

**Keynote Presentation – Main Stage 8:30 AM**  
 Barbara Humpton, President and CEO | Siemens Corporation

**INDUSTRIES** **FOCUS AREAS**

**TRACKS** **SOLUTIONS** **ECOSYSTEM** **R&D**

**SESSION THEMES** **INTELLECTUAL PROPERTY & SECURITY** **MATERIALS & PROCESSING** **MATERIALS DEVELOPMENT**

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|                 | <b>HEALTHCARE</b>   | <b>AUTOMOTIVE</b>  | <b>AEROSPACE</b>   | <b>WIDER INDUSTRIAL</b>   |   |   |   |
|                 | <b>MEDICAL &amp; DENTAL SOLUTIONS</b>   | <b>AUTOMOTIVE APPLICATIONS</b>   | <b>AEROSPACE INSIGHTS</b>  | <b>DEFENSE</b>  | <b>INTELLECTUAL PROPERTY &amp; SECURITY</b>   | <b>MATERIALS &amp; PROCESSING</b>   | <b>MATERIALS DEVELOPMENT</b>  |
| <b>10:00 AM</b> | <p><b>Rationalization for the Utilization of Various AM Technologies in Healthcare Applications</b></p> <p><b>Amy Alexander, MS</b><br/>Biomechanical Development and Applied Computational Engineering, Division of Engineering</p> <p><b>Victoria Sears</b><br/>Engineer, Anatomic Modeling Unit, Radiology<br/>Mayo Clinic</p> | <p><b>Additive Manufacturing Application Selection at General Motors</b></p> <p><b>Brennon White, CAMF</b><br/>AM Applications Engineer<br/>General Motors</p> | <p><b>An End-to-End Digital Thread to Accelerate Additive Adoption</b></p> <p><b>Nicholas J. Mule</b><br/>Director, Boeing Additive Manufacturing Intelligence Center<br/>The Boeing Co.</p> | <p><b>U.S. Army Expeditionary Additive Manufacturing at the Point of Need</b></p> <p><b>Matthew Brauer</b><br/>Lead General Engineer</p> <p><b>Thomas Vretis</b><br/>Mathematician<br/>U.S. Army, DEVCOM-AC</p> | <p><b>Patents in AM: Soul Crushing or Empowering Innovation?</b></p> <p><b>Aidan C. Skoyles, JD, MSEE</b><br/>Attorney<br/>Finnegan LLP</p> | <p><b>Data-driven Quality Control of Laser Directed Energy Deposition (DED)</b></p> <p><b>Melanie Lang, MEng</b><br/>Co-Founder<br/>FormAlloy Technologies Inc.</p> | <p><b>Stress Corrosion Cracking Behavior of LPBF AISi10MG</b></p> <p><b>Michael A. Pratt</b><br/>Additive Manufacturing Research Engineer<br/>University of Dayton Research Institute</p> |



