



Technology Exchange on Additive Manufacturing

Sponsored by the

**Open Manufacturing Program of the Defense Advanced Research Projects Agency (DARPA)
Center for Innovative Materials Processing through Direct Digital Deposition (CIMP-3D)**

Wednesday, January 9, 2013

Penn Stater Conference Center and Hotel, State College PA

8:00	8:30	Registration	
8:30	8:40	Welcome to CIMP-3D	Rich Martukanitz, Penn State
8:40	9:00	Welcome DARPA Open Manufacturing	Michael Maher, DARPA
9:00	9:20	Guest Speaker: National Advanced Manufacturing Strategy	Thomas Kurfess, White House Office of S&T Policy
9:20	9:40	Guest Lecture: Multi-Material, Multi-Technology Additive Manufacturing	Ryan Wicker, University of Texas at El Paso
9:40	10:00	Break	
Technology Exchange Session on Modeling & Simulation of Additive Manufacturing			
10:00	10:20	The Integration of Design in the Application of Additive Manufacturing	Lonnie Love, Oak Ridge National Laboratory
10:20	10:40	Coupled Thermal-Mechanical Modeling of a Moving Heat Source with Material Additions	Pan Michaleris, Mechanical Engineering, Penn State
10:40	11:00	Modeling of Microstructural Evolution of Ti-6Al-4V Alloy Using the Phase Field Method	Long-Qing Chen and Zi-Kui Liu, Material Science & Engineering, Penn State
11:00	11:20	Development of Integrated Composition-Microstructure Based Models for the Prediction of Yield Strength in Ti-6Al-4V Alloy	Peter Collins, University of North Texas
11:20	12:00	Panel Discussion on Modeling & Simulation	
12:00	1:00	Lunch with Luncheon Presentation: Innovation and Creativity	Israel Stol, Alcoa Affiliate
Technology Exchange Session on Advanced Sensing Techniques and Control Methods for Additive Manufacturing			
1:00	1:20	Survey of Sensing Technology for Additive Manufacturing	Ted Reutzel, Applied Research Laboratory, Penn State
1:20	1:40	Advanced Sensing and Analysis of the Additive Manufacturing Process using Infrared Sensing Techniques	James Craig, Stratronics Corporation
1:40	2:00	In Situ Monitoring, Measurement and Control of Direct Digital Additive Manufacturing	Jyoti Mazumder, University of Michigan and POM Group
2:00	2:20	Methods for Integrated Melt Pool Geometry and Microstructure Control in Additive Manufacturing	Jack Beuth, Carnegie Mellon University
2:40	3:20	Panel Discussion on Advanced Sensing and Control	
3:20	3:40	Break	
3:40	4:00	Summary Discussion	
4:00		Adjourn	

Attendance Limited to DoD and DoD Contractors. Registration at: www.cimp3d.com.

