

**Registration Hours**

Monday, May 8 7:00 AM - 4:30 PM  
 Tuesday, May 9 7:00 AM - 5:00 PM  
 Wednesday, May 10 7:00 AM - 5:00 PM  
 Thursday, May 11 7:00 AM - 1:00 PM

**Exhibit Hours**




Tuesday, May 9 10:00 AM - 6:00 PM  
 Wednesday, May 10 10:00 AM - 6:00 PM  
 Thursday, May 11 10:00 AM - 2:00 PM







May 8 - 11, 2017 | David L. Lawrence Convention Center | Pittsburgh, Pennsylvania USA





Monday, May 8						
7:00 AM - 4:30 PM	Registration					
<b>8:00 AM - Noon</b> Facility Tours  All morning programming runs concurrently <i>Choose Only One</i>  <b>8:00 AM - 1:00 PM</b> Workshops and Review Course	Facility Tour <b>Arconic (Alcoa)</b>	Facility Tour <b>ExOne</b>				
	<b>Casting Processes and Materials</b> Thomas A. Sorovetz FIAT Chrysler Automobiles and Zayna Connor PhD American Foundry Society	<b>Bioprinting Fundamentals</b> Roger Narayan, UNC/NCSU Joint Department of Biomedical Engineering Phil Campbell, Carnegie Mellon University Prashant Kurta, University of Pittsburgh Adam Feinberg, Carnegie Mellon University Ken Church, nScript	<b>Realizing Value with Additive Manufacturing</b> Mark Cotteleer Jim Joyce Kelly Marchese Brenna Sniderman Mark Vitale Deloitte LLP	<b>Regulatory &amp; Quality System Considerations for 3D Printed Medical Devices</b> Matthew DiPrima, Food & Drug Administration Kim Torluecke, 3D Systems Janelle Schrot & Jenny Jones, Materialise Beatrice Ogembo, American Preclinical Services Gilbert Cortes, Johnson & Johnson	<b>3D Printing in Hospitals: What You Need to Know</b> Jonathan Morris MD, Mayo Clinic Jane Matsumoto MD, Mayo Clinic Andy Christensen, eNable Amy Alexander, Mayo Clinic Nicole Wake, New York University Adam Jakus, Northwestern University	
	<b>Fundamentals of Additive Manufacturing</b> Graham Tromans GP Tromans Associates	<b>Fundamentals of 3D Scanning and 3D Modeling</b> Giles Gaskell Wenzel America Ltd	<b>Metal Part Fabrication Using Additive Manufacturing Technologies</b> Frank Medina PhD, EWI	<b>Additive Manufacturing with Metals &amp; Its Impact on Plastic Injection Molding</b> Dave Moore, Linear AMS & DME	<b>Additive Manufacturing Certification Review Course</b>	
<b>Kickoff</b> 1:30 PM - 5:00 PM	<b>SME Additive Manufacturing Community Awards</b> Dick Aubin Distinguished Paper Award Direct Digital Competition Award Industry Achievement Award	<b>State of America Makes</b> Rob Gorham, Director of Operations	<b>KEYNOTE</b> <b>Networked Matter and the Nature of Things</b> Mikey McManus Chairman, MAYA and Research Fellow Office of CTO/Future of Learning Autodesk		<b>What's New: Roundup of the Latest 3D Printing and 3D Scanning Products</b> Todd Grimm President T.A.Grimm & Associates Inc	<b>PANEL</b> <b>Transformation of Manufacturing</b> Vyomesh Joshi, President & Chief Executive Officer, 3D Systems; Stephen Nigro, President-3D Printing, HP; Greg Morris, Additive Technologies Leader, GE Aviation; Fried Van Craen, Founder & CEO, Materialise

**Tuesday, May 9 - morning**

7:00 AM - 5:00 PM	Registration								
8:00 AM - 9:45 AM	<b>PANEL</b> <b>New Frontiers in Metal 3D Printing</b> Ric Fulop, CEO, Desktop Metal Kyle Nel, Founder & Executive Director, Lowe's Innovation Labs, Lowe's Companies Inc Don Jones, Director, Global Aftermarket Parts Strategy and Transformation, Caterpillar Inc				<b>KEYNOTE</b> <b>Brilliant Factory: A New Era of Manufacturing</b> Phillippe Cochet, Executive Vice President, GE				
9:00 AM - 2:00 PM	Student Summit								
10:00 AM - 6:00 PM	Show Open								
10:00 AM - 5:00 PM	3D Playground Activities			America Makes ACADEMI ADX		ToolingU-SME Manufacturing Challenge			
<b>Concurrent AM Sessions</b> 10:15 AM - 12:15 PM	<b>3D Imaging / Scanning: CT Scanning</b>	<b>Digital Thread &amp; Standards Power Up</b>	<b>Post Processing I</b>	<b>Casting I</b> 	<b>Applications</b> 	<b>Materials I</b>	<b>Business &amp; Economic Considerations - Execution I</b>	<b>MMI: Clinical Applications I</b> 	<b>Show Floor Theater</b>
	10:15 AM - 10:40 AM <b>Dynamic Industrial CT: Its Benefits Within Manufacturing and Inspection (Intermediate)</b> Alex Doukas Kinetic Vision	10:15 AM - 10:25 AM <b>Additive Manufacturing Standards Development Roadmap (Intermediate)</b> Lauralyn McDaniel, SME and Jim Williams, All Points Additive  10:30 AM - 10:40 AM <b>Framework for Developing Additive Manufacturing Standards (Expert)</b> Mohsen Seifi PhD ASTM International	10:15 AM - 10:40 AM <b>3D Printing: The Impact of Post-processing (Novice)</b> Frank Marangell Rize Inc	10:15 AM - 11:40 AM <b>MetalCasting Seminar - Integrating Design Efficiency with Additive Manufacturing to Improve Time to Market (Novice)</b> Thomas A. Sorovetz FIAT Chrysler Automobiles and Zayna Connor PhD American Foundry Society	10:15 AM - 10:40 AM <b>SLM-Optimization of Aero-Engine Components: SLM Bleed Valve (Intermediate)</b> Scott P. Lathrope Meggitt Control Systems	10:15 AM - 10:40 AM <b>The Value of Traditional Manufacturing Materials in the Age of Digital Fabrication (Intermediate)</b> Graham Bredemeyer Collider	10:15 AM - 10:40 AM <b>A 73 Year-Old Machine Shop's Journey into Metal Additive Manufacturing (Novice)</b> Wesley J. Hart & Christian G. Joest Imperial Machine & Tool Co	10:15 AM - 10:25 AM <b>Low Cost and Equipment Methods to Create Flexible Anatomical Models (Novice)</b> Joseph P. Higgins Cardiovascular Systems Inc  10:25 AM - 10:45 AM <b>Development of Low Cost Hand Prostheses with Additive Manufacturing (Expert)</b> Jorge Lino Alves PhD & Daniel Sousa Ferreira University of Porto / Faculty of Engineering	10:30 AM - 11:30 AM <b>Tech Briefing: Fundamentals of 3D Scanning</b>  11:30 AM - 12:30 PM <b>Why TECH-BELT? America Makes and the Youngstown Business Incubator are presenting a series of short presentations from various regional Additive Manufacturing organizations. Each presenter will focus on "Why the Cleveland to Pittsburgh TECH-BELT Corridor is the nation's hub for 3D Printing and Additive Manufacturing". A panel discussion will follow to allow for questions.</b>