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| <b>10:30 AM</b> | <p><b>Regulatory Landscape for Additive Manufactured Medical Devices — an Update for 2022</b></p> <p><b>Dawn A. Lissy, MS</b><br/>President<br/>Empirical Technologies Corp.</p> | <p><b>An Additive Solution to Fulfill Customer Needs</b></p> <p><b>Giuseppe Lacaria</b><br/>Research Engineer<br/>Ford Motor Co.</p> | <p><b>Insights into Industrial AM Application and Implementation Challenges &amp; Strategies for the Defense UAS Industry</b></p> <p><b>Steve Fournier</b><br/>Additive Manufacturing Department Manager</p> <p><b>Micah Baxter</b><br/>AM Manufacturing Engineer - FDM<br/>General Atomics Aeronautical Systems Inc.</p> | <p><b>Advancement of U.S. Navy Sustainment Capabilities Through Solid-State Additive Manufacturing</b></p> <p><b>Chase D. Cox, PhD</b><br/>Chief Engineer<br/>MELD Manufacturing Corporation</p> <p><b>Stephen Cox</b><br/>Director of Technology<br/>US Navy</p> | <p><b>Cybersecurity for Additive Manufacturing Enterprise Operations Project</b></p> <p><b>Romina Lara, PMP, CAPM</b><br/>Sr. Project Manager</p> <p><b>Federico Sciammarella, PhD</b><br/>President &amp; CTO<br/>MxD</p> | <p><b>Procedure Qualification Scheme Portfolio for Metal Directed Energy Deposition Additive Manufacturing</b></p> <p><b>Dennis D. Harwig, PhD</b><br/>Senior Technical Leader<br/>EWI / OSU</p> | <p><b>AM of Shape Memory Alloys for Aerospace, Defense, and Medicine: Key Challenges, Lesson Learned and the Path Forward</b></p> <p><b>Mohammad Elahinia, PhD</b><br/>Distinguished University Professor</p> <p><b>Mohammadreza Nematollahi, PhD</b><br/>Post-doc<br/>University of Toledo</p> |
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| <b>11:00 AM</b> | <p><b>AM Ecosystem Strategy — Choosing and evaluating the right partners in your AM ecosystem</b></p> <p><b>Ankush Venkatesh</b><br/>Intrapreneur, Additive Manufacturing<br/>Glidewell Dental</p> | <p><b>Evaluation of Printed Wax Pattern Molds</b></p> <p><b>Thomas J. Mueller</b><br/>President<br/>Mueller Additive Manufacturing Solutions</p> <p><b>Elvira Stesikova, PhD</b><br/>Head of Technology, 3D Printing Solutions<br/>BASF Forward AM</p> | <p><b>Additively Manufactured Topology-Optimized Reflective Optics</b></p> <p><b>Matthew E. Lynch, PhD</b><br/>Senior Manager, Research Engineering<br/>Raytheon Technologies Research Center</p> | <p><b>Expeditionary Manufacturing Improving the Australian Army's Supply Chain</b></p> <p><b>Byron Kennedy</b><br/>CEO<br/>SPEE3D</p> | <p><b>Unrealized Value or Lurking Risks? Intellectual Property Opportunities and Threats in the Additive Manufacturing Industry</b></p> <p><b>Gregory M. Stone, Esq.</b><br/>Partner and Co-Chair, Technology &amp; Intellectual Property Group<br/>Whiteford, Taylor &amp; Preston LLP</p> | <p><b>Laser Additive Manufacturing of High Reflectivity Metallic Materials Using Pore-Free Non-Equiaxed Powders</b></p> <p><b>John Barnes</b><br/>Founder<br/>The Barnes Global Advisors LLC</p> <p><b>Mihaela Vlasea, PhD</b><br/>Assistant Professor<br/>University of Waterloo</p> | <p><b>Nanoengineering for Additive Manufacturing Materials: Crushing the Formulation Improvement Wall</b></p> <p><b>Olga Ivanova, PhD</b><br/>Director of Technology<br/>Mechnano</p> <p><b>Steven Lowder</b><br/>CEO<br/>Mechnano</p> |
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| <b>11:30 AM</b> | <p><b>Vat-Photopolymerization with Customizable Bioresorbable Resins for Medical Applications</b></p> <p><b>Aaron Vaughn, PhD</b><br/>R&amp;D Project Engineer</p> <p><b>Mathew Stanford, MS</b><br/>Manager of Engineering<br/>Poly-Med Inc.</p> | <p><b>AM is Driving Innovations in Electric Vehicle Performance</b></p> <p><b>David Pierick</b><br/>3D Print Production Applications Development</p> <p><b>Aaron Delong</b><br/>3D Print Production Applications Development Manager<br/>HP Inc.</p> | <p><b>The Tale of Two Cities – Additive Manufacturing for Aerospace vs Automotive</b></p> <p><b>Bill Bihlman, PhD</b><br/>President<br/>Aerolytics LLC</p> | <p><b>Current State of Additive Manufacturing in Forensic Science</b></p> <p><b>Corey W. Scott MSF.S.</b><br/>Forensic Examiner<br/>Federal Bureau of Investigation (FBI)</p> | <p><b>Cybersecurity for Additive Manufacturing</b></p> <p><b>Nicole Santos</b><br/>Additive Manufacturing Engineer<br/>BreakPoint labs</p> | <p><b>Optimization of Ti-6Al-4V Fused Filament Fabrication with Vacuumless Sintering</b></p> <p><b>James Siegenthaler, PhD</b><br/>Scientist<br/>Fraunhofer USA Center Midwest</p> | <p><b>Additive Manufacturing of Thermally Conductive Polymer for Lighting Fixtures</b></p> <p><b>Shahab Zekriardehani, PhD</b><br/>Technology Manager, Polymer and Nanocomposites</p> <p><b>Javed Mapkar, PhD</b><br/>Senior Global Technology Manager, Advanced Materials &amp; Process<br/>Eaton Corporation</p> |
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**LUNCH BREAK + VISIT EXHIBITS 12 PM**

