

DMC 2013

*How Can Manufacturing Innovation
Improve Affordability?*

December 2-5, 2013
Kissimmee, Florida



GAYLORD PALMS

www.DMCMEETING.COM

“ If you want to go to the moon again, we'll be starting from scratch because all of that knowledge has disappeared. It would take at least as long and cost at least as much to go back.

Lost Knowledge (2005)
– David DeLong

”

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- Rollout of Unified CAPS + 4D Database
- Understanding and Addressing Conflict Minerals Regulations and other regulatory issues
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- BOM Manager and CAPS Universe Enhancements
- Taking Standards into the Third Dimension: 3D CAD Models for Critical Parts
- Beyond Standards: Opening the Window to Technical Knowledge
- IHS Engineering and Obsolescence Services
- Design Engineering Solutions and Best Practices: IHS ESDU



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TABLE OF CONTENTS

Welcome	5
Conference Information	6-7
Conference Agenda	
Monday	9
Tuesday	10
Wednesday	11
Thursday	12
2013 Defense Manufacturing Technology Achievement Award Nominations	14-15
2013 Defense Manufacturing Excellence Awards	16-17
2013 Manufacturing Technology Champion Award	18
MTCConnect Announcement	19
Group Luncheon Speakers	20
Poster Sessions	21
Exhibit Hall Layout/Hours/Exhibitors	22-23
Concurrent Sessions Agenda	
Monday	24-25
Tuesday	26-27
Wednesday	28-29
Thursday	30-31
2014 Exhibitor Presales	33
Win a FREE DMC 2014 Registration	33
DMC 2013 Sponsors	34
DMC 2014	35

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Dear DMC Participants from Industry, Government and Academia:

Welcome to the 2013 Defense Manufacturing Conference (DMC 2013), the nation's largest annual forum for the defense manufacturing and industrial base community of practice – business and technology leaders, policy makers, managers, scientists and engineers from all levels of industry, government and academia. This year, we examine the impacts of technology, program management, and institutional innovations on more affordable manufacturing related to the theme of "How Can Manufacturing Innovation Improve Affordability?"

With the growing interdependency of the national defense industrial base and the associated national science and technology base with the commercial sector, DMC 2013 will attempt to broaden attendees' awareness of the growing importance of these relationships at a time of political, economic and budgetary uncertainty and national defense strategy ("Sustaining U.S. Global Leadership: Priorities for 21st Century Defense") based upon more complex international, asymmetric and transitioning wartime scenarios.

To address these realities, the morning General Sessions will provide a unique and diverse forum of invited presentations from senior-level stakeholders in the Administration, the DOD, military departments and defense agencies; non-defense agencies including the National Institute of Standards of Technology (NIST); Industry and Academic manufacturing researchers and sponsoring agencies.

Afternoon Concurrent Sessions will include focused sessions on manufacturing technology for advanced manufacturing enterprise, metals, electronics, composites, energetics/munitions, manufacturing readiness, emerging innovative manufacturing sciences, technologies, and policies, manufacturing systems engineering, technology readiness process, modeling/simulation, and R&D collaborative initiatives - all receiving national attention and investment.

In addition, over 200 Industry and Government manufacturing process and product exhibits representing over 120 organizations showcasing the very latest state of the art initiatives will be on display throughout the conference.

The Universal Technology Corporation (UTC), a defense-oriented small business, is proud to be the 2013 DMC Host Sponsor and our professional staff looks forward to meeting your needs for a cost effective, successful and enjoyable conference.

UTC typically expresses our appreciation to general session keynote speakers (many of whom travel just to be with us for their important presentations) by presenting a memento of the occasion. UTC will be making a donation to one of the DOD sanctioned Wounded Warrior Support Organizations* in each speaker's name and we suggest that other attendee organizations and exhibitors consider a donation as well to the Wounded Warrior organization of their choice. Such donations are tax deductible and provide direct assistance to healing wounded warriors returning home from current conflicts, as well as their families.

Your UTC Host Staff
 Defense Manufacturing Conference 2013

* 2009 – The Wounded Warrior Foundation
 2010, 2011, 2012, 2013 – The Wounded EOD Warrior Foundation

CONFERENCE INFORMATION

CONFERENCE BADGES

All participants for DMC 2013 must have proper identification to allow access to any session or social event. Therefore, badges must be worn at all times and placed in a visible location.

To attend general or technical sessions, you must be registered for the conference and follow the conference registration procedures. Exhibitors must check in at the Conference Registration Desk to pick up exhibitor badges and show proper identification. Exhibitor badges will not allow access to general or technical sessions. If exhibitors would like to attend the sessions, they must register and follow the conference registration process.

ITAR RESTRICTION

The information presented at this Conference is subject to the International Traffic in Arms Regulations (ITAR) or the Export Administration Regulations (EAR) of 1979. Information may not be exported, released or disclosed to foreign nationals inside or outside the United States without first obtaining an export license. A violation of the ITAR and EAR may be subject to penalty of up to 10 years imprisonment and a fine of \$100,000 under 22 U.S.C. 2778 or Section 2410 of the Export Administration Act of 1979.

CONFERENCE ATTIRE

- Attendees** – Business Casual for all meeting sessions and social events
- Civilian** – Business Casual for all meeting sessions and social events
- Military** – Class B uniform as directed by organization policy
- Speakers** – Business attire or military service dress

FOOD FUNCTIONS & EXTRA GUEST TICKETS

To be admitted into the Group Luncheons and Group Breakfast, attendees and exhibitors must have an Attendee or Attendee/Exhibitor badge. If you do not have one of these badges, you must present a ticket for luncheons/breakfast. To be admitted into the receptions, you must either have an Attendee, Attendee/Exhibitor or Exhibitor badge, or present the proper ticket. There will be no exceptions, so please make sure when you attend these functions that you have your badge or ticket. Guests may attend the social events by purchasing a ticket at the Registration Desk for the desired event. All guests must be accompanied by an attendee and have the proper ticket to enter the conference event. Extra tickets are available for the following costs: Monday Welcome Reception \$50, Tuesday Group Luncheon \$45, Tuesday Exhibitor Reception \$50, Wednesday Group Luncheon \$45, Thursday Group Breakfast \$40.

EXHIBITS

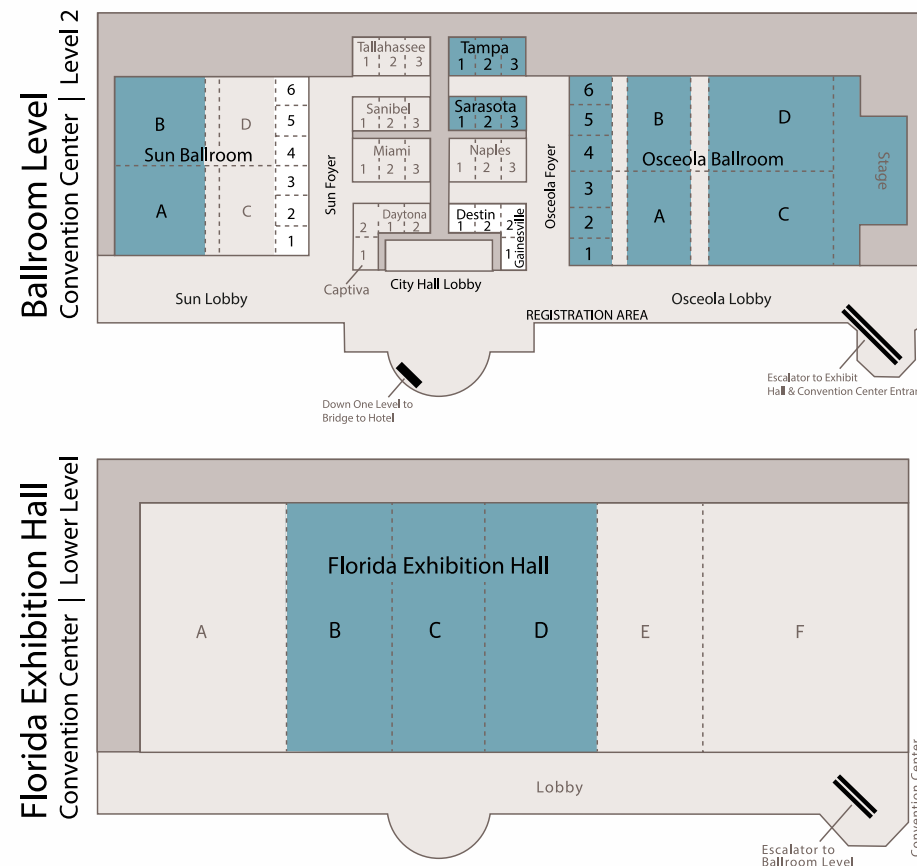
One of the key attractions of the Defense Manufacturing Conference continues to be the vast array of innovative technologies on display throughout the Conference. The exhibits highlight current and future weapon systems and associated manufacturing/sustainment initiatives aimed at lowering weapon system acquisition/ownership costs and establishing affordable advanced performance capabilities. Exhibits will be open at specific times as noted in the Conference Agenda, giving attendees the opportunity to network and see the latest technologies firsthand.