	10:45 AM - 11:10 AM <b>New Advances in Computed Tomography Helping Accelerate Development &amp; Quality of Additive Manufacturing Products &amp; Processes (Intermediate)</b> Brett A. Muehlhauser North Star Imaging	10:45 AM - 10:55 AM <b>American Welding Society D20 Committee Development of a Metal Additive Manufacturing Standard (Intermediate)</b> Jessica Coughlin Naval Nuclear Laboratory  11:00 AM - 11:10 AM <b>An Open Material Database for Additive Manufacturing (Novice)</b> Yan Lu & Paul Witherell PhD National Institute of Standards and Technology	10:45 AM - 11:10 AM <b>Post-processing - The Untold Story Regarding Industrial Resin Based 3D Printing (Novice)</b> Edward T. Graham ProtoCAM	10:45 AM - 11:10 AM <b>Effect of 3D Printing Process Parameters on Electrical &amp; Mechanical Properties of Nylon/PEEK-CNT Composite (Intermediate)</b> Yan Shao PhD Eaton	10:45 AM - 11:10 AM <b>Direct Digital Manufacturing of Flight Hardware for Unmanned Aircraft Systems (Intermediate)</b> Shayne A. Kondor & Warren Lee Georgia Tech Research Institute	10:45 AM - 11:10 AM <b>Additive Manufacturing - From Fiction to Factory (Novice)</b> John Dulchinos Jabir	10:45 AM - 10:55 AM <b>Additive Manufacturing of Silicone Prosthetic Implants with Heterogeneous Properties (Intermediate)</b> Farzad Liravi & Ehsan Toyserkani PhD PEng University of Waterloo  10:55 AM - 11:05 AM <b>Development of a Custom Ankle-Foot Orthosis (Novice)</b> Arif Sirinterlikci PhD & April Krivoniak Robert Morris University	12:30 PM - 1:30 PM <b>Innovation Auditions</b>	
	11:15 AM - 11:40 AM <b>High Resolution to High Volume: Keys to Controlling Industrial Processes (Intermediate)</b> Leah L. Lavery PhD & Luke Hunter Carl Zeiss X-ray Microscopy Inc	11:15 AM - 11:25 AM <b>Cybersecurity Risks in Additive Manufacturing (Intermediate)</b> Kelly K. Marchese Deloitte Consulting and Gregg Schmittletter Deloitte & Touche LLP  11:30 AM - 11:40 AM <b>A Copyright Protection Technology for 3D Printing Models (Novice)</b> John Choi PhD MarkAny	11:15 AM - 11:40 AM <b>Surface Finishing for Metal Additive Manufacturing: An Applied Overview (Intermediate)</b> Spencer Wright nTopology Inc	11:15 AM - 11:40 AM <b>3D Scanning/Printing for the Automotive Restoration and Customization Industry (Novice)</b> Paul A. Vorbach & William R. Vorbach HV3Dworks LLC	11:15 AM - 11:40 AM <b>From Desktop 3D Printing to Large Area Additive Manufacturing - The Challenges of Polymer Development (Intermediate)</b> Kevin Cable PhD & Ed Ferber Eastman Chemical Company	11:15 AM - 11:40 AM <b>Adaptive Manufacturing with Universal Metrology Automation (Intermediate)</b> Paul M. Oberle 3D Infotech	11:05 AM - 11:15 AM <b>Simulation of Coronary Atrial Intervention Challenges, Learnings, and Final Methods (Intermediate)</b> Joseph P. Higgins Cardiovascular Systems Inc  11:15 AM - 11:40 AM <b>Using 3D Printing (Additive Manufacturing) to Produce Low Cost Simulation Models for Medical Training (Novice)</b> Peter C. Liacouras PhD Walter Reed National Military Medical Center, Department of Radiology	1:30 PM - 2:30 PM <b>ITEAM Launch</b>	
	11:45 AM - 12:10 PM <b>Assessing the Internal Features of Additive Manufactured Parts (Expert)</b> Herminio Villarraga-Gómez Nikon Metrology Inc	11:45 AM - 11:55 AM <b>The Intersection of 3D Printing and Intellectual Property (Novice)</b> Christopher Higgins & Vann Pearce Orrick Herrington & Sutcliffe LLP  Noon - 12:10 PM <b>Covert Fingerprints for Intellectual Property Protection of Metal 3D Printing (Novice)</b> Sharon Flank PhD InfraTrac	11:45 AM - 12:10 PM <b>Integration of PAAW and Digital Workholding for Post-processing Additive Manufactured Parts (Expert)</b> Chip Potter Advanced Simulation Technology Inc and Edward C. De Meter PhD Pennsylvania State University	11:45 AM - 12:10 PM <b>Beyond Prototyping: The Future of Printed Patterns in Investment Casting (Novice)</b> Thomas J. Mueller Mueller AMS	11:45 AM - 12:10 PM <b>Development of Additive Manufactured Production Parts at Caterpillar (Intermediate)</b> Paul A. Zwart Caterpillar Inc	11:45 AM - 12:10 PM <b>The Impact of 3D Printing on Part Performance (Intermediate)</b> Thomas Fabian PhD & Melissa Albrecht UL	11:45 AM - 12:10 PM <b>Improving Industrial 3D Printing with MRP Integration, Big-O Analysis, and Generative Geometry (Intermediate)</b> Michael Crockett PE HP	11:45 AM - 12:10 PM <b>Potential Best Use Cases for 3D Printing for Cardiothoracic Surgery (Intermediate)</b> Justin Ryan PhD Phoenix Children's Hospital	
10:30 AM - 11:30 AM	Attendee Show Floor Tour								
12:15 PM - 2:15 PM	Lunch on Exhibit Floor								



**Tuesday, May 9 - afternoon**

Attendee Show Floor Tour: Metal Additive Manufacturing									
2:00 PM - 3:00 PM	3D Imaging / Scanning: Surface Scanning	Direct Write Printed Materials / Electronics	Post Processing II	Casting II	Design Considerations	Material Properties I	Additive Manufacturing Standardization Forum	MMI: Clinical Applications II	Show Floor Theater
<p><b>Concurrent PM Sessions</b> 2:15 PM - 4:15 PM</p>	  								