**WORKSHOP – Casting, Foundry In a Box**

## Thought Leadership Panel – Main Stage 12:30 PM

### Disrupting Design and Manufacturing in Aerospace and Defense

|                |  | INDUSTRIES   |   |   |  | FOCUS AREAS   |   |  |
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| TRACKS         |  | HEALTHCARE   | AUTOMOTIVE  | AEROSPACE   | WIDER INDUSTRIAL   | SOLUTIONS   | ECOSYSTEM   | R&D  |
| SESSION THEMES |  | MEDICAL & DENTAL SOLUTIONS   | AUTOMOTIVE APPLICATIONS   | AEROSPACE INSIGHTS  | DEFENSE  | STANDARDS & REPEATABILITY   | JUSTIFICATION / ECONOMICS   | MATERIALS DEVELOPMENT  |
| 2:00 PM        |  | <p><b>Scaled and Quality Production of 3D-Printed Hard Tissue Regenerative Devices</b></p> <p><b>Adam E. Jakus, PhD</b><br/>Co-Founder and Chief Technology Officer<br/>Dimension Inx Corp.</p>  | <p><b>Hybrid Manufacturing – An Emerging and Blended Approach to Advanced Manufacturing</b></p> <p><b>Brad Keselowski</b><br/>Owner Keselowski Advanced Manufacturing, Championship Driver, Co-owner RFK racing Keselowski Advanced Manufacturing</p> | <p><b>Smart Additive Manufacturing: Advanced Automation Solutions for 3D Printing</b></p> <p><b>Chinedum ("Chi") Okwudire</b><br/>Associate Professor<br/>University of Michigan</p> <p><b>Samuel Thompson</b><br/>Chief Operating Officer<br/>Ulendo</p>                                       | <p><b>Agile Manufacturing for Advanced Armaments Systems</b></p> <p><b>James Zunino, SSTM</b><br/>Senior Scientific Technical Manager - Future Concepts<br/>US Army Comabt Capabilities Development Command</p> <p><b>Dave Sabanosh</b><br/>PEEMS Lead / Mechanical Engineer<br/>US Army DEVCOM Armaments Center</p> | <p><b>Why is Power Quality Critical During the Additive Process?</b></p> <p><b>Patrick Gannon</b><br/>Segment Leader<br/>ABB Inc</p>  | <p><b>Global 3D Printer Industry Buoyant for 2022?</b></p> <p><b>Chris Connery</b><br/>Global Head of Analysis<br/>CONTEXT</p>  | <p><b>Fiber Filled Photopolymers - How We Developed a 3D Printable Dielectric Polymer for Radio Frequency Applications</b></p> <p><b>Phil Lambert</b><br/>Lead Customer Solutions Engineer<br/>Fortify</p> <p><b>Trevor Polidore</b><br/>New Product Development Group Leader at Rogers Corporation<br/>Rogers Corporation</p> |
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| 2:30 PM        |  | <p><b>Learning from Other Domains: Leveraging Video Game Development Experience in a PoC 3D Lab</b></p> <p><b>Parham Gholami</b><br/>Research Engineer</p> <p><b>Justin Ryan, PhD</b><br/>Research Engineer<br/>Rady Children's Hospital - San Diego</p>   | <p><b>Accelerate Adoption of 3D Printed Sand and Wax for Complex Metal Castings</b></p> <p><b>Jiten Shah</b><br/>President<br/>Product Development &amp; Analysis (PDA) LLC</p>   | <p><b>Innovative Heat Exchangers NATHENA</b></p> <p><b>Nick Estock</b><br/>Product Manager<br/>AddUp Inc</p>  | <p><b>Wide Reaching Solid-State Structural Repairs Enabled by MELD</b></p> <p><b>Greg D. Hahn</b><br/>Graduate Research Assistant<br/>Virginia Tech</p>  | <p><b>A Closed-Loop Machine Learning and Compensation Framework for Accuracy Control in 3D Printing</b></p> <p><b>Arman Sabbaghi, PhD</b><br/>Associate Professor</p> <p><b>Wenbin Zhu</b><br/>PhD student<br/>Purdue University Department of Statistics</p> | <p><b>Surviving Disruption in Additive Manufacturing – Demystifying the 3D-Printing Technology Question</b></p> <p><b>Wilderich Heising, PhD</b><br/>Partner and Associate Director<br/>Boston Consulting Group</p> | <p><b>Digital-material Fabrication Using Additive Manufacturing</b></p> <p><b>Frank F. Liou, PhD</b><br/>Michael and Joyce Bytnar Professor<br/>Missouri University of Science and Technology</p>  |