CONFERENCE PROCEEDINGS

In order to provide you with all the presentation material from the conference, this year the General Session and Concurrent Sessions will be posted on the Advanced Technical Intelligence Center (ATIC) secured website, two weeks after the DMC 2013 conference. More information about how to download the material will be sent to all registered attendees after the conference.

ATTENDEE LIST

All registered attendees will receive a Final Attendee List along with a Conference Questionnaire after the conference.



Registration
Osceola Lobby

General Session
Osceola Ballroom C-D

Concurrent Sessions
Osceola Ballroom A, B, 1-6,
Tampa 1-3, Sarasota 1-3

Exhibit Hall
Florida Exhibition Hall B-D
• Refreshment Breaks
• Networking Session
• Poster Session
• Welcome Reception
• Networking Reception

Group Luncheon (Tue & Wed)
Sun Ballroom A-B

Group Breakfast (Thursday)
Osceola Ballroom C-D

TUESDAY, DEC. 3 GROUP LUNCHEON

- Seasonal Greens, Roasted Pistachios,
Aged Stilton and Dried Cherries
Raspberry Vinaigrette
- Grilled Chicken Breast with Tiger Shrimp,
Lemon Butter Sauce
Asparagus and Rice Pilaf
- Gaylord Palms' Key Lime Pie with a Twist
Lime infused Praline Crème
- Margarita Gelee, Carbonated Lime Sugar

WEDNESDAY, DEC. 4 GROUP LUNCHEON

- Spicy Greens, Red and Yellow Pear
Tomatoes, Honey Roasted Walnuts,
Gorgonzola Cheese
Aged Balsamic Vinaigrette
- Beef Bourguignon - Slow Roasted Beef,
Carrot, Onion, Mushroom and Root
Vegetables, Served over Mashed Potatoes
- Traditional Chocolate Layer Cake

THURSDAY, DEC. 5 GROUP BREAKFAST

- Sliced Fresh Fruit with Yogurt Sauce
Bake Shop Specialties
- Fluffy Scrambled Eggs with Chives
Oven Roasted Tomato Half garnish with
Fresh Wilted Spinach
- Crispy Smoked Bacon Strips
Roasted Fingerling Potatoes with
Julienne Peppers
- Fresh Squeezed Orange Juice







If you have any food restrictions, please notify the registration desk.



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11:00 AM - 7:00 PM	Registration	<i>Osceola Lobby</i>
1:30 PM - 3:00 PM	<p>Concurrent Sessions</p> <ul style="list-style-type: none"> • JDMTTP Advanced Manufacturing Enterprise - Current and Future Challenges in AME <i>Osceola A</i> • JDMTTP Composites - Nano Enhancements for Composites <i>Osceola 1-2</i> • JDMTTP Electronics - RF Technologies Manufacturing Excellence <i>Osceola B</i> • Gee Whiz - NIST <i>Sarasota</i> • JDMTTP Manufacturing Readiness Levels (MRLs) <i>Osceola 5-6</i> • JDMTTP Metals - Lighter Weight Metals for Vehicle Protection <i>Osceola 3-4</i> • NDIA - Power Sources Working Group <i>Tampa</i> 	
3:00 PM - 3:30 PM	Refreshment Break	<i>Osceola Foyer</i>
3:30 PM - 5:00 PM	<p>Concurrent Sessions</p> <ul style="list-style-type: none"> • JDMTTP Advanced Manufacturing Enterprise - Current and Future Challenges in AME <i>Osceola A</i> • JDMTTP Composites - Intelligent Manufacturing of Composite Structures <i>Osceola 1-2</i> • JDMTTP Electronics - Lead Free Electronics Risk Mitigation <i>Osceola B</i> • Gee Whiz - DARPA <i>Sarasota</i> • NDIA Session: America Makes - National Additive Manufacturing Innovation Institute <i>Osceola 5-6</i> • JDMTTP Metals - Lighter Weight Metals for Vehicle Protection <i>Osceola 3-4</i> 	
5:00 PM - 7:00 PM	Welcome Reception & Poster Session - Opening of Exhibits	<i>Florida Exhibition Hall B-D</i>

7:00 AM - 7:00 PM	Registration	Osceola Lobby
7:00 AM - 8:00 AM	Continental Breakfast	Osceola Lobby
8:00 AM - 12:00 PM	General Session	Osceola C-D
9:00 AM - 7:00 PM	Exhibits Open	Florida Exhibition Hall B-D
9:50 AM - 10:50 AM	Refreshment Break - Exhibit Hall	Florida Exhibition Hall B-D
11:20 AM - 12:00 PM	Award Presentations <ul style="list-style-type: none"> • DMSMS Award Announcement • 2013 Joint Defense Manufacturing Technology Achievement Award • 2013 Defense Manufacturing Excellence Award • 2013 Champion Award 	Osceola C-D
12:00 PM - 1:30 PM	Group Luncheon Implementation of Innovative Manufacturing Technologies Dr. Lonnie Love, Oak Ridge National Laboratory	Sun Ballroom A-B
1:30 PM - 3:00 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Advances in Intelligent Manufacturing Osceola A • JDMTP Composites - F-35 Composites Manufacturing Technology Osceola 1-2 • DARPA Open Manufacturing Sarasota • JDMTP Energetics and Munitions Osceola 5-6 • JDMTP Metals - Manufacturing Technology for Weapon Systems Application Osceola 3-4 • NDIA - Cyber Security for Manufacturing Tampa • JDMTP Printed Electronics - Enabling Technology for the Warfighter Osceola B 	
3:00 PM - 3:30 PM	Refreshment Break - Exhibit Hall	Florida Exhibition Hall B-D
3:30 PM - 5:00 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Advances in Intelligent Manufacturing Osceola A • JDMTP Composites - Out of Autoclave Composites Manufacturing Osceola 1-2 • DARPA Open Manufacturing Sarasota • JDMTP Energetics and Munitions Osceola 5-6 • JDMTP Metals - Manufacturing Technology for Weapon Systems Application Osceola 3-4 • JDMTP Printed Electronics - Manufacturing Challenges Osceola B 	
5:00 PM - 7:00 PM	Networking Reception & Poster Session - Exhibit Hall	Florida Exhibition Hall B-D

7:00 AM - 5:00 PM	Registration	Osceola Lobby
7:00 AM - 8:00 AM	Continental Breakfast	Osceola Lobby
8:00 AM - 12:00 PM	General Session	Osceola C-D
9:00 AM - 4:00 PM	Exhibits Open	Florida Exhibition Hall B-D
9:15 AM - 10:15 AM	Networking Session & Poster Session - Exhibit Hall	Florida Exhibition Hall B-D
12:00 PM - 1:30 PM	Group Luncheon Innovation – Father of “Pit Stop” Engineering Speaker: Mr. Dennis Carlson, Carlson Technology	Sun Ballroom A-B
1:30 PM - 3:00 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Interoperability Osceola A • JDMTP Composites - Polymeric Additive Manufacturing Osceola 1-2 • JDMTP Electronics - Electro-Optic Advanced Manufacturing Technology Osceola B • JDMTP Energetics and Munitions Sarasota • JDMTP Manufacturing Readiness Levels (MRLs) Osceola 5-6 • JDMTP Metals - Additive Manufacturing Osceola 3-4 • NDIA - Managing Risk in the Aerospace and Defense Supply Chains Tampa 	
3:00 PM - 3:30 PM	Refreshment Break - Exhibit Hall	Florida Exhibition Hall B-D
3:30 PM - 5:00 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Interoperability Osceola A • JDMTP Composites - Aviation Composites Manufacturing Technology Osceola 1-2 • JDMTP Electronics - Advanced Power and Energy Sources Osceola B • JDMTP Manufacturing Readiness Levels (MRLs) Osceola 5-6 • JDMTP Metals - Additive Manufacturing Osceola 3-4 • NDIA - Supplier Networks of the Future Tampa 	