	<p>2:15 PM-2:40 PM <b>Longer Range Point Cloud Scanning and 3D Printers Used in the Production and Sale of Large Mining Haul Truck Components (Intermediate)</b> LeRoy G. Hagenbuch PE Philippi-Hagenbuch Inc</p>	<p>2:15 PM - 2:40 PM <b>Fabrication of Multifunctional 3D Printed Devices via a Multitechnology Hybrid Printer (Intermediate)</b> David Espalin, W.M. Keck Center for 3D Innovation / UTEP</p>	<p>2:15 PM - 2:40 PM <b>Multiscale Post-processing of Metal Additive Manufactured Parts by Electro-polishing Technology (Intermediate)</b> Lucas Hof &amp; Rolf Wutrich PhD Concordia University</p>	<p>2:15 PM - 2:40 PM <b>3D Printing - The Pattern Makers Friend (Novice)</b> Steven R. Murray Hoosier Pattern Inc</p>	<p>2:15 PM - 2:40 PM <b>A Computer-Aided Design System for Additive Manufacturing (Intermediate)</b> David W. Rosen PhD Georgia Institute of Technology and Suraj Musuvathy PhD Siemens Corporate Technology</p>	<p>2:15 PM - 2:40 PM <b>Metallographic Characterization Techniques for Additive Manufacturing Powders and Parts (Novice)</b> Thomas F. Murphy &amp; Christopher T. Schade PhD Hoeganaes Specialty Metal Powders LLC</p>	<p>2:00 PM – 5:00 PM <b>Additive Manufacturing Standardization Forum: Accelerating Standards &amp; Specs Development</b></p> <p>Welcome Debbie Holton, SME &amp; Ed Morris, America Makes</p> <p><b>Additive Manufacturing Standards Collaborative Overview:</b> Jim McCabe, ANSI</p> <p><b>Panel 1:</b> Moderated by Jim Williams, All Points Additive and AMSC Chair</p> <p>Pat Picariello, ASTM Int; Jennifer Herron, Action Engineering, Chair of the ASME Y14 Subcommittee; Laura Feix, SAE International</p> <p><b>Panel 2:</b> Moderated by Lauralyn McDaniel, SME and AMSC Vice Chair</p> <p>Annette Alonso, AWS; Allan Noordvyk, McKesson Imaging, MITA, DICOME WG-17 Co-chair; Joe Lewelling, AAMI; Paul Tykodi, Tykodi Consulting, IEEE-ISTO Printer Working Group</p> <p>Individual meetings with Standards Development Organizations</p>	<p>2:15 PM - 2:40 PM <b>Retro Engineering the Feyh-Kastenbauer Retractor System for Transoral Robotic Surgery Using Surface Scanning &amp; 3D Printing (Intermediate)</b> Jonathan Morris MD Mayo Clinic</p>	<p>2:30 PM – 3:30 PM <b>Tech Briefing: Fundamentals of Additive Manufacturing</b></p>
	<p>2:45 PM-3:10 PM <b>Techniques and Methods for 3D Scanning Internal Geometry with Replicating Rubber (Novice)</b> Steven B. Lelinski Advanced Simulation Technology Inc</p>	<p>2:45 PM - 3:10 PM <b>3D Printing of Soft Electronics &amp; Functional Microfluidics via Liquid Metal Direct-Writing (Intermediate)</b> Dishit P. Parekh North Carolina State University</p>	<p>2:45 PM - 3:10 PM <b>CoolPulse Technology for Finishing of 3D Printed Parts (Intermediate)</b> Patrick Matt Extrude Hone</p>	<p>2:45 PM - 3:10 PM <b>Ceramic Additive Manufacturing for Complex Precision Castings (Intermediate)</b> Dan Z. Sokol Renaissance Services Inc and Ben Rampulla PCC Structurals</p>	<p>2:45 PM - 3:10 PM <b>An Additive Design Revolution (Expert)</b> Ted D. Blacker PhD Sandia National Laboratories</p>	<p>2:45 PM - 3:10 PM <b>Z-axis Anisotropy Study of Additively Manufactured Components (Expert)</b> Ravi Kunju solidThinking Inc</p>	<p>2:45 PM - 3:10 PM <b>Additive Manufacturing Standards Collaborative Overview:</b> Jim McCabe, ANSI</p> <p><b>Panel 1:</b> Moderated by Jim Williams, All Points Additive and AMSC Chair</p> <p>Pat Picariello, ASTM Int; Jennifer Herron, Action Engineering, Chair of the ASME Y14 Subcommittee; Laura Feix, SAE International</p> <p><b>Panel 2:</b> Moderated by Lauralyn McDaniel, SME and AMSC Vice Chair</p> <p>Annette Alonso, AWS; Allan Noordvyk, McKesson Imaging, MITA, DICOME WG-17 Co-chair; Joe Lewelling, AAMI; Paul Tykodi, Tykodi Consulting, IEEE-ISTO Printer Working Group</p> <p>Individual meetings with Standards Development Organizations</p>	<p>2:45 PM - 2:55 PM <b>3D Printed Wear Model to Simulate Tissue Ablation: Equipment, Materials, Technologies, and Tools Used by Interventionalists (Intermediate)</b> Jacob Draxler &amp; Joseph P. Higgins Cardiovascular Systems Inc</p>	<p>3:30 PM – 5:00 PM <b>Technology LaunchPad</b></p>
	<p>3:15 PM-3:40 PM <b>Development of Industry Method and Artifacts for Validating Accuracy and Repeatability of Non-contact Inspection Systems (Intermediate)</b> Thomas W. Scotton Digital Manufacturing Services LLC and Thomas Maloney PhD Connecticut Center for Advanced Technology, Inc</p>	<p>3:15 PM - 3:40 PM <b>3D Printed Devices Employing Sculpted Dielectrics (Advanced)</b> Raymond C. Rumpf PhD University of Texas at El Paso</p>	<p>3:15 PM - 3:40 PM <b>Surface Finish Control of Additive Manufactured-Inconel 625 Components Using Combined Chemical-abrasive Polishing (Intermediate)</b> Neda Mohammadian Polytechnique de Montreal and Sylvain Turenne PhD Ecole Polytechnique de Montreal</p>	<p>3:15 PM - 3:40 PM <b>Multifunctional Composite Lattice Structures by Embedding in 3D Printed Sand Molds (Intermediate)</b> Christopher Williams PhD &amp; Alan Druschitz Virginia Tech</p>	<p>3:15 PM - 3:40 PM <b>A Topology Optimization Paradigm for Additive Manufacturing (Intermediate)</b> Ahmad Barati PhD PEng &amp; Amirali Lalehpour University of Ontario Institute of Technology</p>	<p>3:15 PM - 3:40 PM <b>Fracture Mechanics of Additively Manufactured Plastic Parts (Intermediate)</b> Devendra Bajaj PhD &amp; Peter Johnson PhD SABIC</p>	<p>2:55 PM - 3:15 PM <b>Single Institution Experience in 3D Modeling of Congenital Heart Defects (Novice)</b> Robert Wesley Nicklaus Children's Hospital</p>		