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| 3:00 PM        |  | <p><b>Inspiration - A Review of Techniques Used to Print and Finish a Hydro-pneumatic Ventilator</b></p> <p><b>Christopher Howard MBA, PMP, CBET</b><br/>Founder, President<br/>Medical Sensor Systems, Inc</p> <p><b>Jonathan A. Poi</b><br/>Product Design Engineer</p>  | <p><b>Producing Castings Using 3D Sand Printing</b></p> <p><b>Dave Rittmeyer</b><br/>Customer Care and Additive Manufacturing Manager<br/>Hoosier Pattern Inc</p>   | <p><b>Qualification of Additively Manufactured Aerospace Hardware</b></p> <p><b>Humna Khan</b><br/>CEO/Co-Founder</p> <p><b>Andre DeLeon</b><br/>Lab Operations Manager<br/>ASTRO Mechanical Testing Laboratory</p>   | <p><b>Liquid Deposition of a Dynamic Polymer Thermoset and Associated Nanocomposites</b></p> <p><b>Frank Gardea, PhD</b><br/>Research Engineer<br/>DEVCOM Army Research Laboratory</p>   | <p><b>AM Data Registration Standardization</b></p> <p><b>Shaw C. Feng, PhD</b><br/>Mechanical Engnee<br/>NIST</p>   | <p><b>Successful Injection Molding Production Application Conversion in 3D Printing</b></p> <p><b>Haleyanne Freedman</b><br/>Global Engineering Market Manager<br/>M Holland Company</p>                            | <p><b>Additive Manufacturing of Smart Materials</b></p> <p><b>Ala Gattawi, PhD</b><br/>Assistant Professor<br/>University of Toledo</p>  |
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| 3:30 PM        |  | <p><b>An Argument for Dedicated Training in 3D Printing for Surgeons: Results of a National Needs Assessment and Call to Action</b></p> <p><b>Diana M. Otoy, MD</b> I Physician<br/><b>Michael F. Amendola, MD</b><br/>Physician / Division Chief of Vascular Surgery<br/>Central Virginia VA Health Care System</p> | <p><b>Additive for Automotive: From hyper-customization to mass production</b></p> <p><b>Fadi Abro</b><br/>Director of Automotive Business<br/>Stratasys</p> <p><b>Malini Dusey PhD</b><br/>Senior Applications, Engineer<br/>General Motors</p>      | <p><b>New Technology for NASA's E-beam Metal Wire AM - Real-Time In-Situ Metrology and Closed Loop Control for In-space Manufacturing</b></p> <p><b>Eric Eisenbraun, PhD</b><br/>Associate Professor of Nanoscience Center for Nanoscale Science and Engineering SUNY Polytechnic Institute</p> | <p><b>Printing Tanks</b></p> <p><b>Brandon Pender</b><br/>Associate Director for Ground Vehicle Materials Engineering<br/>US Army Ground Vehicle Systems Center</p> <p><b>Nanci Hardwick</b><br/>CEO<br/>MELD Manufacturing Corporation</p>  | <p><b>Process stability in metal AM: How to enable serial production in AM?</b></p> <p><b>Roland Spiegelhalder M.Sc.</b><br/>Product Manager AM</p>   | <p><b>Walking the Walk: Going All In on Metal Additive Adoption</b></p> <p><b>Jason B. Jones, PhD</b><br/>Co-founder &amp; CEO<br/>Hybrid Manufacturing Technologies</p>  | <p><b>Developing Automotive-Grade Metal Alloys for Additive Manufacturing</b></p> <p><b>Tyson Brown, PhD</b><br/>Lab Group Manager<br/>General Motors</p>  |
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**Keynote Presentation – Main Stage 8:30 AM**  
 Brian Baughman, Manufacturing Chief Engineer | Honeywell Aerospace