7:00 AM - 4:30 PM	Registration	Osceola Lobby
8:00 AM - 8:30 AM	Group Breakfast	Osceola C-D
8:30 AM - 12:00 PM	General Session	Osceola C-D
12:00 PM - 1:00 PM	Lunch <i>(on your own)</i>	
1:00 PM - 2:30 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Technical Data • JDMTP Composites - Naval Composites Manufacturing Technology • JDMTP Electronics - Advanced Electronics Packaging • JDMTP Metals - Novel Processes for Metals Manufacturing 	Osceola A Osceola 1-2 Osceola B Osceola 3-4
2:30 PM - 3:00 PM	Refreshment Break	Osceola Foyer
3:00 PM - 4:30 PM	Concurrent Sessions <ul style="list-style-type: none"> • JDMTP Advanced Manufacturing Enterprise - Technical Data • JDMTP Composites - Composites Armor Manufacturing Technology • JDMTP Electronics - Electronic Materials Manufacturing Innovation • JDMTP Metals - Novel Processes for Metals Manufacturing 	Osceola A Osceola 1-2 Osceola B Osceola 3-4
4:30 PM	Adjourn Conference	

WOUNDED EOD WARRIOR FOUNDATION

About the Foundation...

- We provide financial relief to our Wounded EOD Warriors and their families to help keep them together during the most difficult times to aid in the healing process

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www.woundedeodwarrior.org



It is the generosity of others that allows us to offer "compassionate solutions" to our Wounded EOD Warriors and their families.

God Bless our Troops!

Photo courtesy of: The Dallas Morning News/ Jim Mahoney

DMC will be making a donation to the Wounded EOD Warrior Foundation. Exhibitors & Attendees are encouraged to do likewise at www.woundedeodwarrior.org

The DoD's Defense Manufacturing Technology Achievement Award is sponsored by the JDMTP, and is given to teams comprised of both government and private sector members who are responsible for outstanding projects in manufacturing technology. The Achievement Award recognizes and honors the team members whose projects demonstrated technical accomplishments that helped to achieve the vision of the DoD ManTech program: To realize a responsive world-class manufacturing capability to affordably meet the Warfighters' needs throughout the defense system life cycle.

Nominees are evaluated based on 3 criteria: manufacturing technology achievement, transition/implementation, and potential or realized benefits. To be eligible, nominated projects must have been managed by a ManTech program of the Services, MDA, OSD, or the DLA. The selection committee consists of the six current JDMTP Principals.

We want to thank the 2013 Defense Manufacturing Technology Achievement Award nominees for their commitment to manufacturing and technological innovations for the Warfighter.

Finalists:



Advanced Body Armor

Shawn M. Walsh and Lionel R. Vargas-Gonzalez (ARL, Agile Manufacturing Technology Team), James Campbell (ARL, Ceramic and Transparent Armor Team), James Q. Zheng (PM SOLDIER, Soldier Protection Individual Equipment), Richard Palicka (CoorsTek Vista), Steve Elliot (St. Gobain Ceramics), Prashant Karandikar (M Cubed Technologies, Inc.), Ross Hutter (Accudyne Systems Inc.), Chad Griswold (3M Ceradyne), Robert Speyer (Verco LLC)



Chip Scale Atomic Clock (CSAC)

Yoonkee Kim and Van Tran (US Army CERDEC CP&ID), Sunil Sadhwani and Jeffrey Dansereau (Symmetricom, Inc.), Jeffrey Kriz and Robert Compton (Honeywell, Int.), Ruben Marquez and Dale Hollis (Teledyne Reynolds, Inc.)



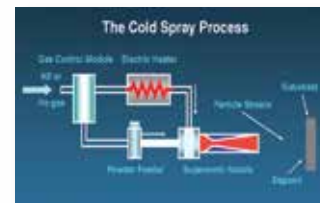
F-35 Canopy Thermoforming Automation

Neil Graf (ONR ManTech), Chris Coughlin (NAVAIR 4.3.4.4 Polymers and Composites), Joe Ichniowski (NAVAIR), Dave Thomas (JSF Production Operations), Ryan Frankart (Navy Composites Manufacturing Technology Center, SCRA Applied R&D), Matthew Ashley, Phillip Sturman, and Derek Krumm (GKN Advanced Transparency Systems)



Plate Edge Preparation Improvements (PEPI)

Lance Flitter (PMS 500 Program, Naval Surface Warfare Center, Carderock Division), Gene Franke (Naval Surface Warfare Center, Carderock Division), Stephen Davis and Philip Taylor (General Dynamics Bath Iron Works), Kevin Roossinck (Huntington Ingalls Industries – Ingalls Shipbuilding), Karl Kopija (E.H. Wachs), Timothy G. Freidhoff, Al Baum, Paul Sleppy and Christopher Alexion (Navy Metalworking Center/Concurrent Technologies Corporation)



Restoration of Aerospace Parts by Cold Spray

Dr. Timothy Eden (Applied Research Laboratory, Penn State), Frederick Lancaster (Naval Air Systems Command (NAVAIR)), Luc Doan and Conrad Macy (US Navy, FRC-SW North Island), Robert Kestler (US Navy, FRC East), Victor Champagne (US Army Research Laboratory), Michael J. Kane and Fernando R. Merritt (US Army AMRDEC), William C. Harris Jr. (Sikorsky), Bob Bierk (Moog Inc.)

Other Nominees:

Large Affordable CdZnTe Substrates (LAS)

J. David Benson (Night Vision and Electronics Sensors Directorate, Science and Technology Division (NVESD/S&T)), Scott Johnson and Kelly A. Jones (Raytheon Vision Systems), Aristo Yulius (Teledyne Imaging Sensors)

Meals Ready to Eat (MRE) Assembly Improvement Project – “MRE Fit”

Jason Niedzwiecki and Robert Trottier (Combat Feeding Directorate, Research, Development and Engineering Center, US Army Natick Soldier Systems Center (NSSC)), Brad Hildabrand (COL Veterinary Corp/US Army, Defense Logistics Agency (DLA) Technical Quality), Robert Cogger (Combat Rations Network (CORANET), DLA R&D), Hung Jue Sue (Texas A&M Engineering Experiment Station), Rupy Sawhney (University of Tennessee Agricultural Experiment Station)

Since 1995, the National Center for Advanced Technologies (NCAT), acting as the agent for the Associations and Societies involved in the Multi-Association Industry Affordability Task Force, has sought to recognize an individual and small working groups/teams in the defense manufacturing community for making outstanding contributions to furthering manufacturing science and technology in the United States for the past fiscal year (Oct. 2012 - Sep. 2013). Through the Defense Manufacturing Excellence Award, these Associations and Professional Societies acknowledge and recognize contributions of those scientists, designers, engineers, and/or managers involved in defense manufacturing who have sought to:

1. Conduct research into ways and means to increase the producibility, affordability, or technical superiority of the nation's defense systems and/or
2. Develop or practice ways and means to increase the producibility, affordability, or technical superiority of the nation's defense systems.

Each Association and Society solicits nominations for the Award from its members and then forwards the nominations to NCAT.

Each year a lead Association or Society acts as the main sponsor for the Award, which is also endorsed by all the other Associations and Societies affiliated with the Multi-Association Industry Affordability Task Force. This year, the Association for Manufacturing Technology (AMT) is the lead association for the award selection process and will sponsor the Award presentation at DMC. Mr. Tim Shinbara, Technical Director at AMT, chaired the 2013 Defense Manufacturing Excellence Award Selection Committee and will present the Award.