	<p>3:45 PM-4:10 PM <b>3D Scanning Accuracy vs Resolution: Why it Matters and What it Means (Intermediate)</b> Mike Formica threeRivers 3D</p>	<p>3:45 PM - 4:10 PM <b>Powdered Metals - What to Expect When You Build Metal Additively (Intermediate)</b> Himanshu Sahasrabudhe PhD Optomec Inc</p>	<p>3:45 PM - 4:10 PM <b>Improving Mechanical Performance of Additive Manufactured Components by Chemical Accelerated Vibratory Finishing (Intermediate)</b> Agustin Diaz PhD REM Surface Engineering</p>	<p>3:45 PM - 4:10 PM <b>Prototype Castings, Shorter Lead Times for Less Money (Intermediate)</b> David W. Rittmeyer Hoosier Pattern Inc</p>	<p>3:45 PM - 4:10 PM <b>Hollow Metal Additive Manufacturing versus Conformal Cooling (Intermediate)</b> Scott Kraemer PTI Engineered Plastics</p>	<p>3:45 PM - 4:10 PM <b>Fatigue Life Prediction for AISI10Mg Parts Produced by Selective Laser Melting (Intermediate)</b> Ming Tang &amp; Petrus Pistorius PhD Carnegie Mellon University</p>	<p>3:15 PM - 3:40 PM <b>Creation of Functional Finger Prostheses Combining 3D Printing with Traditional Materials (Intermediate)</b> Irene R. Healey New Attitude Prosthetic Designs Inc</p>		
<p>3:45 PM - 4:10 PM <b>Separating Conjoined Twins: Applying Virtual Surgical Planning and 3D Printing (Intermediate)</b> Hayeem L. Rudy Albert Einstein College of Medicine and Katie Weimer 3D Systems - Healthcare</p>									
6:00 PM - 8:00 PM	Welcome Event: Heinz Field								

7:00 AM - 5:00 PM	Registration									
8:00 AM - 9:45 AM	<p><b>KEYNOTE</b>  <b>New Materials for 3D Printing in Medicine: What's Next is Closer than You Think</b>                  Ramille Shah PhD, Assistant Professor, Materials Science and Engineering, Assistant Professor, Surgery (Transplant Division), Northwestern University                  Sue Jordan MD PhD, Chief Resident-Plastic and Reconstructive Surgery, Northwestern Memorial Hospital</p>		<p><b>PANEL</b>  <b>Medical 3D Printing Applications-Growth Beyond Surgical Guides</b>                  Ramille Shah PhD, Assistant Professor, Materials Science and Engineering, Assistant Professor, Surgery (Transplant Division), Northwestern University                  Carlos Carvalho, Process &amp; Materials Development, EnvisionTEC                  William Wagner, Director, McGowan Institute for Regenerative Medicine, Professor of Surgery, Bioengineering and Chemical Engineering, University of Pittsburgh                  Fried Van Craen, Founder &amp; CEO, Materialise</p>							<p>sponsored by:</p> 
9:00 AM - 2:00 PM	Student Summit									
10:00 AM - 5:00 PM	3D Playground Activities									
<p><b>Concurrent AM Sessions</b>                  10:15 AM - 12:15 PM</p>	<p><b>Academic Research I</b></p>	<p><b>Applications Power Up</b></p> 	<p><b>Building Regional Leadership in Additive Manufacturing I</b></p>	<p><b>Process Monitoring, Control, and Qualification</b></p>	<p><b>DoD Additive Manufacturing Research &amp; Applications I</b></p>	<p><b>Material Properties II</b></p> 	<p><b>Business &amp; Economic Considerations - Execution II</b></p>	<p><b>MMI: Biomaterials</b></p> 	<p><b>Show Floor Theater</b></p>	
	<p>10:15 AM - 10:40 AM  <b>Combinatorial Assessment of High Entropy Alloys: Microstructure, Microhardness, and Magnetic Properties (Expert)</b>                  Tushar Borkar PhD                  Cleveland State University and Rajarshi Banerjee PhD                  University of North Texas</p>	<p>10:15 AM - 10:25 AM  <b>Developing Teaching Aids for Blind Computer Science and Information Systems Students (Novice)</b>                  Arif Srinterlicki PhD                  Robert Morris University</p> <p>10:30 AM - 10:40 AM  <b>3D Printed Tooling and Fixtures for Assembly Operators with Disabilities (Novice)</b>                  George R. Allman                  Liberty Electronics Inc</p>	<p>10:15 AM - 10:40 AM  <b>Additive Manufacturing's Role in the TechBelt Region's Renewed Growth (Intermediate)</b>                  Ralph Resnick                  America Makes and Petra Mitchell                  Catalyst Connection</p>	<p>10:15 AM - 10:40 AM  <b>The Next Level of Additive Manufacturing Inspection and Control (Intermediate)</b>                  Dieter Ghybsbrecht                  Materialise</p>	<p>10:15 AM - 10:40 AM  <b>Integrated Printed Electronics and Additive Manufacturing Solutions for the US Army (Intermediate)</b>                  James L. Zunino                  US Army ARDEC</p>	<p>10:15 AM - 10:40 AM  <b>Optimizing TIAI EBM Parameters for Aerospace Components (Intermediate)</b>                  Francisco Medina PhD, EWI and Andrew Heidloff PhD                  Praxair Surface Technologies Inc</p>	<p>10:15 AM - 10:40 AM  <b>Utilizing Additive Manufacturing in Sustainment of Fielded Systems (Novice)</b>                  Frederick J. Herman                  SHEPRA Inc and Jason Ray                  JTR and Associates</p>	<p>10:15 AM - 10:40 AM  <b>Drug-eluting Polymeric Additive Manufacturing for Applications in Orthopaedics (Intermediate)</b>                  Martin J. Petrak PEng                  Precision ADM / Orthopaedic Innovation Centre and Trevor C. Gascoyne PEng                  Orthopaedic Innovation Centre</p>	<p>10:30 AM - 11:30 AM  <b>Tech Briefing: Fundamentals of Additive Manufacturing</b></p> <p>11:30am - 12:30pm  <b>Additive Manufacturing: Where To Next?</b>                  Moderator:                  Professor Milan Brandt                  Royal Melbourne Institute of Technology, Monash University</p>	