**INDUSTRIES** **FOCUS AREAS**

**TRACKS** **HEALTHCARE** **AUTOMOTIVE** **AEROSPACE** **WIDER INDUSTRIAL** **SOLUTIONS** **ECOSYSTEM** **R&D**

**SESSION THEMES** **MEDICAL & DENTAL SOLUTIONS** **AUTOMOTIVE APPLICATIONS** **AEROSPACE INSIGHTS** **NONMETAL APPLICATIONS** **SUPPLY CHAIN & SUSTAINABILITY** **METROLOGY** **MATERIALS DEVELOPMENT**

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| <b>10:00 AM</b>                       | <b>WORKSHOP – Additive Manufacturing - How to Build a Business Case</b> | <p><b>Not Just Prototypes: 10 Applications for 3D Printing in Medical Device Development</b><br/> <b>Katherine J. Stephenson, PhD</b><br/>                     Founder &amp; Principal<br/>                     Dyad Engineering LLC</p> | <p><b>Utilizing AM in the Automotive Design Studio</b><br/> <b>Stephanie Pearce</b><br/>                     Additive Manufacturing Engineer<br/>                     Rivian</p>   | <p><b>Continuous Fiber Composite Additive Manufacturing</b><br/> <b>David Ivankovich</b><br/>                     Sr. Principal Engineer - Manufacturing Technologies<br/>                     Northrop Grumman Corp.</p>  | <p><b>Redesigning Micromobility with KUHMUTE and the Formlabs Fuse 1</b><br/> <b>Peter Deppe</b><br/>                     Co-Founder &amp; CEO<br/>                     KUHMUTE</p>  | <p><b>It's Time to Get Serious About Digitizing Supply Chain Sustainably</b><br/> <b>Avi Reichental</b><br/>                     Co-Founder, CEO, and Chairman<br/>                     Nexa3D</p> | <p><b>Machine Learning and Advanced Digital Gauging for Subtractive and Additive Manufacturing Processes</b><br/> <b>Kevin Brigden</b><br/>                     Engineering Data Scientist<br/>                     Renishaw</p> <p><b>Angkit Choudhury</b><br/>                     Engineer I Altair</p> | <p><b>Development of Antimicrobial Polymer-Metal Composites Via Additive Manufacturing Methods</b><br/> <b>Arif Sirinterlikci, PhD, CMfgE</b><br/>                     University Professor of Industrial and Manufacturing Engineering<br/> <b>Paul Badger, PhD</b><br/>                     Professor and Head of Science Department<br/>                     Robert Morris University</p> |
| <span style="color: blue;">▲</span>   |   | <p><b>Patient Specific Neurovascular Procedure Rehearsal an Industrial Design Study</b><br/> <b>Samuel Canning, PhD</b><br/>                     Senior Lecturer<br/>                     Griffith University</p>                        | <p><b>Utilizing AM for Manufacturing Tooling in Automotive Assembly</b><br/> <b>Malini Dusey, PhD</b><br/>                     Senior Applications Engineer<br/>                     General Motors</p>  | <p><b>Optimization of Fused Granular Fabrication Process Parameters of Conducting PEKK for Large Aerospace Structures</b><br/> <b>Si Chen, PhD</b><br/>                     Specialist Engineer</p> <p><b>Felix Tran</b><br/>                     Lead Engineer<br/>                     Eaton Corporation</p> | <p><b>From the Lab to the Court – Customizable Additive Materials for Sports Equipment</b><br/> <b>James Hedrick, PhD</b><br/>                     CPO and Co-Founder<br/>                     Azul 3D</p>   | <p><b>How do We Prove that Additive Manufacturing Supports a Sustainable Future</b><br/> <b>Espen Sivertsen</b><br/>                     CEO<br/>                     Ivaldi Group</p>             | <p><b>On Machine 3D Scanning for In Process Inspection</b><br/> <b>Nasir Mannan, MEng</b><br/>                     Principal Engineer<br/>                     Connecticut Center for Advanced Technology</p>  | <p><b>Electron Beam Melting Materials for Extreme Environments</b><br/> <b>Markus Ramsperger</b><br/>                     Process and Materials Engineer<br/>                     GE Additive</p>  |
| <span style="color: blue;">▲</span>   |   | <p><b>Inter and Intra-layer Transport Phenomena Alters the Mechanical Properties of 3D Printed Parts</b><br/> <b>Camila Uzcategui, PhD</b><br/>                     Cofounder &amp; CEO<br/>                     Vitro3D</p>             | <p><b>From the Racetrack to the Manufacturing Line: How to Get Beautiful, High-performance Parts in Serial Production (case study)</b><br/> <b>Michael Schorr</b><br/>                     Head of Application Consulting<br/>                     DyeMansion North America Inc.</p> <p><b>Kevin Sheehy</b><br/>                     Manufacturing Engineer<br/>                     Stratays Direct Manufacturing</p> | <p><b>Applications for On-Orbit Additive Manufacturing, Finding Value in AM off the Earth's Surface</b><br/> <b>Theodore C. Lee, MS</b><br/>                     Additive Manufacturing Engineer<br/>                     Redwire</p>  | <p><b>Digital Foam: The Sports Equipment Revolution</b><br/> <b>Jon Walker B.A., CMTSE</b><br/>                     Government Relations and Key Account Manager<br/>                     EOS North America</p> <p><b>Thierry Krick</b><br/>                     Engineering Manager<br/>                     Advanced Product Development</p> | <p><b>How Your Business Can Go Green with Additive Manufacturing</b><br/> <b>Jason Rolland</b><br/>                     SVP of Materials<br/>                     Carbon</p>                       | <p><b>Reverse Engineering has Become an Integral Part of Modern Product Design</b><br/> <b>Gregory George</b><br/>                     Engineering Manager<br/>                     Oqton</p>  | <p><b>Data-Driven Qualification of Additively Manufactured 316L Stainless Steel</b><br/> <b>Joy Gockel</b><br/>                     Associate Professor<br/>                     ADAPT Center at Colorado School of Mines</p>  |
| <span style="color: purple;">●</span> |   | <p><b>3D Printing for Surgical Planning of Canine Oral and Maxillofacial Surgeries</b><br/> <b>Yu-Hui Huang, MD, MS</b><br/>                     Radiology Resident Physician<br/>                     University of Minnesota</p>       | <p><b>Cast Metal-Ceramic Composite Lattice Structures for Lightweight, Energy Absorbing Applications</b><br/> <b>Alan P. Druschitz, PhD</b><br/>                     Associate Professor of Practice<br/>                     Virginia Tech</p>  | <p><b>Leveraging Additive Manufacturing Tooling to Reduce the Cost of Turbine Engines</b><br/> <b>Dan Z. Sokol</b><br/>                     Managing Partner<br/>                     Renaissance Services</p>   | <p><b>Ceramics Additive Manufacturing for Investment Casting</b><br/> <b>Richard Gaigon, MBA</b><br/>                     CEO<br/>                     3DCeram Sinto</p>   | <p><b>Building the Circular Economy from Armor to Landing Gear</b><br/> <b>Christopher P. Eonta</b><br/>                     Founder<br/>                     Molyworks</p>                        | <p><b>The Viability of Dense Photogrammetry as an AM Inspection Tool</b><br/> <b>Michael Agronin</b><br/>                     Director of Research and Development<br/>                     Direct Dimensions Inc..</p>  | <p><b>Precision Metal 3D Printing: A New Hybrid Technology Using Paste Material</b><br/> <b>Scott Kraemer</b><br/>                     Senior Applications Engineer<br/>                     Mantle Inc.</p>   |

