

ASPE-euspen 2020 Summer Topical Meeting: Advancing Precision in Additive Manufacturing
Monday - Thursday, July 13-16, 2020 (EDT and Central European Times Listed)
Virtual Meeting: hosted via Zoom

Recorded Tutorial to be available for registrants 1 week in advance of the meeting.	Tutorial: "Measurement Uncertainty: The Essential Minimum" Professor Richard Leach, University of Nottingham
Recorded Tutorial to be available for registrants 1 week in advance of the meeting.	Tutorial: "X-Ray Computed Tomography Metrology" Dr. Adam Thompson, University of Nottingham

Monday, July 13, 2020

Eastern US	Central Europe	
9:00 AM - 1:00 PM	3:00 - 7:00 PM	AM Tutorial: "Swiss Cheese: A Practical Tutorial on Assessing AM Build Quality" Dr. Paul A. Hooper, Imperial College, UK
1:00 - 2:00 PM	7:00 - 8:00 PM	Break
2:00 - 6:00 PM	8:00 - 12:00 AM	PM Tutorial: "From Powder to Performance - Metrology and Characterization across the Additive Manufacturing Process Chain" Dr. Marcin B. Bauza, ZEISS Industrial Quality Solutions

Tuesday, July 14, 2020

Eastern US	Central Europe	
10:30 - 10:45 AM	4:30 - 4:45 PM	Meeting Open for Connecting
10:45 - 11:00 AM	4:45 - 5:00 PM	Welcome and Introduction John S. Taylor, University of North Carolina at Charlotte Richard Leach, University of Nottingham
11:00 - 11:45 AM	5:00 - 5:45 PM	Keynote "Standing on the Shoulders of Giants: AM Machine Performance Characterizations" Shawn P. Moylan, National Institute of Standards and Technology
11:45 - 12:15 PM	5:45 - 6:15 PM	Introduction to University of Nottingham "Towards Fully-Automated Complex 3D Shape Measurement" Richard Leach, University of Nottingham Moderator: Richard Leach, University of Nottingham
12:15 - 12:45 PM	6:15 - 6:45 PM	Introduction to ZEISS Industrial Quality Solutions "Moving Additive Manufacturing from Research to Reliable Manufacturing Process - Technological Challenges and New Opportunities" Marcin B. Bauza, ZEISS Industrial Quality Solutions Moderator: Marcin B. Bauza, ZEISS Industrial Quality Solutions
12:45 - 1:15 PM	6:45 - 7:15 PM	Break-out Session
1:15 - 1:30 PM	7:15 - 7:30 PM	Break
1:30 - 2:15 PM	7:30 - 8:15 PM	Introduction to KU Leuven "Improving the Surface Quality of Laser Powder Bed Fusion Parts" Jitka Metelkova, et al, KU Leuven, Belgium Moderators: Han Haitjema, KU Leuven, Belgium Ann Witvrouw, KU Leuven, Belgium
2:15 - 2:45 PM	8:15 - 8:45 PM	Introduction to University of Pittsburgh "Mechanical and Materials Design for Additive Manufacturing" Albert To, University of Pittsburgh Moderators: Xiayun Zhao, University of Pittsburgh Stephen J. Ludwick, Aerotech, Inc.
2:45 - 3:15 PM	8:45 - 9:15 PM	Break-out Session
3:15 - 3:30 PM	9:15 - 9:30 PM	Break

3:30 - 4:15 PM	9:30 - 10:15 PM	<p>Introduction to National Institute of Standards and Technology</p> <p>"Effect of Position and Orientation on Surface Topography in Laser Powder Bed Fusion of Nickel Superalloy 625" Jason C. Fox, National Institute of Standards and Technology</p> <p>"X-ray Computed Tomography Probability of Detection of Additive Manufacturing Defects: Experiment and Simulation" Felix Kim, National Institute of Standards and Technology</p> <p>Moderator: Jason C. Fox, National Institute of Standards and Technology</p>
4:15 - 4:45 PM	10:15 - 10:45 PM	<p>Introduction to University of North Carolina at Charlotte</p> <p>"Metrology, Sensing and Modelling for Laser Powder Bed Fusion" Samuel Ludwig, University of North Carolina at Charlotte Kuldeep Mandloi, University of North Carolina at Charlotte</p> <p>Moderator: Christopher J. Evans, University of North Carolina at Charlotte</p>
4:45 - 5:15 PM	10:45 - 11:15 PM	Break-out
5:15 - 5:45 PM	11:15 - 11:45 PM	Social Networking