	<p>10:45 AM - 11:10 AM  <b>Microstructure Tailoring by Selective Laser Melting Pulse Optimization (Expert)</b>                  Mathieu Brochu                  McGill University</p>	<p>10:45 AM - 10:55 AM  <b>Reducing Build Failures Through Predictive Simulation (Intermediate)</b>                  Brent Stucker, 3DSIM and Tim Gornet                  University of Louisville</p> <p>11:00 AM - 11:10 AM  <b>Will It Break? Putting an Additive Manufactured Optimized Design to the Test (Novice)</b>                  Adam Rivard                  LAI International</p>	<p>10:45 AM - 11:10 AM  <b>Industry-inspired Additive Manufacturing Processing Research at Carnegie Mellon (Intermediate)</b>                  Jack Beuth PhD                  Carnegie Mellon University</p>	<p>10:45 AM - 11:10 AM  <b>Proactive Monitoring of Additive Builds Using Artificial Intelligence Based Optical Recognition (Expert)</b>                  Joseph M. Sinclair                  Solid Innovations LLC and Christian M. Joest                  Imperial Machine &amp; Tool Co</p>	<p>10:45 AM - 11:10 AM  <b>High Strain Rate Testing of Gyroid Cellular Structures (Expert)</b>                  Miriam Dennis                  University of Florida and Amanda Schrand PhD                  Air Force Research Laboratory</p>	<p>10:45 AM - 11:10 AM  <b>Investigation of Minor Elements on Built Properties of C300 Maraging Steel Powder (Expert)</b>                  Satyaajeet Sharma PhD &amp; Kumar Kandasamy PhD                  Oerlikon</p>	<p>10:45 AM - 11:10 AM  <b>Digital Technical Data Package Business Models for Spare Parts Produced Using Additive Manufacturing (Intermediate)</b>                  Brett Conner PhD &amp; Ashley Marfo                  Youngstown State University</p>	<p>10:45 AM - 10:55 AM  <b>3D Printing Soft Polydimethylsiloxane (PDMS) Elastomer Toward Custom Fit Wearable Devices (Intermediate)</b>                  Sara Abdollah &amp; Adam Feinberg PhD                  Carnegie Mellon University</p> <p>10:55 AM - 11:05 AM  <b>3D Bioprinting Collagen Scaffolds for Engineering Human Cardiac Tissue (Intermediate)</b>                  Andrew Lee &amp; Adam Feinberg PhD                  Carnegie Mellon University</p>	<p>Panelists:                  John E. Barnes                  Arconic</p> <p>Richard Grylls                  SLM Solutions NA, Inc</p> <p>Gene Kulesha                  Stryker</p> <p>Kirk Rogers PhD                  GE Center for Additive Technology Advancement (CATA)</p> <p>Mihaela Vlasea                  University of Waterloo</p>	
	<p>11:15 AM - 11:40 AM  <b>Control of Solidification Microstructure Across Additive Alloy Systems (Expert)</b>                  Sneha Prabha Narra                  Carnegie Mellon University</p>	<p>11:15 AM - 11:25 AM  <b>Integrated Additive Manufacturing with MetlAFB1: Pushing 3D Printing into Industry for Full Functional Parts (Intermediate)</b>                  Ilko Bosman                  Additive Industries</p> <p>11:30 AM - 11:40 AM  <b>Additive Manufacturing for Pattern Based Secondary Processes (Novice)</b>                  Carl Dekker, MET-L-FLO</p>	<p>11:15 AM - 11:40 AM  <b>Industry-inspired Additive Manufacturing Materials Research at Carnegie Mellon (Intermediate)</b>                  Anthony Rollett PhD                  Carnegie Mellon University</p>	<p>11:15 AM - 11:40 AM  <b>In-Process Monitoring and Control of Selective Laser Melting Using a Low-Cost Sensor Fusion Approach (Intermediate)</b>                  John R. Middendorf                  Universal Technology Corp and Glen P. Perram PhD PE                  Air Force Institute of Technology</p>	<p>11:15 AM - 11:40 AM  <b>US Navy Additive Manufacturing Applications at the Naval Surface Warfare Center-Philadelphia Division (Novice)</b>                  Philip Greiner &amp; Scott A. Storms                  Naval Surface Warfare Center - Philadelphia Division</p>	<p>11:15 AM - 11:40 AM  <b>The Influence of Powder Ageing Characteristics on 316L Steel Processed by Selective Laser Melting (Intermediate)</b>                  Keith Murray &amp; Mary Kate Johnston                  Sandvik Osprey</p>	<p>11:15 AM - 11:40 AM  <b>Effective Ways to Manage the Combustible Dust Hazards Associated with Additive Manufacturing (Novice)</b>                  Jason P. Reason                  Lewellyn Technology LLC</p>	<p>11:05 AM - 11:15 AM  <b>3D Printing Collagen Type I Using Freeform Resposable Embedding of Suspended Hydrogels (FRESH) (Intermediate)</b>                  Thomas J. Hinton &amp; Adam Feinberg PhD                  Carnegie Mellon University</p> <p>11:15 AM - 11:25 AM  <b>Control of Gelatin Particle Size and Uniformity to Improve Fidelity Using FRESH 3D Bioprinting (Expert)</b>                  Andrew Hudson &amp; Adam Feinberg PhD                  Carnegie Mellon University</p>	<p>Today, additive manufacturing is playing an ever-increasing role in a range of industries globally such as the aerospace, automotive, medical and defense because of the many benefits it offers compared to traditional subtractive technologies. The first 3D printers were used in the 1980s to make plastic prototypes, so that the engineers and designers could see and touch a full-size model of what the actual device would look like. Since then, the field of 3D printing has exploded and transformed from prototyping into manufacturing. Today, there are arrays of different types of 3D printers working with plastics, metal and ceramic powders, biological and organic feedstock. The technology is evolving rapidly with new 3D concepts, machines and suppliers entering the market almost on a monthly basis. The recent acquisition by GE of Arcam and Concept Laser is said to further accelerate the growth and adoption of Additive Manufacturing technology globally. A panel of experts will examine and explore current trends and future opportunities for AM technology globally.</p>	