**LUNCH BREAK + VISIT EXHIBITS 12 PM**

## Thought Leadership Panel – Main Stage 12:30 PM

Let's Make A Deal - IPOs, SPACs, Mergers and Acquisitions

|                |  | INDUSTRIES  |  |   |  | FOCUS AREAS   |  |   |
|----------------|--|---|--|---|--|---|--|---|
| TRACKS         |  | HEALTHCARE  | AUTOMOTIVE   | AEROSPACE   | WIDER INDUSTRIAL   | SOLUTIONS   | ECOSYSTEM  | R&D   |
| SESSION THEMES |  | MEDICAL & DENTAL SOLUTIONS  | AUTOMOTIVE APPLICATIONS  | AEROSPACE INSIGHTS  | CONSTRUCTION / ENERGY & POWER  | SUPPLY CHAIN & SUSTAINABILITY   | DESIGN FOR ADDITIVE MANUFACTURING  | HARDWARE  |
| 2:00 PM        |  | <p><b>Titanium Has Got Competition – Amorphous Metals for Medical Applications</b></p> <p><b>Laura Kastenmayer</b><br/>Industry Manager Medical Technology, Additive Manufacturing<br/>TRUMPF</p>                                       | <p><b>How Additive Manufacturing Enabled GM to Keep Popular Full-Size SUV Production Schedules on Track for Model Year 2022</b></p> <p><b>Adam Campbell</b><br/>Additive Manufacturing Application Engineer<br/>General Motors</p> <p><b>Christine Bardsley</b><br/>Design Release Engineer<br/>General Motors</p> | <p><b>Applications in Tooling &amp; Prototyping for Large Format Additive Manufacturing</b></p> <p><b>Sean Henson</b><br/>Global Product Manager, Additive Manufacturing<br/>Ascent Aerospace</p>   | <p><b>Design Strategies for Architected Materials</b></p> <p><b>Andreas Vlahinos, PhD</b><br/>CTO<br/>Advanced Engineering Solutions</p>                               | <p><b>Enabling Distributed Supply Chains through Additive Manufacturing</b></p> <p><b>Benny Buller</b><br/>CEO and Founder<br/>Velo3D</p>   | <p><b>Optimizing Topology and Toolpath: Enhancing Structural Efficiency through Multi-axis Additive Manufacturing</b></p> <p><b>Christopher B. Williams, PhD</b><br/>L. S. Randolph Professor</p> <p><b>Joseph Kubalak, PhD</b><br/>Postdoctoral Research Fellow<br/>Virginia Tech</p> | <p><b>Strategies for Enhancing Wire + Arc Additive Manufacturing Material Properties</b></p> <p><b>Alex Kingsbury, BE, MAICD</b><br/>Additive Manufacturing Industry Fellow<br/>RMIT University</p>                       |
|                |  | ●   | ▲  | ▲   | ●  | ●   | ●  | ▲   |
| 2:30 PM        |  | <p><b>Outlook on Raw Material Quality Requirements for the AM Medical Industry</b></p> <p><b>Pier Luc Paradis</b><br/>Material Project Manager<br/>AP&amp;C, a GE Additive company</p>  | <p><b>Study of Infill Pattern and Backfill of Low Cost 3D Printed Polymer Tooling for Sheet Metal Forming Applications</b></p> <p><b>Dan Zhang, PhD</b><br/>Center for Design and Manufacturing Excellence<br/>The Ohio State University</p>   | <p><b>Certification Approach for Additively Manufactured Structural Aerospace Components</b></p> <p><b>Arun Ramachandran</b><br/>Additive Manufacturing Lead<br/>Collins Aerospace</p>  | <p><b>The Impact of Additive Manufacturing of Large Structures on Architecture and Construction</b></p> <p><b>Rick Neff</b><br/>Consultant - CEO<br/>Rick Neff LLC</p> | <p><b>Development and Adoption of Sustainable Materials Design for AM</b></p> <p><b>Michelle K. Sing, PhD</b><br/>Global Commercial Director of Additive Manufacturing</p> <p><b>Jason Vagnozzi</b><br/>Materials Development Research Engineer<br/>Braskem</p> | <p><b>DfAM vs. Business Model Innovation – Which Unlocks More 3D Printing Applications?</b></p> <p><b>Kyle Harvey</b><br/>Business Unit Manager - Additive Manufacturing<br/>Extol Inc</p>   | <p><b>Hybrid Manufacturing using Friction Stir Additive, Structured Light Scanning, and CNC Machining</b></p> <p><b>Tony L. Schmitz, PhD</b><br/>Professor, ORNL Joint Faculty<br/>University of Tennessee, Knoxville</p> |
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| 3:00 PM        |  | <p><b>Fabrication of 3D Microscale Organoid Cultures by Stereolithographic Printing of Covalently Adaptable Sacrificial Molds</b></p> <p><b>John E. Hergert, PhD</b><br/>Postdoctoral Associate<br/>University of Colorado, Boulder</p> | <p><b>Intelligent Digital Production Using the Divergent Adaptive Production System</b></p> <p><b>Michael T. Kenworthy</b><br/>Chief Technology Officer<br/>Divergent Technologies (Divergent 3D)</p>  | <p><b>Improved Process Parameter Optimization Using Machine Learning</b></p> <p><b>Zach Simkin</b><br/>President   Senvol</p> <p><b>Taylor McKay</b><br/>Principal Additive Manufacturing Engineer<br/>Northrop Grumman Corp. - Aeronautics Systems</p> | <p><b>3D Printing Construction</b></p> <p><b>Sofia Lopez</b><br/>Project &amp; Implementation Manager<br/>COBOD International</p>                                      | <p><b>Sustainable Productivity – What is in it for the AM Industry?</b></p> <p><b>Gerret Lukas</b><br/>Director<br/>ACAM Aachen Center for Additive Manufacturing</p>   | <p><b>Lazy Local Evaluation of Giga Lattices for Interactive Design and Visualization</b></p> <p><b>Gaurav Ameta, PhD</b><br/>Senior Key Expert</p> <p><b>Wenjie Yao</b><br/>Research Scientist<br/>Siemens Technology</p>   | <p><b>Hybrid 3D Metal Device and Process Optimized for Producing Finished Components</b></p> <p><b>Pavel Ikononov, PhD</b><br/>Professor<br/>Western Michigan University</p>  |
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| 3:30 PM        |  | <p><b>Micro 3D Printing for Disposable Medical Devices</b></p> <p><b>John Kawola</b><br/>Principal, Co-Owner<br/>Boston Micro Fabrication</p> <p><b>Anthony Appling</b><br/>CEO<br/>RNDR Medical</p>                                    | <p><b>Manufacturing and Industrial Process Revolution: The Kawasaki Case</b></p> <p><b>Marco Zani</b><br/>CEO &amp; Founder<br/>Mark One Srl</p>   | <p><b>Validation of Multi-Laser Printing Technology for Additive Manufacturing</b></p> <p><b>Donald Godfrey</b><br/>Global Director, Business Development Aerospace and Defense<br/>SLM Solutions</p>   | <p><b>Panel</b></p> <p><b>Opportunities for Additive Manufacturing in Construction &amp; Energy</b></p>  | <p><b>Recycling of Metallic Waste from Additive Manufacturing</b></p> <p><b>Josh Lifshitz</b><br/>Account Manager<br/>Globe Metal Recycling</p>   | <p><b>Panel</b></p> <p><b>Pushing the Limits of Additive Manufacturing Through Design</b></p>  | <p><b>Panel</b></p> <p><b>AM Hardware - Where do we go next?</b></p>  |
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**Keynote Presentation – Main Stage – 8:30 AM**  
Caralynn Collens, MD, CEO | Dimension Inx