Lead Associations/Societies have included:

- Society of Manufacturing Engineers (SME): 2001, 2008
- Aerospace Industries Association (AIA): 1996, 2000, 2010
- National Council for Advanced Manufacturing (NACFAM): 2002, 2009
- Government Electronics Information Technology Association (GEITA): 1997, 2005
- National Defense Industrial Association (NDIA): 1995, 2003, 2006
- Association For Manufacturing Technology (AMT): 1998, 2007
- National Center for Manufacturing Sciences (NCMS): 2004, 2011
- Armed Forces Communications and Electronics Association (AFCEA): 1999
- National Center for Defense Manufacturing and Machining (NCDMM): 2012

2012

- Mr. Ed Morris
- MLRS Rocket Motor: Air Pollution Control System

2011

- Mr. Steven M. Linder
- Zinc Sulfide Missile Dome
- Volumetric Accuracy for Large Machine Tools

2010

- Mr. William P. Rollins
- Automated Robotic Blade Stripping System Team
- Metal Electroplating with No-Mask Conforming Anode Team

2009

- Mr. Donald H. Verhoff
- Volumetric Accuracy for Large Machine Tools Team
- Tantalum-Tungsten Lined Gun Barrel Manufacturing Team
- M-ATV Production Launch Team

2008

- DHUD Reflective Microdisplay Team
- Naval Propulsion Shaft Machining Team

2007

- Mr. Jim Mattice
- Common Composite Tailcone
- Kinetic Spray Metal Deposition Technologies

2006

- Dr. Jacques Gansler
- Exoatmospheric Kill Vehicle
- Enhanced Wiring Integrity Team

2005

- Mr. Thomas D. "Dan" Cundiff
- Rapid Prototyping Technology Advancement Team

2004

- Mr. Larry Rhoades, Extrude Hone
- Metals Affordability Initiative
- The Light Armored Vehicle Logistics Support Team

2003

- Mr. Leonard Martinez, Sandia National Laboratories
- Paveway Integrated Supply Chain Team, Raytheon
- ManTech Laser Shock Peening Initiative, LSI, Inc.

2002

- Mr. Richard Engwall
- Laser Engineered Net Shaping (LENS) NCMS/CTMA Team
- High Throughput Production Process (HITHRU) NCMS/CTMA Team
- Objective Individual Combat Weapon (OICW) ATK Team
- Sandoff Land Attack Missile-Expanded Response (SLAM-ER) Lean Pathways Team

2001

- Mr. Robert Cattoi
- Lockheed Martin Aeronautics JSF Airframe Affordability Demonstration Team
- Lockheed Martin Aeronautics Project Lightspeed Team

2000

- Mr. James M. Sinnett
- The Boeing JDAM Production and SMEI Teams

1999

- Dr. Lance Davis
- Harris GCSD Team

1998

- Mr. Herman M. Reininga

1997

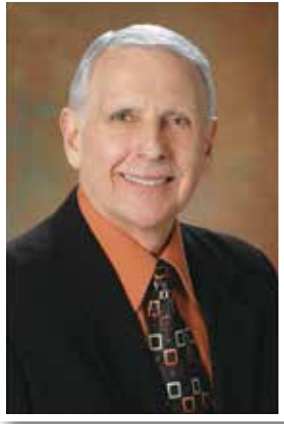
- Mr. Aris Melissaratos

1996

- Mr. William James Andahazy

1995

- Mr. R. Noel Longuemare



The ManTech Champion Award recognizes and honors an individual in government or the private sector, who has made significant and enduring contributions to the DoD Manufacturing Technology Program. This year will mark only the second occasion of this Award, which is presented at the discretion of the Joint Defense ManTech Panel (JDMTP) on behalf of all of the ManTech programs of the Army, Navy, Air Force, DLA, and OSD. Any individual who is selected as a "champion" of manufacturing technology is eligible to receive this award – someone who understands, and has consistently advocated and supported the powerful impact of manufacturing technology for increasing warfighter capability, reducing cost, and improving program performance. This individual is, or has been, an ardent supporter and defender of the need to stay at the forefront of defense-essential manufacturing capability. With his or her support, they have striven to ensure that our Nation's Warfighters are the beneficiaries of the best technology that industry can provide, and that we, as a Department, provide those technologies quickly and affordably.

**The Second Recipient of this Award is
Mr. James J. Mattice, SES
(Retired), USAF**

Jim was the Program Chairman for the DMC from 1998 through 2012 while also serving as Senior Consultant for Business Development at the Universal Technology Corporation. Jim's prior 38-year Air Force career included assignments as Deputy Assistant Secretary of the Air Force for Research & Engineering, the Air Force Chair at the Federal Executive Institute, Executive Director at the AF Aeronautical Systems Center and as the longest serving former Director of the Air Force ManTech Program. In all of these positions, Jim's commitment and dedicated service to the Defense Manufacturing Technology Program and Community makes him a true ManTech Champion!

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**MTConnect Challenge 1
Winners Announced
Each Awarded \$5,000 Cash Prize
MTConnect Challenge 2 is Open for Submission**



Blairsville, Pa. – June 19, 2013. The National Center for Defense Manufacturing and Machining (NCDMM), along with AMT – The Association For Manufacturing Technology and the United States Army, are proud to announce the winners of MTConnect® Challenge 1. Five winners were selected, each receiving a \$5,000 cash prize.

The MTConnect Challenge is an Office of the Secretary of Defense (OSD) Defense-wide Manufacturing Science and Technology (DMS&T) sponsored, two-part challenge project to develop manufacturing solutions utilizing MTConnect protocol.

MTConnect is an open, royalty-free set of communications standards intended to foster greater interoperability between manufacturing equipment, devices, and software applications and harness the wealth of information and data available on the shop floor. With the development of more MTConnect-based applications, manufacturing enterprises, especially the lower tier producers, can enhance their manufacturing capabilities and better support Department of Defense (DoD) supply chain management goals.

Challenge 1 focused on acquiring ambitious yet achievable ideas that harness innovation and manufacturing intelligence breakthroughs. The judging criteria included Benefit to Manufacturing Intelligence; Creativity and Innovation; Practicality of Concept; Impact on Industry; and Overall Quality. The title of the winning project submissions, along with the project's author(s) and organization (if named), and a brief project summary are listed below:

- **Integration with Microsoft Visio** – James Finn — International TechneGroup Incorporated
Uses data acquisition stencils and display objects to virtually connect shop floor equipment, to Visio templates, providing users the ability to develop their own real-time shop floor manufacturing data up-load and visualization programs.
- **MTConnect TeamEngage** – Peter Laird
Functions as a plant operations collaboration system that allows ad-hoc groups within an operations team to initiate and control conversations revolving around a snapshot of MTConnect data.
- **sim.MTConnect.org | A 3D, Web-Based, MTConnect Simulator** – Scott Liningar
Simulates and visualizes MTConnect interactions against a 3D map of your factory through an elegantly-simple free Web site. Uses a drag-and-drop library of virtual equipment to simulate equipment activities.
- **Interactive Work Instructions** – Donovan Buckley & Arvind Rangarajan – GE Global Research, PARC
Uses real-time MTConnect tool path data to automatically scroll to the right page in a set of PDF work instructions, bring real-time simulation corresponding to the feature being machined, and flag any drifts from the intended tool path for operator intervention or material review board action.
- **AugMT: Augmented Vision with MTConnect** – Nick Tullios & Jeb Baugh – Praeses, LLC
Combines processed information from MTConnect data streams with augmented reality technology available through Google Glass technologies. The system will also feedback video and audio information to departments to address production needs.

MTConnect Challenge 2 opened for submissions on July 1, 2013, and is accepting submissions through January 31, 2014. The second challenge is for the actual development of functional software applications that use MTConnect to address the objectives of the challenge.

Entry details and rules can be found at www.mtconnect2.challenge.gov



Tuesday - Group Luncheon Speaker
Implementation of Innovative Manufacturing Technologies

Dr. Lonnie Love
Oak Ridge National Laboratory

Lonnie Love, Ph.D., is the group leader of ORNL's Manufacturing Systems Research Group. He has over 15 years of experience in the design and control of complex robotic and hydraulic systems. His primary expertise is in the areas of hydraulics, additive manufacturing, force controlled systems, human strength amplification, high payload robotics and nanomaterials. Recent research efforts have focused on freeform fluidics, developing new lightweight low-cost hydraulic systems through additive manufacturing. Example applications include underwater robotics (teaming with Bluefin), prosthetics and haptic interfaces. Lonnie was ORNL's 2009 Inventor of the Year, 2006 R&D 100 award winner, 2006 Micro/Nano Award winner, has over 10 invention disclosures and patents and 50 peer reviewed publications. He serves on the scientific advisory board for NSF's Center for Compact and Efficient Fluid Power and is on the Medical and Scientific Advisory Board for OrthoCare Innovations.



Wednesday - Group Luncheon Speaker
Innovation – Father of "Pit Stop" Engineering

Mr. Dennis Carlson
Carlson Technology

Dennis Carlson received his degree in Architecture from the University of Michigan, and is a licensed Architect. He became a partner in the second largest AE firm in Michigan, and spent evenings and weekends working with Team McLaren, initially in reducing the time for pit stops, to help in their goal to beat Roger Penske. His work in racing was expanding, which caused him to abandon architecture, and pursue a new career in the highest levels of racing.