	<p>11:45 AM - 12:10 PM  <b>Melt Pool Geometry and Thermal Emission Monitoring in Laser Powder Bed Fusion (Expert)</b>                  Brian A. Fisher &amp; Jack Beuth PhD                  Carnegie Mellon University</p>	<p>11:45 AM - 11:55 AM  <b>3D Printing for Large Aerospace Tooling (Novice)</b>                  Rick Neff                  Cincinnati Incorporated</p> <p>Noon - 12:10 PM  <b>Geometrically Controlled Sound Dampening Using 3D Binder Jetting (Intermediate)</b>                  Brandon Cary &amp; Tom Pasterik                  The ExOne Company</p>	<p>11:45 AM - 11:55 AM  <b>Accelerating Industry Adoption of Additive Manufacturing: Perspectives from an Additive Manufacturing Demonstration Facility (Intermediate)</b>                  Timothy W. Simpson PhD                  Penn State College of Engineering</p> <p>Noon - 12:10 PM  <b>Additive Manufacturing Research and Capabilities at the University of Pittsburgh (Intermediate)</b>                  Markus Chmielus                  University of Pittsburgh</p>	<p>11:45 AM - 12:10 PM  <b>Additive Manufacturing Rocket Engine Qualification and Testing (Intermediate)</b>                  Jeff D. Haynes                  Aerojet Rocketdyne</p>	<p>11:45 AM - 12:10 PM  <b>Additive Manufacturing of a Wind Tunnel Force Balance (Intermediate)</b>                  Devin Burns PhD                  NASA Langley Research Center</p>	<p>11:45 AM - 12:10 PM  <b>Effect of Compositional Variations in MetcoAdd HX-A Powder on Crack Susceptibility, Microstructure, and Mechanical Properties (Expert)</b>                  Kumar Kandasamy PhD &amp; Shawn Kelly PhD                  Oerlikon</p>	<p>11:45 AM - 12:10 PM  <b>Metal AM Process &amp; Facility Safety. Are You Prepared? (Novice)</b>                  Paul Bates &amp; Norman Lowe                  UL</p>	<p>11:25 AM - 11:45 AM  <b>Additive Manufacturing of Biodegradable Photopolymers and Ceramics (Intermediate)</b>                  Johannes Benedikt PhD                  Lihox GmbH</p> <p>11:45 AM - 12:10 PM  <b>Additive Manufacturing of Polymeric Biosensors and Drug Delivery Devices (Intermediate)</b>                  Roger Narayan                  UNC/NCSSU Joint Department of Biomedical Engineering</p>		
10:30 AM - 11:30 AM	Attendee Show Floor Tour									
12:15 PM - 2:15 PM	Lunch on Exhibit Floor									

**Wednesday, May 10 - afternoon**

1:00 PM - 6:00 PM		Poster Session							
2:00 PM - 3:00 PM		Attendee Show Floor Tour: MMI-New to Medical Applications							
<p>Concurrent PM Sessions 2:15 PM - 4:15 PM</p>	<p><b>Academic Research II</b></p>	<p><b>New Processes Power Up</b></p>	<p><b>Building Regional Leadership in Additive Manufacturing II</b></p>	<p><b>Quality and Inspection</b></p>	<p><b>DoD Additive Manufacturing Research &amp; Applications II</b></p>	<p><b>Materials II</b></p>	<p><b>Workforce Development</b></p>	<p>MMI: Quality, Regulatory &amp; Implants</p>	<p>Show Floor Theater</p>
	<p>2:15 PM - 2:40 PM <b>Multimaterial Additive Manufacture of RF Structures and Connectors (Expert)</b> Zachary Larimore University of Delaware</p>	<p>2:15 PM - 2:25 PM <b>3D Printing: Breaking Barriers and Expanding Full Speed into Manufacturing (Intermediate)</b> Roger Kelesoglu Stratasys</p> <p>2:30 PM - 2:40 PM <b>Development of New Metal Additive Manufacturing Concepts for Large Parts Manufacturing (Intermediate)</b> Filipe R. Coutinho &amp; Tiago Faro ADIRA Metal Forming Solutions S.A.</p>	<p>2:15 PM - 2:40 PM <b>Empowering Metal Additive Manufacturing Through ANSYS Tools (Intermediate)</b> David Conover ANSYS</p>	<p>2:15 PM - 2:40 PM <b>Agile Quality Control Process for FDM Parts (Intermediate)</b> Tim Yewchuk 3D Print Western</p>	<p>2:15 PM - 2:40 PM <b>Influence of Processing Parameters on the Development of Microstructure and Texture in EBM Ti-6Al-4V (Expert)</b> Kevin J. Chaput PhD Air Force Research Laboratory</p>	<p>2:15 PM - 2:40 PM <b>Magnetic Particle Alignment for 3D Printed Composites (Expert)</b> Madhuparna Roy Florida State University</p>	<p>2:15 PM - 2:40 PM <b>3DP Education and Workforce Outreach: Delivering Impact (Intermediate)</b> Leanne Gluck America Makes</p>	<p>2:15 PM - 2:40 PM <b>Quality Strategy Approach for Additive Manufacturing (Intermediate)</b> Gilbert A. Cortes Johnson &amp; Johnson</p>	<p>12:30 PM - 1:30 PM <b>Medical Manufacturing Innovations Presentations</b> MODERATOR: Lauralyn McDaniel, SME</p> <p>12:30 PM - 12:50 PM <b>SME Medical Additive Manufacturing/3D Printing Workgroup: Addressing Challenges</b></p> <p>12:50 PM - 1:03 PM <b>Standards, Quality Metrics, and Innovation with the FDA / CDRH</b></p> <p>1:03 PM - 1:16 PM <b>3D Printing in Medical Imaging Standards</b></p> <p>1:16 PM - 1:30 PM <b>Special Interest Group for 3D Printing within the Radiologic Society of North America to Advance Medical Applications</b></p>