**INDUSTRIES** **FOCUS AREAS**

|  | HEALTHCARE | WIDER INDUSTRIAL | AEROSPACE | WIDER INDUSTRIAL | SOLUTIONS | ECOSYSTEM | R&D |
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| TRACKS | MEDICAL & DENTAL SOLUTIONS | METAL APPLICATIONS | AEROSPACE INSIGHTS | HEAVY INDUSTRY | PEOPLE & CULTURE | POST PROCESSING | SOFTWARE |
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| SESSION THEMES | MEDICAL & DENTAL SOLUTIONS | METAL APPLICATIONS | AEROSPACE INSIGHTS | HEAVY INDUSTRY | PEOPLE & CULTURE | POST PROCESSING | SOFTWARE |
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**10:00 AM**

**10:30 AM**

**11:00 AM**

**11:30 AM**

**Workshop – An introduction to Metrology and 3D Scanning**

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|  | <p><b>The VHA Experience of Using 3D Printing to Support Medical Device Manufacturer from the Hospital</b></p> <p><b>Brian Strzelecki</b><br/>Director of Quality and New Products<br/>VA Ventures, The Veterans Health Administration</p> | <p><b>Using MELD to Improve and Maintain Bridge and Railway Infrastructure</b></p> <p><b>Zackery McClelland</b><br/>Research Mechanical Engineer<br/>US Army Corps of Engineers - ERDC</p> <p><b>Nanci Hardwick</b><br/>CEO<br/>MELD Manufacturing Corporation</p> | <p><b>Additive Manufacturing in the Air Force Rapid Sustainment Office</b></p> <p><b>Eddie Preston</b><br/>Chief Engineer<br/>USAF, RSO/AMPO</p> <p><b>Travis Grohoske</b><br/>Material Engineer<br/>RSO/AMPO</p> | <p><b>Paving the Way for Large-scale Steel 3D Printing for Use in Shipbuilding</b></p> <p><b>Kolby M. Pearson</b><br/>Engineer II<br/>General Dynamics NASSCO</p> | <p><b>Why a 3D Printing Manufacturer Should Invest in DEI Today</b></p> <p><b>Sarah Goehrke</b><br/>Senior Director, Strategic Communications and Ecosystems</p> <p><b>Kristin Mulherin</b><br/>General Manager, Powder Bed Products, President, Women in 3D Printing<br/>Nexa3D</p> | <p><b>Optimal Mechanical and Corrosion-Resistant Properties of AM-Metal Components by Post-Processing Combinatory Methods</b></p> <p><b>Agustin Diaz, PhD</b><br/>Lead Additive Manufacturing</p> <p><b>Justin Michaud</b><br/>CEO<br/>REM Surface Engineering</p> | <p><b>Accurate Modeling of 3D Selective Laser Melting for Large Parts</b></p> <p><b>John F. Maguire, DPhil, DSc (UK)</b><br/>FSME, FRSC<br/>CTO<br/>Scientific Simulation Systems (S^3) Inc</p> |
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|  | <p><b>Investigation of the Mechanical Properties of Porous Bone Scaffolds, Composed of Polyamide, Polyolefin, and Cellulose Fibers</b></p> <p><b>Roozbeh (Ross) Salary, PhD</b><br/>Assistant Professor of Mechanical and BioMedical Engineering<br/>Marshall University (West Virginia State)</p> <p><b>Robert Joyce</b><br/>Founder and President<br/>FibreTuff</p> | <p><b>Conductive Electronic Circuit Patterns with Liquid Metal Jetting</b></p> <p><b>Denis Cormier PhD</b><br/>Professor<br/>RIT</p> <p><b>Tim Schniepp</b><br/>Director of Applications Engineering<br/>Xerox</p> | <p><b>Bringing Moore's law to engineering - Algorithmic Design of an Aerospike Rocket Engine for Advanced AM</b></p> <p><b>Lin Kayser</b><br/>CEO &amp; Co-Founder<br/>Hyperganic</p> | <p><b>An Investigation into the Feasibility of Producing a Copper-Nickel Alloy Utilizing Laser Powder Bed Fusion</b></p> <p><b>John W. Ralls, PhD, PE</b><br/>Manger Principal Engineer III / Deputy Chief Engineer - Additive Manufacturing<br/>Newport News Shipbuilding</p> <p><b>Jared Blecher, PhD</b><br/>Principal Aerospace and Defense Engineer – Advanced R&amp;D<br/>3D Systems</p> | <p><b>Old School vs. New School: Additive Lessons Learned</b></p> <p><b>S.J. Jones</b><br/>Senior Additive Applications Engineer<br/>Siemens Energy</p> | <p><b>Post-machining of Additively Manufactured Ti-6Al-4V</b></p> <p><b>Bruce L. Tai, PhD</b><br/>Associate Professor<br/>Texas A&amp;M University</p> | <p><b>Computational Fluid Dynamics for Process Control and Optimization in Additive Manufacturing</b></p> <p><b>Allyce Jackman</b><br/>CFD Engineer<br/>Flow Science, Inc</p> |