He formed Carlson Technology in 1978. In 1984 he won the "Behind the Scenes" award from ESPN, for his development and integration of the NASA systems for cooling the astronauts into Formula One cars at the US Grand Prix.

His work in racing first caught the attention of the Navy, and then the Army, and he began developing projects the way the top racing teams would attack a problem. His Defense work has produced three Gold Awards from BusinessWeek Magazine's annual Design Awards, and two Packard Acquisition Awards from the Department of Defense. He has served on the Army Science Board, on the Executive Steering Board at OSD for Maintenance Policy and Material Readiness, and been a featured panel member and speaker on numerous occasions.

Poster Sessions will be held in the Exhibit Hall during the Monday and Tuesday Receptions and during the Networking Sessions on Wednesday.

DMC Poster Presentations

Industrial Base Trends in Electronics Interconnection Technologies

Poster Presenter: Mr Craig Herndon - NSWC Crane

Socializing the US Industrial Base to Meet DoD Procurement Challenge

Poster Presenter: Mr Nainesh Rathod - Imaginestics LLC

Recent Developments in Computational Material and Failure Modeling using the Cockcroft-Latham Failure Criterion but Augmented with a Strain-Rate Dependency Term for Rate-Sensitive Alloys

Poster Presenter: Mr Richard Nemece - Alcoa Inc

Non-Destructive Inspection (NDI) of Electron Beam Direct Manufacturing (EBDM) of Titanium

Poster Presenter: Dr Kevin Klug - Concurrent Technologies Corp

Atmospheric Pressure Plasma Treatment of Organic Matrix Composites for Structural Adhesive Bonding

Poster Presenter: Mr Mikhail Grigoriev - Aerospace Materials Processing

Moving Manufacturing to the Left - Design for Manufacturability (DFM) at Rockwell Collins

Poster Presenter: Mr Tony Provencal - ITI Transcendata

Author: Mr Douglas Cheney - International TechneGroup Inc

Strategies for Implementing and Evolving the Model Based Enterprise

Poster Presenter: Mr Tony Provencal - ITI Transcendata

Author: Mr John Gray - International TechneGroup Inc

Manufacturing Technologies for Extended Life Components

Poster Presenter: Dr Eli Ross - Pratt & Whitney

Lightweight Enclosures that Provide both Environmental and Electromagnetic Protection

Poster Presenter: Dr Nathan Hansen - Conductive Composites Company

Manufacturing Proof of Concept Model for Littoral Combat System LCS

Poster Presenter: Mr Robert Taylor - ACI Technologies Inc

Author: Mr David Henry - ACI Technologies Inc

Solving Critical Military Battery Industrial Base Challenges with Title III A User's Perspective

Poster Presenter: Mr Keith DeVries - NSWC Crane

DMSMS Poster Presentations

An Accurate New Technique for the Detection of Conflict Minerals and Implications for the Identification of Counterfeit Products and Sub-Standard Parts

Poster Presenter: Ms Catherine McManus - Materialytics LLC

From Re-engineering to Organic Maintenance. Delivering the Unknown On-Time and On-budget

Poster Presenter: Mr Brent Carlsen - Space Dynamics Lab

Legacy Sustainment: Innovation for the Next Generation of DMSMS

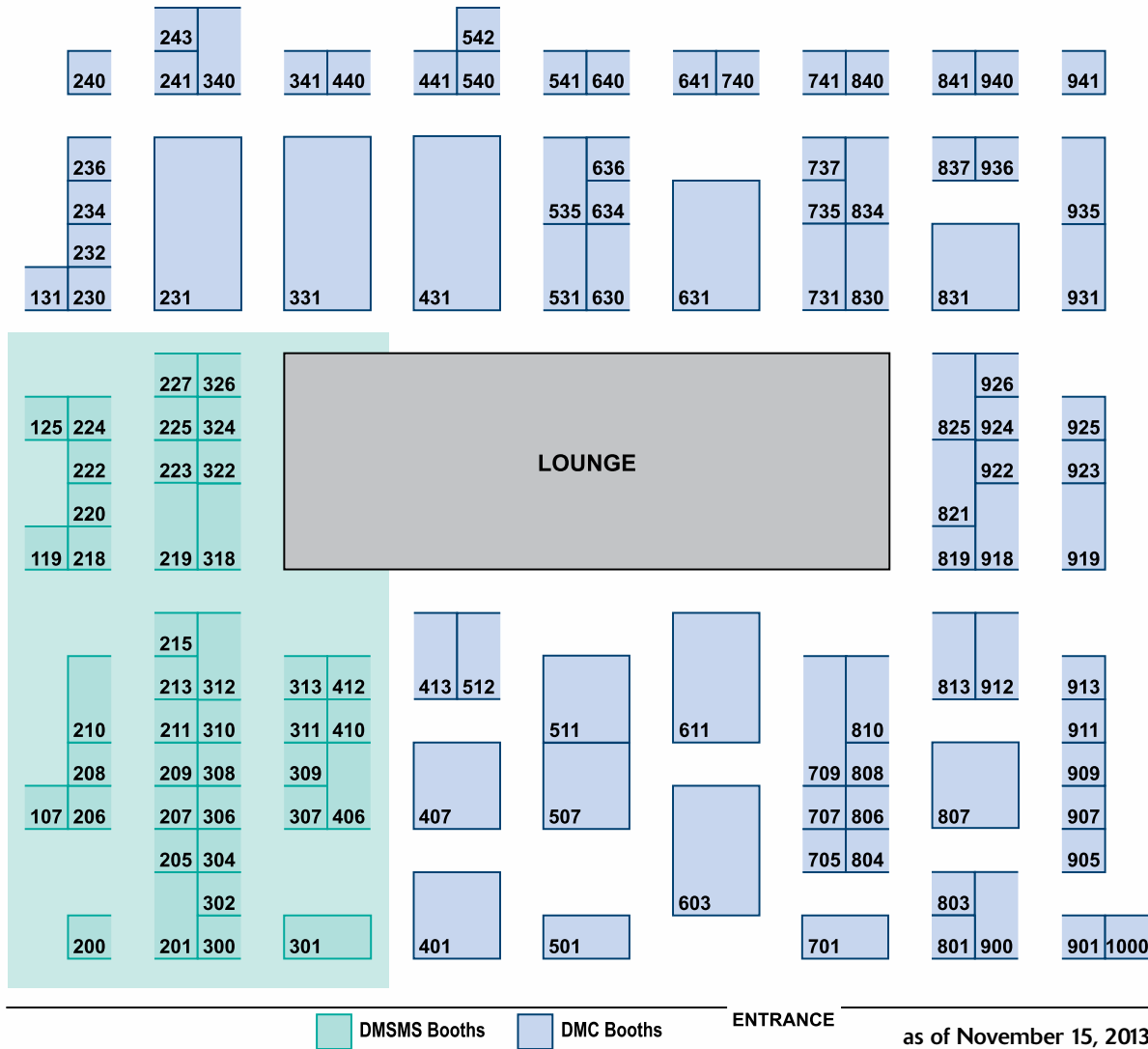
Poster Presenter: Mr Ethan Plotkin - GDCA Inc

Authors: Mr Ethan Plotkin - GDCA Inc, Ms Kaye Porter - GDCA Inc

Automated Design Extraction for IC Part Obsolescence and Counterfeit Mitigation

Poster Presenter: Mr John Hallman - MacAulay-Brown Inc

All exhibitor profiles are on the DMC website. Please go to the interactive exhibit hall map and click on a booth or organization name to see their information below the map at: <http://www.dmcmeeting.com/page/exhibit13.html>



