

SPEAKERS and PANELISTS



Dave Bourell, Temple Foundation Professor and Director, Laboratory for Freeform Fabrication, University of Texas at Austin, Co-Chair 2009 Roadmap for Additive Manufacturing

Dr. David L. Bourell is the Temple Foundation Professor of Mechanical Engineering at The University of Texas at Austin. He is currently Director of the Laboratory for Freeform Fabrication. Dr. Bourell's areas of research include particulate processing with emphasis on sintering kinetics and densification, and materials issues associated with Laser Sintering (LS). He holds nine primary patents dealing with materials innovations in LS dating back to 1990 and has published over 200 papers in journals, conference proceedings and book chapters. Dr. Bourell is a Fellow of ASM International and TMS, and he is also a lifetime member of TMS. In 2009, he received the TMS Materials Processing and Manufacturing Division Distinguished Scientist/Engineer Award. He has received two major conference career awards in additive

manufacturing: the SFF Symposium FAME Award and the Portuguese VRAP Career Educator Award. Professor Bourell is a leading expert in advanced materials for Laser Sintering, having worked in this area since 1988. Dave was the lead author on the original materials patent for LS technology. Issued in 1990, this patent has been cited by 150 other patents, and it represents the original intellectual property for mixed and coated powders for LS, including binders.



Gary Fleegle, Vice President and Chief Operating Officer, National Center for Defense Manufacturing and Machining, NAMII Acting Deputy Director for Technology Development

Gary Fleegle has over 15 years in the defense industry providing leadership in operations, finance, and contracts. As Chief Operating Officer with NCDMM, Gary has direct oversight of NCDMM's Engineering, Training and the Business Operations. Gary continues to expand NCDMM capabilities and drive growth throughout the organization through strong leadership and dedication. Within Gary's eight years of financial leadership, the NCDMM has grown in annual revenue from \$2 million to \$15 million. Additionally, Gary serves as Acting Deputy Director Technology Development for the National Additive Manufacturing Innovation Institute (NAMII), with a focus is to accelerate additive manufacturing technologies to the U.S. manufacturing sector and increase domestic manufacturing

competitiveness by fostering a highly collaborative infrastructure for the open exchange of additive manufacturing information and research, facilitating the development, evaluation, and deployment of efficient and flexible additive manufacturing technologies, and educating students and training workers in additive manufacturing technologies to create an adaptive, leading workforce.



Ed Herderick, EWI, Chair of Additive Manufacturing Consortium (AMC)

Ed Herderick joined EWI in the fall of 2010. Since joining, he has been working in the materials group, providing expertise on ceramics and fundamental materials science to clients in such industries as consumer electronics, aerospace, and energy production. He has expertise in materials properties, characterization, and processing. His technical focus areas have been joining of high-temperature environmentally resistive materials, coating technologies including thermal spraying, sol-gel deposition, vapor phase deposition, and additive manufacturing. He has industry experience working on advanced aerospace composite materials. He also has experience working with novel nanostructures for electronic applications. Ed most enjoys problems where he can leverage and synthesize fundamental understanding of materials processing and properties to engineer solutions to challenging problems. He received his B.S., M.S., and Ph.D. in Materials Science & Engineering from The Ohio State University.

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Roadmapping Workshop: Measurement Science for Metal-Based Additive Manufacturing December 4-5, 2012 Gaithersburg, MD

John Hunter, Director of Sales & Marketing, Carpenter Powder Products, Inc.

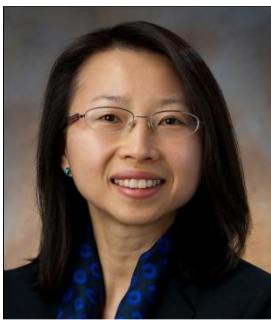
John has 35 years of technical sales and marketing experience focusing on new product development, marketing, and sales in domestic and international markets. For the last 5 years, he has been plying his trade for CPP which focuses on Nickel and Cobalt based alloys, Super alloys, Stainless and Tool steels, as well as Copper based alloys for Additive Manufacturing, Metal Injection Molding, and Hot Isostatic Pressing applications, among other applications. John earned his undergraduate degree from the University of Notre Dame and an MBA from Loyola University of Chicago. He is a member of APMI International, ASM International and the Laser Institute of America.



Kevin Jurens, Deputy Chief, Intelligent Systems Division, National Institute of Standards and Technology (NIST), United States Department of Commerce

Kevin Jurens is a mechanical engineer and has served in a variety of roles at NIST, including Acting Chief of the former Manufacturing Metrology Division, Program Manager of the NIST Predictive Process Engineering program, Technical Chair of the Manufacturing Panel for the NIST Advanced Technology Program (ATP), and technical project leader for several efforts. Kevin's current technical emphasis at NIST is advancement of measurement science for the additive manufacturing (AM) industry. Kevin has been involved in rapid prototyping and additive manufacturing since the mid-1990s, contributing to both the 1998 and 2009 industry roadmaps. Kevin is a technical leader for NIST efforts in AM. He currently serves on the Executive Committee for the ASTM F42 standards committee on Additive Manufacturing Technologies and as the NIST representative for the National Additive Manufacturing

Innovation Institute (NAMII). Kevin received degrees in Mechanical Engineering from the University of Nebraska (BSME) and the University of Kansas (MSME).