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|  | <p><b>Implant Guides with Indexed Printed Prosthetics: How Digital Dental Workflows Improve Patient Quality</b></p> <p><b>Daniel B. Spagnoli</b><br/>Co-Owner &amp; Oral Surgeon, D DS, MS, PhD</p> <p><b>Tyler Britt</b><br/>Co-Owner and Chief Dental Technician<br/>Brunswick Oral &amp; Maxillofacial Surgery</p> | <p><b>From Metal Binder Jetting to Metal Material Jetting — A User Perspective</b></p> <p><b>Dror Danai</b><br/>Chief Business Officer<br/>Xjet Ltd.</p> | <p><b>Depowdering in New Space: A Game Changer for Unlimited Part Design in Additive Manufacturing</b></p> <p><b>Michael Sattler</b><br/>Global Sales Director<br/>Solukon</p> <p><b>Franck Mouriaux MS</b><br/>Chief Technology Officer<br/>Morf3D</p> | <p><b>Leveraging Additive Manufacturing to Take Control of the Supply Chain in Renewable Energy</b></p> <p><b>Greg Iannuccilli</b><br/>Principal Engineer &amp; Specialist of Additive Manufacturing and Advanced Concepts<br/>Markforged</p> <p><b>Jeremy Haight</b><br/>Enterprise Client Executive<br/>Vestas</p> | <p><b>Embracing Diversity, Equity and Inclusion and Incorporating Belonging, Present and Future</b></p> <p>Michael Jones<br/>Director, Talent Acquisition &amp; Diversity Equity Inclusion<br/>Xometry</p> | <p><b>Generating End-Use Parts with 3D Printing and Electroplating</b></p> <p><b>Analisa Russo, PhD</b><br/>User Applications Manager<br/>Formlabs Inc</p> <p><b>Sean Wise, PhD</b><br/>President<br/>RePliiForm Inc</p> | <p><b>Future-proof Your Business &amp; Career with 3MF</b></p> <p><b>Luis Baldez</b><br/>Executive Director, 3MF Consortium<br/>Senior Manager for Market Development<br/>HP 3MF Consortium</p> <p><b>Duann Scott</b><br/>Additive Manufacturing Business Development &amp; Marketing Strategy<br/>Bits to Atoms and 3MF</p> |
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|  | <p><b>Panel</b></p> <p><b>What's Next in Additive Manufacturing for the Healthcare Industry</b></p> <p><b>Clay Olson</b><br/>Application Engineer &amp; Regional Sales<br/>EDM Performance Accessories</p> | <p><b>Removing 3D Metal Parts from Build Platforms — Challenges and Solutions</b></p> <p><b>Clay Olson</b><br/>Application Engineer &amp; Regional Sales<br/>EDM Performance Accessories</p> | <p><b>Panel</b></p> <p><b>The Industry Outlook Post-Pandemic</b></p> | <p><b>Panel</b></p> <p><b>The Role of Additive Manufacturing in Heavy Industry</b></p> | <p><b>Panel</b></p> <p><b>Creating a DE&amp;I Framework in the Additive Manufacturing Industry</b></p> | <p><b>Optimization of Post-Processing 3D Printed Parts</b></p> <p><b>Cole M. Mathisen</b><br/>Sales and Marketing Manager<br/>Mass Finishing Inc</p> | <p><b>In-situ Data Collection, Process Monitoring and Quality Improvement for Melt Extrusion Additive Manufacturing</b></p> <p><b>David Prawel, PhD</b><br/>Associate Professor<br/>Colorado State University</p> |
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**Thought Leadership Panel – Main Stage 12:30 PM**  
If you don't measure it how can you sell it? The Importance of 3D Scanning to AM