ORGANIZATION	BOOTH	ORGANIZATION	BOOTH	ORGANIZATION	BOOTH
DIAGNOSYS SYSTEMS INC	107	NASCO	324	TELEDYNE MICROELECTRONICS	740
BIGC DINOLITE SCOPES	119	4 STAR ELECTRONICS	326	THIRD WAVE SYSTEMS	741
GD4 TEST SERVICES INC	125	NCDDMM	331	DOD SBIR/STTR	801
DARPA SBIR / STTR PROGRAM	131	ALCOA DEFENSE	340	SYSTEMS & MATERIALS RESEARCH CORPORATION SMRC	803
SSDI	200	RHENIUM ALLOYS	341	KEYSTONE SYNERGISTIC ENTERPRISES INC.	804
ASTUTE ELECTRONICS	201	TRIUMPH GROUP INC.	401	SME	806
TPP	205	SMT CORP	406	AURORA FLIGHT SCIENCES	807
INVENTORY LOCATOR SERVICE	206	RAYTHEON	407	LANCER	808
US TECHNOLOGIES	207	SPACE DYNAMICS LABORATORY	410	GKN AEROSPACE	810
NORTH SHORE COMPONENTS INC.	208	SANDIA NATIONAL LABORATORIES	412	APPLIED DNA SCIENCES INC	813
ARC TECHNOLOGY SOLUTIONS LLC	209	ARMY RDECOM	413	NAVY EMTC	819
ROCHESTER ELECTRONICS	210	DEFENSE LOGISTICS AGENCY	431	NAVY METALWORKING CENTER	821
LINEAR INTEGRATED SYSTEMS INC	211	RAPID SHEET METAL	440	NAVY MANTECH	825
NJMET TESTING	213	CENTURY INC THERMAL PROCESSING MACHINING	441	PENN STATE ELECTRO-OPTICS CENTER	830
AIA NATIONAL AEROSPACE STANDARDS	215	CG TECH	501	GE AVIATION	831
ARTISAN TECHNOLOGY GROUP	218	SIKORSKY	507	ITI	834
GIDEP	219	PRATT & WHITNEY	511	AUTOMATED DYNAMICS	837
U S DYNAMICS CORPORATION	220	AFRL	512	NAMMO	840
COMPONENT TRENDS	222	UNIVERSAL TECHNOLOGY CORP	531	CONDUCTIVE COMPOSITES	841
SECURE COMPONENTS	223	SRI SARNOFF	535	STRATASYS INC.	900
DEFENSE ACQUISITION UNIVERSITY (DAU)	224	DUCOMMUN AEROSTRUCTURES INC	540	NSCRYPT INC.	901
IDEA	225	EOS SOLUTIONS	541	PAR SYSTEMS	905
SILICON 360	227	UCF OFFICE OF TECHNOLOGY TRANSFER	542	DYNOMAX INC.	907
CUMING MICROWAVE	230	THE BOEING COMPANY	603	MUNRO & ASSOCIATES	909
NORTHROP GRUMMAN	231	LOCKHEED MARTIN	611	JANICKI INDUSTRIES	911
EXONE	232	IMAST ARL PENN STATE	630	FIVES MACHINING SYSTEMS INC	912
NOKOMIS	234	SCRA	631	LSP TECHNOLOGIES	913
3D SYSTEMS CORPORATION	236	CENTER FOR NAVAL SHIPBUILDING TECHNOLOGY (CNST)	631	MAGNESIUM ELEKTRON NORTH AMERICA	918
NANOCOMP TECHNOLOGIES INC	240	COMPOSITES MANUFACTURING TECHNOLOGY CENTER (CMTC)	631	MAGNESIUM ELEKTRON POWDERS	919
PRINTED DEVICE CONCEPTS INC	241	THE COMPOSITES CONSORTIUM (TCC)	631	EWI	922
MSC SOFTWARE	243	SCRA APPLIED R&D	631	CREE INC	923
PREMIER SEMICONDUCTOR SERVICES	300	PROJECTS UNLIMITED	634	TRUMPF INC	924
CRESTWOOD TECHNOLOGY GROUP	301	AASC	636	AMAMCO	925
HARRY KRANTZ COMPANY	302	DOE KANSAS CITY PLANT	640	ACE APPLIED COMPOSITES ENGINEERING	926
MICROSS COMPONENTS	304	NSA-TAPO	641	OAK RIDGE NATIONAL LABS	931
ACD	306	TRIQUINT	701	RTI INTERNATIONAL METALS INC	935
XTREME SEMICONDUCTOR	307	Y-12 NATIONAL SECURITY COMPLEX	705	TENCATE ADVANCED COMPOSITES	936
ERAI INC	308	SPECTRUM PLASTICS GROUP	707	WESTERN ENVIRONMENTAL CORP	940
LANSDALE SEMICONDUCTOR	309	DMS&T/ TITLE III	709	CALUMET ELECTRONICS CORPORATION	941
E2V	310	ACI TECHNOLOGIES INC.	731	REL INC	1000
SILICONEXPERT TECHNOLOGIES	311	NASA MICHOU D ASSEMBLY FACILITY/ LCMS/NCAM	735		
BAE SYSTEMS	312	MDA ADVANCED RESEARCH SBIR	737		
CONCORD COMPONENTS	313				
IHS	318				
INTEGRA TECHNOLOGIES	322				

EXHIBIT HALL HOURS

MONDAY

EXHIBIT SET-UP
7:00 AM - 4:00 PM

WELCOME RECEPTION
5:00 PM - 7:00 PM

TUESDAY

EXHIBITS OPEN
9:00 AM - 7:00 PM

NETWORKING RECEPTION
5:00 PM - 7:00 PM

WEDNESDAY

EXHIBITS OPEN
9:00 AM - 4:00 PM

EXHIBIT TEARDOWN
4:00 PM - 11:00 PM

THURSDAY

EXHIBIT TEARDOWN
8:00 AM - 12:00 PM

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota	Tampa
AME - Current and Future Challenges in AME Mr Branch Boden AFRL	Electronics - RF Technologies Manufacturing Excellence Mr Michael Frederickson ACI Technologies Inc	Composites - Nano Enhancements for Composites Dr Anisur Rahman NAVAIR SYSCOM	Metals - Lighter Weight Metals for Vehicle Protection Dr Kyu Cho US Army Research Lab	Manufacturing Readiness Levels (MRLs)	Gee Whiz - NIST Mr David Siteren NIST/MEP	NDIA - Power Sources Working Group Mr James Guinski Rusty Nail Engineering
Open Issues in AME	Achieving Higher Performing RF Devices using 3D Digital Manufacturing Dr Thomas Weller University of South Florida	Nano Reinforced Hybrids Prof Brian Wardle MIT	Affordable Protection from Objective Threats Dr Robert Carter US Army Research Lab	PANEL: MRL Implementation Status by Services and Industry Mr Arthur Temmesfeld USAF AFRL/RXME	1:30 PM - NIST Programs Supporting Domestic Advanced Manufacturing Mr David Siteren NIST/MEP	Affordable Manufacturing of High Energy and High Power Thermal Batteries Mr Jacob Popek EnerSys
Government Tech Data Issues Mr Paul Huang ARL/ONR	Development of a SystemonChip RF Tuner for JSF Production Mr Nicholas Fardella ACI Technologies Inc	Carbon Nanotube (CNT) based Multi-Functional Structures Dr Seth Kessler Metis Design Corp	DARPA 5X Underbody Protection Program Mr Judah Goldwasser DARPA	Mr Donald Szczur United Solutions International	1:40 PM - Additive Manufacturing at NIST Mr Kevin Jurens NIST Engineering Laboratory	A New Battery Approach for Next Generation Military Aircraft Mr Kris Johannessen Yardney
Challenges in Government Sourcing Ms Andrea Helbach AFRL	VWBand 100mm GaN Manufacturing for Next Generation Communications Mr Rajinder Sandhu Northrop Grumman Corp	Next Generation Fibers Containing Nano Materials Dr Satish Kumar Georgia Institute of Technology	Forging/Forming of Al Underbody Structure	Mr Mark Gordon National Center For Advanced Technologies	2:05 PM - Advanced Robotics at NIST Dr Jeremy Marvel NIST Engineering Laboratory	Counterfeit Batteries Entering the Supply Stream Mr Mike Eskra Eskra Technical Products, Inc.
3:00 PM - 3:30 PM - Refreshment Break - Osceola Foyer						