	<p>2:45 PM - 3:10 PM <b>A Curvature-Based Direct Slicing Algorithm for Precision Additive Manufacturing Using Milne-Simpson Multistep Method (Expert)</b> Ahmad Barari PhD PEng &amp; Hossein Gohari, Univ of Ontario Institute of Technology (UOIT)</p>	<p>2:45 PM - 2:55 PM <b>What the Next Generation of Hybrid CNCs Brings to Additive (Intermediate)</b> Jason Jones PhD Hybrid Manufacturing Technologies</p> <p>3:00 PM - 3:10 PM <b>NanoParticle Jetting Technology - Redefining Metal Additive Manufacturing (Novice)</b> Dror Danai, Xjet Ltd</p>	<p>2:45 PM - 3:10 PM <b>GE CATA &amp; SW PA – Mutually Assured Economic Success (Intermediate)</b> Kirk Rogers PhD GE Center for Additive Technology Advancement (CATA)</p>	<p>2:45 PM - 3:10 PM <b>Surface Metrology of Additive Manufacturing Components: Understanding the Complex Texture of Powder Bed-Based Surfaces (Intermediate)</b> Agustin Diaz PhD REM Surface Engineering</p>	<p>2:45 PM - 3:10 PM <b>Feature Based Fatigue Characterization for Powder Bed Fusion and Small Scale Propulsion Components (Intermediate)</b> Onome E. Scott-Emuakpor PhD US Air Force Research Laboratory</p>	<p>2:45 PM - 3:10 PM <b>Creating Highly Dense Copper Components via Binder Jetting (Intermediate)</b> Yun Bai &amp; Christopher Williams PhD Virginia Tech</p>	<p>2:45 PM - 3:10 PM <b>Is Your Workforce Ready for Additive Manufacturing? (Novice)</b> Joseph W. Lampinen CMtgE KellyOCG</p>	<p>2:45 PM - 3:10 PM <b>How to Get FDA Approvals for Your Additive Manufacturing Device (Expert)</b> Satya Patloori Deloitte LLP and Reggie George Johnson &amp; Johnson</p>	
	<p>3:15 PM - 3:40 PM <b>A Computationally Efficient Finite Element (FE) Framework to Predict Residual Stress Evolution in Parts During SLM (Expert)</b> Ajit Achuthan Clarkson University</p>	<p>3:15 PM - 3:25 PM <b>MagnetoJet Liquid Metal 3D Printing: Cutting the Costs Using a Drop-on-Demand Approach (Intermediate)</b> Swati Chandran Thirumangalath Vader Systems LLC</p> <p>3:30 PM - 3:40 PM <b>Tailoring FFF Parts for Increased Strength Using Real 3D Printing (Intermediate)</b> Natalie M. Rudolph Dr.-Ing. University of Wisconsin-Madison</p>	<p>3:15 PM - 3:40 PM <b>Aerospace is Making a Future with Additive Manufacturing (Intermediate)</b> John Barnes Arconic</p>	<p>3:15 PM - 3:40 PM <b>Visual Identification, Error Detection, and Compensation for Additive Manufacturing Material Deposition Systems (Intermediate)</b> Gijs van Houtum Eindhoven University of Technology</p>	<p>3:15 PM - 3:40 PM <b>Enabling Expeditionary Battlefield Manufacturing Using Recycled, Reclaimed, and/or Indigenous Materials (Intermediate)</b> Marc S. Pepi US Army Research Laboratory</p>	<p>3:15 PM - 3:40 PM <b>Creation of an Affordable Aerospace Grade Aluminum Alloy via Computational Alloy Design Methods (Intermediate)</b> Eric J. Fodran PhD &amp; Eric Barnes Northrop Grumman</p>	<p>3:15 PM - 3:40 PM <b>Training the Workforce for Future Fabrication (Intermediate)</b> Sarah Boisvert Fab Lab Hub and Mike Adelstein CPA Potomac Photonics Inc</p>	<p>3:15 PM - 3:40 PM <b>Addressing Challenges in Custom Orthopedic Implants Using Additive Manufacturing (Novice)</b> Maryam Jahanzad &amp; Guha Manogharan PhD Pennsylvania State University</p>	
	<p>3:45 PM - 4:10 PM <b>Constructing the DMLS Processing Window from Computational Modeling (Intermediate)</b> Patcharapit Promopattum &amp; Shi-Chune Yao PhD Carnegie Mellon University</p>	<p>3:45 PM - 3:55 PM <b>Three-Dimensional Metal Printing by Thixotropic Metal-based Paste Deposition (Intermediate)</b> Michael R. Sullivan University at Buffalo The State University of New York</p> <p>4:00 PM - 4:10 PM <b>Electromagnetic Nozzle Technologies for Material Extrusion Additive Manufacturing (Intermediate)</b> Charles B. Sweeney Essentium Materials</p>	<p>3:45 PM - 4:10 PM <b>Powder Characterization and Development for Additive Manufacturing (Intermediate)</b> Brian Morrison ATI Powder Metals</p>	<p>3:45 PM - 4:10 PM <b>Update on Quality Assurance for Additive Manufacturing (Novice)</b> Jeremy Straub North Dakota State University</p>	<p>3:45 PM - 4:10 PM <b>Additive Manufacturing and Its Effect on Hybrid Rocket Motor Performance (Intermediate)</b> Michael G. Morales United States Naval Academy</p>	<p>3:45 PM - 4:10 PM <b>Gas Atomized Powder Synthesis Improvements for Additive Manufacturing (Expert)</b> Iver E. Anderson PhD &amp; Emma M. White PhD Ames Laboratory of USDOE</p>	<p>3:45 PM - 4:10 PM <b>Bridging Educational Excellence with Advanced Manufacturing: How to Cultivate Win-Win Partnerships in Your Community (Novice)</b> Owen Schoeniger MakerGear LLC</p>	<p>3:45 PM - 4:10 PM <b>Anisotropic Behaviors of 3D Printed Dental Jaw Bone Implants (Intermediate)</b> Xiong Yu PhD PE &amp; Russel Wang Case Western Reserve University</p>	
	4:30 PM - 6:30 PM		Show Floor Reception / Fashion Show						

Thursday, May 11									
7:00 AM - 1:00 PM	Registration								
8:00 AM - 9:45 AM	<b>PANEL</b> <b>So Where Do We Go From Here?</b> Mark Cotteleer, Managing Director, Deloitte Services, LP Todd Grimm, President, T.A. Grimm & Associates Inc Graham Tromans, Owner and Principal Industry Consultant, GP Tromans Associates Robin Wilson, Head of Manufacturing, Innovate UK			<b>KEYNOTE</b> <b>The Future of Additive Manufacturing and 3D Printing</b> Terry Wohlers Principal Consultant and President Wohlers Associates Inc			sponsored by: 		
9:00 AM - 2:00 PM	Student Summit								
10:00 AM - 2:00 PM	Show Open								
<b>Concurrent AM Sessions</b> 10:15 AM - 12:15 PM	<b>Academic Research III</b>	<b>Innovative Applications Power Up</b>		<b>Material Properties III</b>	<b>Part / Product Certification</b>	<b>Materials III</b>	<b>Business &amp; Economic Considerations - Strategic Power Up</b>	 <b>MMI: Metals</b>	<b>Show Floor Theater</b>