Wednesday, July 15, 2020

Eastern US	Central Europe	
10:30 - 10:45 AM	4:30 - 4:45 PM	Meeting Open for Connecting
10:45 - 11:00 AM	4:45 - 5:00 PM	Welcome and Introduction John S. Taylor, University of North Carolina at Charlotte Richard Leach, University of Nottingham
11:00 - 11:45 AM	5:00 - 5:45 PM	Keynote Virtual Tour of the Manufacturing Demonstration Facility William H. Peter, Oak Ridge National Laboratory
11:45 - 12:15 PM	5:45 - 6:15 PM	Introduction to Oak Ridge National Laboratory Integrated Manufacturing "Distortion Monitoring and Control for Directed Energy Deposition" Thomas A. Feldhausen, Oak Ridge National Laboratory Moderator: Scott Smith, Oak Ridge National Laboratory
12:15 - 12:45 PM	6:15 - 6:45 PM	Introduction to University of Tennessee "Heterogeneous Deformation in 3D-Printed Cellular Structures" Brett Compton, University of Tennessee, Knoxville Moderator: Tony Schmitz, University of Tennessee, Knoxville
12:45 - 1:15 PM	6:45 - 7:15 PM	Break-out Session
1:15 - 1:30 PM	7:15 - 7:30 PM	Break
1:30 - 2:00 PM	7:30 - 8:00 PM	Introduction to Technical University of Denmark "Industrial Open Architecture AM Systems" David Bue Pedersen, Technical University of Denmark, Denmark Moderator: David Bue Pedersen, Technical University of Denmark, Denmark
2:00 - 2:30 PM	8:00 - 8:30 PM	Introduction to University of Huddersfield "Measurement and Characterization of Additively Manufactured Surface Texture" Shan Lou, University of Huddersfield, UK Moderator: Shan Lou, University of Huddersfield, UK
2:30 - 3:00 PM	8:30 - 9:00 PM	Introduction to VDL Enabling Technologies Group "Recent Experiences with Parts for Thermal Control" Gerrit Oosterhuis, VDL Enabling Technologies Group, USA Moderator: Antonius T. Peijnenburg, VDL Enabling Technologies Group, Netherlands
3:00 - 3:30 PM	9:00 - 9:30 PM	Break-out Session
3:30 - 3:45 PM	9:30 - 9:45 PM	Break

3:45 - 4:15 PM	9:45 - 10:15 PM	<p>Introduction to Delft University of Technology</p> <p>"Recent Progress in Topology Optimization for Accuracy and Precision" Fred van Keulen, Delft University of Technology, Netherlands</p> <p><i>Moderator:</i> Fred van Keulen, Delft University of Technology, Netherlands</p>
4:15 - 4:45 PM	10:15 - 10:45 PM	<p>Introduction to EWI</p> <p>"Instruments for Measuring AM Surface Roughness" Arushi Dhakad, EWI</p> <p><i>Moderator:</i> Daniel Kowalik, EWI</p>
4:45 - 5:15 PM	10:45 - 11:15 PM	Break-out
5:15 - 5:45 PM	11:15 - 11:45 PM	Social Networking

Thursday, July 16, 2020

Eastern US	Central Europe	
10:30 - 10:45 AM	4:30 - 4:45 PM	Meeting Open for Connecting
10:45 - 11:00 AM	4:45 - 5:00 PM	Welcome and Introduction John S. Taylor, University of North Carolina at Charlotte Richard Leach, University of Nottingham
11:00 - 11:30 AM	5:00 - 5:30 PM	Introduction to University of Padova "Dimensional Metrology and Computer Tomography for Precision AM" Filippo Zanini, University of Padova, Italy <i>Moderator:</i> Simone Carmignato, University of Padova, Italy
11:30 - 12:00 PM	5:30 - 6:00 PM	Introduction to Nikon Metrology "ISO 10360 Part 11: Latest Progress Towards an XCT Dimensional Verification Standard" & "3in1 Project: Combining Measurements on AM Parts" David J. Bate, Nikon Metrology, UK <i>Moderator:</i> David J. Bate, Nikon Metrology, UK
12:00 - 12:30 PM	6:00 - 6:30 PM	Introduction to University of Nottingham "Good Practice in Metal Additive Surface Measurement" Adam Thompson, University of Nottingham <i>Moderator:</i> Adam Thompson, University of Nottingham
12:30 - 1:00 PM	6:30 - 7:00 PM	Break-out Session
1:00 - 1:15 PM	7:00 - 7:15 PM	Break
1:15 - 1:45 PM	7:15 - 7:45 PM	Introduction to Imperial College "High-Speed In-Process Imaging and Temperature Measurement for Laser Powder Bed Fusion" Paul Hooper, Imperial College, UK <i>Moderator:</i> Paul Hooper, Imperial College, UK
1:45 - 2:15 PM	7:45 - 8:15 PM	Introduction to Missouri University of Science & Technology "Layer to Layer Control for Additive Manufacturing" Douglas A. Bristow, Missouri University of Science & Technology <i>Moderator:</i> Douglas A. Bristow, Missouri University of Science & Technology
2:15 - 2:45 PM	8:15 - 8:45 PM	Break-out Session
2:45 - 3:00 PM	8:45 - 9:00 PM	Break
3:00 - 3:30 PM	9:00 - 9:30 PM	Introduction to North Carolina State University "Impact of Build Orientation and Surface Processing on Fatigue Behavior" Ola L. A. Harrysson, North Carolina State University <i>Moderator:</i> Ola L. A. Harrysson, North Carolina State University

3:30 - 4:00 PM	9:30 - 10:00 PM	<p>Introduction to Sandia National Laboratories</p> <p>"High Throughput Testing for Frequent AM Machine and Process Characterization" Bradley H. Jared, Sandia National Laboratories</p> <p><i>Moderator:</i> Bradley H. Jared, Sandia National Laboratories</p>
4:00 - 4:30 PM	10:00 - 10:30 PM	Break-out
4:30 - 4:45 PM	10:30 - 10:45 PM	<p>Meeting Wrap-Up</p> <p>John S. Taylor, University of North Carolina at Charlotte Richard Leach, University of Nottingham</p>
4:45 - 5:00 PM	10:45 - 11:00 PM	Social Networking