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota
AME - Current and Future Challenges in AME Mr John MacKrell CIMDATA	Electronics - Lead Free Electronics Risk Mitigation Ms Linda Woody Lockheed Martin Co	Composites - Intelligent Manufacturing of Composite Structures Mr Paul Hauwiler General Dynamics IT	Metals - Lighter Weight Metals for Vehicle Protection Ms Pauline Smith US Army Research Lab	NDIA Session: America Makes - National Additive Manufacturing Innovation Institute	Gee Whiz - DARPA
Measuring Impacts in AME	Lead Free (Pb-Free) Electronics Risk Mitigation (PERM) Consortium and Technology Update Ms Linda Woody Lockheed Martin Co	Operations Intelligence to Help Define Composite Processes Characteristic Measurements and Production Predictive Analytics Mr Charles Buckley Dassault Systemes	Cast Egin Steel for Underbody Structures Dr Kyu Cho US Army Research Lab	3:30 PM - Technical Direction and MRLs at the Pilot Institute Mr Rob Gorham America Makes -National Additive Manufacturing Innovation Institute	3:30 PM - Robot Design Gateway for Rapid and Cost Effective Design and Manufacturing of Customized Robots Dr Trevor Niblock Magzor Robotics
Web 2.0 and Potential Impacts Mr Christopher Peters The Lucrum Group	SERDP Tin Whisker Testing and Modeling: High Temperature High Humidity Conditions Dr Stephan Meschter BAE Systems	Bayesian Process Control for Composite Bonding in DARPA TRUST Dr Barron Bichon SwRI	Low Cost Steel Encapsulated Armor Mr Raymond Monroe Steel Founders Society of America	4:15 PM - Workforce Development supporting Advanced Manufacturing Mr Darrell Wallace America Makes -National Additive Manufacturing Innovation Institute	3:50 PM - Strain-Tolerant Organic-Ceramic Coatings for the Passivation of Copper Micro-Channel Coolers Dr Tapan Desai Advanced Cooling Technologies
Moderated Q&A	PANEL: Overview of Lead Free Electronics Risk Mitigation	3D Process Analytics for Carbon Composite Manufacturing Mr Tom Sharp Elegant Technologies	Advanced Mfg Alloys for Lightweight Protection Mr Richard DeLorme Magnesium Elektron North America	4:30 PM - Revolutionary Electrohydrodynamic Wind Energy Dr Dawn White Accio Energy	4:10 PM - Micromanufacturing and Scaling Pathways to Miniaturized Turbomachinery Mr James Walton Mohawk Innovative Technology Inc
5:00 PM - 7:00 PM - Welcome Reception & Poster Session - Opening of Exhibits - Florida Exhibition Hall B-D					

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota	Tampa
AME - Advances in Intelligent Manufacturing Dr John Snyder US Army Benet Labs	Printed Electronics - Enabling Technology for the Warfighter Mr Jim Fisher NCDMM Mr James Zunino III US Army ARDEC	Composites - F-35 Composites Manufacturing Technology Mr Neil Graf Office Of Naval Research	Metals - Manufacturing for Weapon Systems Application Ms Carrie Davis NSWC Carderock	Energetics and Munitions Mr Charles Painter NSWC IHEODTD	DARPA Open Manufacturing Mr Michael Maher DARPA	NDIA - Cyber Security for Manufacturing Mr Mark Gordon National Center For Advanced Technologies
MTCconnect Challenge and Standard Update Mr John Wluczynski NCDMM	1:30 PM - Enabling Printed Technologies for Military Applications Mr James Zunino US Army ARDEC 1:50 PM - Innovation in 3D Printed Electronics Mr Danny Muse Printed Device Concepts Inc 2:10 PM - UAV 3D Integrated Communication Systems and Devices Dr Ken Church Sciperio Inc	Composites Dry Machining and Dust Control for F-35 Bonded Assemblies Mr Michael Cowan Lockheed Martin Co	Automated Gouging Technologies to Improve Hull Fabrication for Virginia Class Submarines Ms Nancy Porter Edison Welding Institute	IMX-104 Manufacturing Process Optimization Ms Xueling Zhao US Army RDECOM ARDEC	Opening Manufacturing 1.5 Years Later Mr Michael Maher DARPA	NDIA study of Cybersecurity for Advanced Manufacturing Dr Michael McGrath Analytic Services Inc
	2:30 PM - PANEL: Overview of Printed Electronics	Automated Thermoforming of Advanced Acrylic Canopies Mr Matthew Ashley GKN Aerospace	Development of Application-Specific Tools And Fixtures to Facilitate Joining and Repair of On-Hull Pipe Assemblies for the Navy Ms Patricia Huber Concurrent Technologies Corp	Double Base Feedstock Development Dr Suzanne Prickett NSWC IHDI	Rapid Qualification Through Robust Modeling Mr Milton Ortiz Honeywell Inc	Implications for Supply Chain Risk Management Ms Jennifer Biscoe Interos Solutions Inc
		Robotic 2K Coating Delivery & Spray Process For F-35 Mr Bobby Dabbs Lockheed Martin Co	Fusion Welding of Advanced Structural Alloys for Military Applications Prof John DuPont Lehigh University	Kinetics of the Nitration of Cellulose for the Production of Nitrocellulose Using Wood Pulp Cellulose Mr Mohamed Elalem US Army RDECOM ARDEC	TIFAB Informed Qualification of Electron Beam Additive Manufacturing Dr David Bowden Boeing Co	Cybersecurity R&D Relevance to the Advanced Manufacturing Enterprise Mr Brech Boden USAF AFRL
3:00 PM - 3:30 PM - Refreshment Break - Exhibit Hall - Florida Exhibition Hall B-D						

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota
AME - Advances in Intelligent Manufacturing Dr John Snyder US Army Benet Labs	Printed Electronics - Manufacturing Challenges Mr Bill Marshall New Jersey Institute of Technology Mr James Zunino III US Army ARDEC	Composites - Out of Autoclave Composites Manufacturing Mr Neil Graf Office Of Naval Research	Metals - Manufacturing for Weapon Systems Application Mr Raymond Monroe Steel Founders Society of America	Energetics and Munitions Mr Charles Painter NSWC IHEODTD	DARPA Open Manufacturing Mr Michael Maher DARPA
Total Ownership Cost Reduction for Ohio Replacement Class Submarine Mr Jeffrey Banks Applied Research Lab Penn State	3:30 PM - Additive Manufacturing of Printed Electronics A Hybrid Approach Mr Scott Lauer Advantech US Inc 3:50 PM - 3D Printing Issues and Challenges Using Aerosol Jet Printed Electronics Dr Curtis Anderson Rockwell Collins 4:10 PM - Inkjet Printed Solutions for Real World Applications - Power Sources & Sensors Mr Bill Marshall New Jersey Institute of Technology 4:30 PM - PANEL: Overview of Manufacturing Challenges	Advanced Composites for Space Exploration - Composite Cryotank Dr James Sutter NASA GRC	Manufacturing of Aluminum Alloy Structures for Modernizing the Aging Fleet Mr Frank Shoup Alcoa Inc	PBXIH-18 Manufacturing via Twin Screw Extruder Mr Richard Muscato NSWC IHDI	Certification Methodology to Transition Innovation Ms Gail Hahn The Boeing Co
Non-Contact Fastener Flushness Inspection Mr Christopher Barrow Lockheed Martin Co	Advances in Out Placement of Autoclave Fiber Mr Mike Holt Lockheed Martin Co	Advanced Cured Laminates Improve F-35 Bonded Assembly Dimensional Stability Mr Alan Dressel Lockheed Martin Co	Repair and Reset of Aluminum Hulled Ground Combat Vehicles Mr Lawrence Brown Edison Welding Institute	Manufacturing Demonstration with the Vacuum Casting System and the Twin Screw Extruder Mr Mark Williams NSWC IHDI	Transition Reliable Unitized Structure (TRUST) Mr Brad Hanson Lockheed Martin Co
The Application of Integrated Computational Material Engineering ICME in Metals Manufacturing Mr Ardeshir Sholapurwalla ESI NA			Implementation of Portable Cold Spray for NAVAIR Aerospace Components Dr Timothy Eden Penn State - Applied Research Lab	Design and Development of a Manufacturing Process to Low-Cost 3.4-Diaminofurazan (DAF) Mr Jerry Salan NALAS Engineering Services Inc	Rapid Prototyping of Adv Passive Dynamic Ankle Foot Orthoses Dr Shridhar Varlagadda University of Delaware CCM
5:00 PM - 7:00 PM - Networking Reception & Poster Session - Exhibit Hall - Florida Exhibition Hall B-D					