	10:15 AM - 10:40 AM <b>Filled Thermoconductive Plastics for Fused Filament Fabrication (Intermediate)</b> Tom Mulholland Univ of Wisconsin - Madison	10:15 AM - 10:25 AM <b>Realizing the Promise of Next Generation Manufacturing with Additive Manufacturing (Intermediate)</b> Ryan DeHoff PhD Oak Ridge National Laboratory Bruce Bradshaw, Arcam AB	10:30 AM - 10:40 AM <b>Metal Additive Using Directed Energy Deposition and Hybrid Manufacturing (Novice)</b> Jeffrey Crandall Connecticut Center for Advanced Technology, Inc.	10:15 AM - 10:40 AM <b>Microstructure Improvement of SS17-4PH Fabricated by Laser Powder Bed Fusion by Modified Heat Treatment (Expert)</b> Sunil B. Badwe PhD North American Hognas and Somayeh Pasebani PhD Oregon State University	10:15 AM - 10:40 AM <b>When Risks Cannot Be Seen: Regulating Uncertainty in Emerging Technologies (Intermediate)</b> Jaime Bonnin Roca & Parth Vaishnav PhD Carnegie Mellon University	10:15 AM - 10:40 AM <b>How Advances in Powder Metallurgy are Driving the Price of Metal 3D Printing Way Down (Intermediate)</b> Mike Gibson PhD Desktop Metal	10:15 AM - 10:25 AM <b>Advanced Economies Collaborative Initiatives in Advanced Manufacturing (Novice)</b> Bart Pascoli Italian Trade Agency	10:15 AM - 10:40 AM <b>Additive Manufacture of Stiffness Matched Skeletal Fixation Devices (Expert)</b> David Dean PhD The Ohio State University	10:15 AM - 11:00 AM <b>Tech Briefing: MMI</b>  11:30 AM - 12:30 PM <b>Technology LaunchPad</b>
	10:45 AM - 11:10 AM <b>Capacitance-based Nondestructive Evaluation of Three-dimensionally Printed Polymer (Expert)</b> Deborah D.L. Chung PhD University at Buffalo The State University of New York	10:45 AM - 10:55 AM <b>3D Printing Kit for Technical Schools (Novice)</b> Cristian Sandre INTI (National Institute of Industrial Technology) of Argentina	11:00 AM - 11:10 AM <b>Innovative Uses of Geometric Search to Advance Additive Manufacturing (Intermediate)</b> Anusha Iyer & Andre Wagner Authentise	10:45 AM - 11:10 AM <b>How Helium Improves Additive Manufacturing of T1-6Al-4V and IN718 Parts (Expert)</b> Grzegorz Moroz Linde LLC	10:45 AM - 11:10 AM <b>Design to Certification - Additive Manufacturing for Aerospace Applications (Expert)</b> Shaun Kroeger solidThinking	10:45 AM - 11:10 AM <b>Fracture Properties of Additively Manufactured Acrylonitrile-Butadiene-Styrene Materials</b> Kevin R. Hart US Army Research Laboratory	10:45 AM - 10:55 AM <b>How 3DP Can Create More Business and Create More Jobs (Novice)</b> Steven R. Murray Hoosier Pattern Inc	10:45 AM - 11:10 AM <b>Design Considerations and Capabilities for Implants Manufactured with Integrated Porous Structures (Intermediate)</b> Oscar Hedin Arcam AB	
	11:15 AM - 11:40 AM <b>Raster Printing for Fiber Encapsulation and Sensor Manufacturing (Intermediate)</b> Jolie B. Fritelic FAMU-FSU College of Engrg	11:15 AM - 11:25 AM <b>Next Generation Heat Exchangers Realized Through Ultrasonic Additive Manufacturing (Intermediate)</b> Mark Norfolk PE Fabrisonic	11:30 AM - 11:40 AM <b>Optimization of Additively-manufactured Metal Meshes Embedded in Phase Change Materials for Thermal/Energy Applications (Expert)</b> Lien Chin Wei Carnegie Mellon University	11:15 AM - 11:40 AM <b>Additive Manufacturing of Ceramics and Composites: Microstructures, Properties, and Applications Examples (Intermediate)</b> Prashant Karandikar PhD M Cubed Technologies Inc	11:15 AM - 11:40 AM <b>Evaluation of Standard Metal Additive Manufacturing Test Articles (Intermediate)</b> Trevor Hicks & Jessica Coughlin Naval Nuclear Laboratory	11:15 AM - 11:40 AM <b>Crack Remediation in Difficult to Weld NiCr-alloys When Processed by Additive Manufacturing Using the Laser Powder Bed Process (Intermediate)</b> William J. Jarosinski Praxair Surface Technologies Inc	11:15 AM - 11:25 AM <b>Creative Disruption: How Additive Manufacturing Can Impact Traditional Supply Chain. Lessons Learned for the Media and Entertainment Industries (Intermediate)</b> Stephan Thomas Identify3D	11:15 AM - 11:40 AM <b>Different Metal Additive Manufacturing Laser Methods Compared to EBM for Serialized Production of Orthopedic Implants (Intermediate)</b> Emanuele Magalini Eurocoating s.p.a.	
	11:45 AM - 12:10 PM <b>In-Situ Thermoplastic Impregnation of a Dry Composite Fiber Tow for Additive Manufacturing (Expert)</b> Daniel F. Walczyk PhD PE & Daniel A. Kaczmarek Rensselaer Polytechnic Institute	11:45 AM - 11:55 AM <b>Additive Manufacturing Techniques with Professional Championship Sports Rings (Novice)</b> Anthony J. Maietta Herff Jones	Noon - 12:10 PM <b>Topologically Optimized &amp; 3D Printed Component on Its Way to Space! (Intermediate)</b> Ivan Madera Mor3D Inc	11:45 AM - 12:10 PM <b>Additive Manufacturing of Enhanced Alnico Magnets (Intermediate)</b> Emma M. White PhD Ames Laboratory of USDOE	11:45 AM - 12:10 PM <b>Qualifications Challenges in Printed Structures with Embedded Electronics (Intermediate)</b> Nathan B. Crane PhD University of South Florida	11:45 AM - 12:10 PM <b>Optimizing Metal Powder Chemistries for Use in Additive Manufacturing (Expert)</b> Nathan Kistler LPW Technology Inc	11:45 AM - 11:55 AM <b>Metal Additive Manufacturing: Cost Competitive Beyond Low Volumes (Intermediate)</b> Ria Laurijs Carnegie Mellon University	11:45 AM - 12:10 PM <b>Effect of Powder Morphology on Mechanical Properties of Cobalt-Chrome Alloy for the Dental Industry by Laser Powder Bed Fusion (Intermediate)</b> Ivy Li CMtGE Material Technology Innovations Co Ltd	
11:00 AM - Noon	Attendee Show Floor Tour: MMI-Advancements for Medical								
11:00 AM - 1:00 PM	3D Playground Activities			America Makes ACADEMI ADX			ToolingU-SME Manufacturing Challenge		
12:15 PM - 2:15 PM	Lunch on the Exhibit Floor								
1:00 PM - 5:00 PM	Facility Tours <i>Choose only one</i>								
1:00 PM - 4:00 PM	SME Medical AM/3DP Workgroup Meeting								
1:00 PM - 4:30 PM	AM Certification Exam								