current 2021 President, Robert W. Roth, President Elect Dr. W. Richard Polanin, and Executive Director & CEO Gary W. Konarska II.

**TUESDAY, SEPTEMBER 14****10:30 AM – 12:00 PM****AWS NATIONAL AWARDS CEREMONY**

As the Society and the Industry it serves have grown, so has the need to recognize outstanding scientists, engineers, welders, educators, and researchers. This Award Ceremony will serve to celebrate their incredible accomplishments. This is an invitation only event.

**2:30 PM – 3:30 PM****AWS NATIONAL NOMINATING COMMITTEE – OPEN MEETING**

AWS members are requested to submit their recommendations for national officers to serve during 2023. Nominations must be accompanied by 20 copies of biographical material on each candidate, including a written statement by the candidate as to his/her willingness and ability to serve if nominated and elected.

**WEDNESDAY, SEPTEMBER 15****12:00 PM – 2:00 PM****AWS RHENDA M. KENNY SECTION APPRECIATION AND MEMBER MILESTONE RECOGNITION EVENT**

Held each year to coincide with FABTECH, the **AWS Rhenda M. Kenny Section Appreciation and Member Milestone Recognition Event** unites leaders from across the American Welding Society to celebrate the dedication and service of long-time members and outstanding volunteers, including AWS Section and Student Chapter Officers. Those in attendance are greeted by the current AWS President, Past AWS Presidents, Members of the Board of Directors, AWS Executive Director & CEO, and AWS Staff. AWS members who have achieved a milestone of membership – 25 years (Silver), 35 years (Life), or 50 years (Gold) – that year are welcomed to the stage to be formally recognized for their achievement. To round out the celebration and inspire further action, the AWS Foundation recognizes Sections who have established a new Section-named scholarship during the previous year.

**1:00 PM – 3:00 PM****AWS 17<sup>TH</sup> EXCELLENCE IN WELDING AWARDS CEREMONY**

The best and brightest stars in the welding industry will be honored for their outstanding industry achievements at the 15th Annual Excellence in Welding Awards. Presented by the AWS and WEMCO, a standing committee of AWS, the Excellence in Welding Awards are the industry's top honors saluting the year's most outstanding public initiatives and programs that promote the image of welding. By invitation only.

**MONDAY, SEPTEMBER 13 – THURSDAY, SEPTEMBER 16****CAREERS IN WELDING MOBILE EXHIBIT**

*Open during show hours*

The American Welding Society Foundation's Careers in Welding Mobile Exhibit, sponsored by Lincoln Electric, is a 53-foot expandable trailer that visits major events across the country, providing individuals with a unique, hands-on virtual reality welding experience, as well as a host of information about career opportunities in the welding field. Visitors can check out "Metal Maiden", a metal-art sculpture in the likeness of the Statue of Liberty, created by Stephanie Hoffman and Barbie the Welder. Events are being planned throughout the week with some of the biggest names in the welding industry.

Visit [careersinwelding.com/fabtech2021](https://careersinwelding.com/fabtech2021) for the most up-to-date details and schedule.



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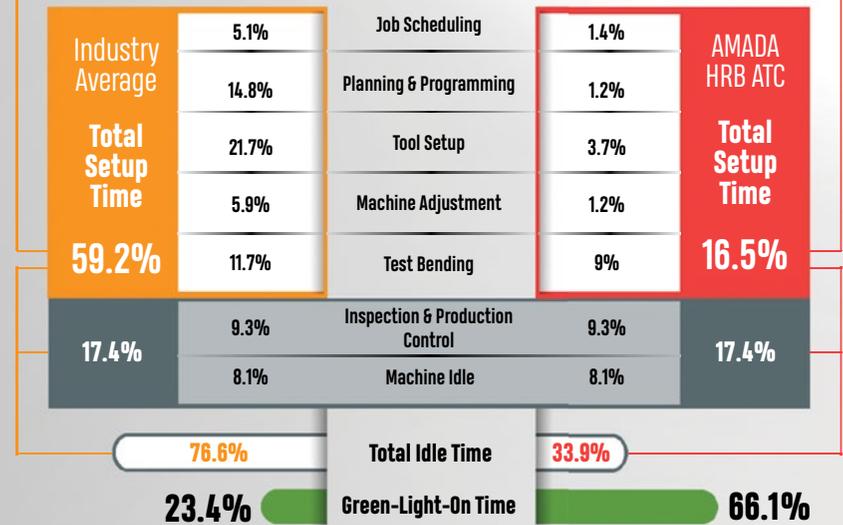
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