Agnes Klucha, Engineering Manager, Engineering Innovation Center, Pratt & Whitney

Agnes Chau Klucha is an Engineering Manager at Pratt & Whitney. She formed the Engineering Innovation Center to bring new innovations to life through prototyping, design and validation using an integrated approach. Agnes is driving the company's advanced manufacturing and design initiatives with a special focus on additive manufacturing. In her 17 years at Pratt & Whitney, Agnes has held various roles including Flight Test Engineer, F135 Test Planning Manager and leadership of Tiger Teams to resolve top technical issues. Agnes received her BAsC in Engineering Science - Aerospace Engineering from the University of Toronto and a MBA from the University of Massachusetts at Amherst. Agnes is the 2011 Connecticut Woman of Innovation. Agnes serves on the advisory boards for the University of Connecticut's Management and Engineering for Manufacturing Program and Penn State's

CIMP-3D (Center for Innovative Materials Processing through Direct Digital Deposition).



Tom Kurfess, Assistant Director for Advanced Manufacturing, Office of Science and Technology Policy, e Executive Office of the President

Thomas R. Kurfess is serving as the Assistant Director for Advanced Manufacturing at the Office of Science and Technology Policy in the Executive Office of the President, where he is responsible for coordinating Federal advanced manufacturing R&D, addressing issues related to technology commercialization, identifying gaps in current Federal R&D in advanced manufacturing, and developing strategies to address these gaps. In this role, he has responsibility for engaging the federal sector and the greater scientific community on identifying possible areas for policy actions. He is on leave from his position as Professor of Mechanical Engineering at Georgia Tech. He began his career at Carnegie Mellon University where he rose to the rank of Associate Professor. In 1994, he moved to the Georgia Institute of Technology where he rose to the rank of Professor in the George W.

Woodruff School of Mechanical Engineering. In 2005 he was named Professor and BMW Chair of Manufacturing in the Department of Mechanical Engineering at Clemson University's International Center for Automotive Research. In 2012 he returned to Georgia Tech. He has served as a special consultant of the United Nations to the Government of Malaysia in the area of applied mechatronics and manufacturing, and as a participating guest at the Lawrence Livermore

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Tom Kurfess (continued) National Laboratory in their Precision Engineering Program. He currently serves on the Board of Directors for the Society of Manufacturing Engineers, and the National Center for Manufacturing Sciences. His research focuses on the design and development of advanced systems targeting the automotive sector (OEM and supplier) including vehicle and production systems. He has significant experience in high precision manufacturing and metrology systems. Thomas R. Kurfess received his S.B., S.M. and Ph.D. degrees in mechanical engineering from M.I.T. in 1986, 1987 and 1989, respectively. He also received an S.M. degree from M.I.T. in electrical engineering and computer science in 1988.



Hank Phelps, Technology Development & Integration, Airframe Design, Lockheed Martin Aeronautics – Marietta

Mr. Phelps is a senior staff materials & processes engineer in Lockheed Martin's Advanced Development Programs organization, aka the Skunk Works. He has over 35 years of experience with advanced aerospace materials & fabrication processes including polymer & metal matrix composites, fiber metal laminates, aluminum & aluminum-lithium alloys, titanium & steel alloys, casting & forging processes, high speed machining, advanced water jet cutting, welding, brazing, composite layup & bonding. Mr. Phelps was previously the acting M&P department manager and lead metallurgist for Lockheed Martin on the F-22 program where he led cross-site and company teams to resolve material and process issues

affecting the production aircraft. Prior to coming to LM, Mr. Phelps worked for the Aerospace Division of Hercules Incorporated, where his projects included leading the fabrication of the graphite/epoxy optical bench for the High Resolution Spectrograph that flew on the Hubble Space Telescope. Mr. Phelps has Masters Degrees in Engineering Management and Materials Science as well as a Bachelors Degree in Physics. He is also a 6 Sigma Black Belt.



Dean Robinson, Manager, Model-Based Manufacturing Lab, GE Global Research Center

Dean leads the Product Realization Lab (PRL) at GE's Global Research Center (GRC) in Niskayuna, NY. He has held this position since 2000. PRL develops technologies for 3-D model-based fabrication, variation management, and geometry-process integration for precision manufacturing and inspection. The lab works primarily with GE's Infrastructure businesses (Aviation, Energy, Oil & Gas) and with GE Inspection Technologies. Current focus areas include digital additive fabrication at the macro and micro scales, adaptive & robotic machining, and path-planning/tooling for composites manufacturing. Dean has worked at GRC since 1983, except for a 5.5-year leave to pursue full-time graduate study at Cornell. His early work included algorithms and software to generate NC machining and inspection paths from solid models, and algorithms to analyze 3-D coordinate measurement data. After

returning to GRC from Cornell in 1995, Dean developed technologies, tools, and training for 3-D assembly and system tolerance analysis. He led Advanced Tolerancing and Producibility projects for several GE businesses from 1997 through 2000.



S. Shyam Sunder, Director, Engineering Laboratory, National Institute of Standards and Technology (NIST), United States Department of Commerce

Dr. Sunder was appointed to the U.S. Senior Executive Service in 2005. He has held a succession of positions at NIST including: Manager of the High-Performance Construction Materials and Systems Program (1994-1996), Analyst and Senior Program Analyst in the Office of the NIST Director (1996-1997), Chief of the Structures Division and then the Materials and Construction Research Division (1998-2005), Acting Deputy Director and then Deputy Director of the Building and Fire Research Laboratory (2004-2007), and Acting Director and then Director of the Building and Fire Research Laboratory (2006-2010). Prior to joining NIST in 1994, he served on the faculty of the Massachusetts Institute of Technology for thirteen years. Dr. Sunder holds an undergraduate degree from the Indian Institute of Technology, Delhi, and master's and doctor of science degrees from the Massachusetts Institute of Technology. He

has received several awards, including the Gold Medal Award for distinguished leadership from the U.S. Department of Commerce in 2005.