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota	Tampa
<p>AME - Interoperability Dr Gregory Harris US Army AMRDEC</p>	<p>Electronics - Electro-Optic Advanced Manufacturing Technology Mr Neil Supola US Army NVESD Ms Karen Berecz Rockwell Collins</p>	<p>Composites - Polymeric Additive Manufacturing Mr Paul Hauwiler General Dynamics IT</p>	<p>Metals - Additive Manufacturing Mr Stephen Luckowski US Army ARDEC</p>	<p>Manufacturing Readiness Levels (MRLs)</p>	<p>Energetics and Munitions Mr Charles Painter NSWC IHEODTD</p>	<p>NDIA - Managing Risk in the Aerospace and Defense Supply Chains Dr Kenneth Sullivan University of Alabama in Huntsville</p>
<p>Using the iFAB Architecture to Execute Rapid Development Dr Mark Traband Applied Research Lab - Penn State</p>	<p>1:30 PM - Affordable HD 3rd Gen IR FPAs Mr James Bangs Raytheon Co</p> <p>1:50 PM - JSF EO Targeting System (EOTS) Producibility Mr Bruce Krashetski Santa Barbara Focalplane</p>	<p>The National Additive Manufacturing Innovation Institute (NAMII) Overview and Investments in Polymer Additive Manufacturing Mr William Macy NCDMM</p>	<p>JDMTP Metals Subpanel Additive Manufacturing Overview Mr Stephen Luckowski US Army ARDEC</p>	<p>Overview/Status of the New Industry Manufacturing Management Standard Being Developed by SAE Mr Mark Gordon National Center For Advanced Technologies</p>	<p>Manufacturing MEMS-scale Fuze Components for High Throughput and Low Cost Ms Lynne Rider US Army ARDEC Mr John Krafcik Alliant Technologies Inc</p>	<p>1:30 PM - The National Institute for Rocket Propulsion Systems (NIRPS) and the Management of the Supply Chain and Industrial Base Mr Rajiv Doraswamy NASA</p>
<p>Army Accelerated Adaptive Fabrication Enterprise Dr John Snyder US Army Benet Labs</p>	<p>2:10 PM - NexGen ManTech for Advanced Shipboard Lighting Systems Mr John Mazurowski Penn State Electro-Optics Center</p>	<p>Application of 3D Printing for Small UAVs Mr Brent Meredith Northrop Grumman Corp</p>	<p>DARPA Open Manufacturing Metals Additive Goals and Objectives Mr Michael Maher DARPA</p>	<p>Implementation of MRLs at GE Aviation Mr David Dombrowski GE Aviation</p>	<p>Advanced Munitions Warhead Manufacturing Improvements Mr Robert Nodaise US Army ARDEC</p>	<p>1:50 PM - Utilization of the SCRL Model to Evaluate Supply Chains Mr Brian Tucker University of Alabama in Huntsville Mr Joseph Paxton University of Alabama Huntsville</p>
<p>Interoperable Multi-user Model Based Engineering Across an Enterprise Wide Supply Chain Dr Charles Jensen Brigham Young University</p>	<p>2:30 PM - Process Improvements and Integrated Link Testing Reduce Installation Cost of Fiber Optics Mr John Mazurowski Penn State Electro-Optics Center</p>	<p>The National Additive Manufacturing Innovation Institute NAMII Overview and Investments in Metallic Additive Manufacturing Mr Rob Gorham NCDMM</p>	<p>The National Additive Manufacturing Innovation Institute NAMII Overview and Investments in Metallic Additive Manufacturing Mr Rob Gorham NCDMM</p>	<p>Advanced Tungsten Penetrator Materials and Designs Mr Dave Siddle Kennametal Inc</p>	<p>2:10 PM - The Changing Dynamic of Risk Management Today: The Introduction of a Supply Chain Risk Management Framework for the Public and Private Sectors Ms Jennifer Bisceglie Interos Solutions Inc</p>	<p>2:40 PM - Supply Chain Dr Patricia Gore MDA</p>

3:00 PM - 3:30 PM - Refreshment Break - Exhibit Hall - Florida Exhibition Hall B-D

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4	Osceola 5-6	Sarasota	Tampa
<p>AME - Interoperability</p>	<p>Electronics - Advanced Power and Energy Sources Mr James Guccinski Rusty Nail Engineering</p>	<p>Composites - Aviation Composites Manufacturing Technology Dr John Brennan NAVAIR</p>	<p>Metals - Additive Manufacturing Mr Walter Roy Strategic Mantech</p>	<p>Manufacturing Readiness Levels (MRLs)</p>	<p>NDIA - Supplier Networks of the Future Mr Chris Peters The Lucrum Group</p>	<p>NDIA - Supplier Networks of the Future Mr Chris Peters The Lucrum Group</p>
<p>Visualization Inspection to Validate Integrated Data Vivid Mr Dan Sokol Renaissance Services Inc</p>	<p>Reducing the Cost of Advanced Lithium Ion Battery Technology through Automated Manufacturing Mr Vincent Visco Quallion LLC</p>	<p>Automated Composite Structure Inspection System ACSIS Mr Chris Esser Ingersoll Machine Tools Inc</p>	<p>Center for Innovative Metal Processing through Direct Digital Deposition (CIMP-3D) Dr Richard Martukanitz Applied Research Laboratory Penn State</p>	<p>MRL Workshop Overview Mr Gary Stanley Gary Stanley Consulting</p>	<p>PANEL: Supplier Networks Mr Mark Schaefer Schaefer Marketing Solutions Mr James Williams 3D Systems Corporation Dr Albert Jones NIST Mr David Free mfg.com Mr John Vickers NASA MSFC</p>	<p>PANEL: Supplier Networks Mr Mark Schaefer Schaefer Marketing Solutions Mr James Williams 3D Systems Corporation Dr Albert Jones NIST Mr David Free mfg.com Mr John Vickers NASA MSFC</p>
<p>Implementation of a Model Based Definition (MBD) Environment at NAVAIR Mr Tony Provencal ITI Transcendata</p>	<p>Li-CFx/MnO2 Hybrid Chemistry Batteries for Military Applications and Manufacturing Feasibility Study Results Mr Mark Michelini BCF Solutions</p>	<p>Flexibility in Composites Manufacturing using Dockable End-Effectors Mr Vernon Benson ATK Aerospace</p>	<p>NASA Additive Manufacturing Program Plans/Advanced Manufacturing Technology Development Dr Terri Tramel NASA</p>	<p>3:45 PM - MRL User Guide (Hot-Link Tool) Mr Arthur Temmesfeld USAF AFRL</p>	<p>3:45 PM - MRL User Guide (Hot-Link Tool) Mr Arthur Temmesfeld USAF AFRL</p>	<p>3:45 PM - MRL User Guide (Hot-Link Tool) Mr Arthur Temmesfeld USAF AFRL</p>
<p>PANEL: Session Discussion</p>	<p>Solid Oxide Fuel Cell Ceramic Powder Characterization Mr Carmine Meola ACI Technologies Inc</p>	<p>Integral Heating System for Composite Structures Dr James Snider Aurora Flight Sciences Mr Daniel Cottrell Aurora Flight Sciences</p>	<p>Measurement Science for Additive Manufacturing Mr Kevin Jurens NIST Engineering Laboratory</p>			

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4
AME - Technical Data Mr Ben Kassel NSWC/CCD	Advanced Electronics Packaging Mrs Becky Stewart Universal Solutions International Mr Bryan Misdarffer NSWC Crane	Composites - Naval Composites Manufacturing Technology Mr Charles Rowe SCRA Applied R&D	Metals - Novel Processes for Metals Manufacturing Mr Curtis Toone BAE Systems Land Armaments
TDP for Digital Enterprise Update - Roadmap & Status of Efforts Mr Paul Huang US Army Research Lab	The Use of Photonic Printed Wiring Boards PPWBs and a Common Processing Architecture Can Provide Significant Cost Benefits to Military Systems Mr Kevin Thorson Lockheed Martin Co	Composite Manufacturing Technology for Sail Cap Doors and Plates Dr Jeffrey Hall General Dynamics Electric Boat	Innovations in DOD Cold Spray Applications Mr Victor Champagne US Army Research Lab
Adoption of Model Based Enterprise (MBE) for Intelligent Technical Data Package (ITDP) Generation and Product Lifecycle Cost Reduction Mr Robert Taylor ACI Technologies Inc	RF System and Component Technologies Dr Scott Morrison GVD Corp	Light Weight Low Cost SeaRAM 11Round Guide Mr Orlando Mijares Raytheon Missile Systems Co	Development of Advanced Titanium Capability and Capacity for Next Generation Aerospace and Defense Systems Dr William Hanusiak FMW Composite Systems Inc
Lessons Learned in Creating PDF's from 3D Models Mr David Radkovich Subsystem Technologies Inc	GEDMS Brings High Speed High Reliability and High Maintainability to Critical Control Systems Mr Paul Bratt ACI Technologies Inc	Composite Manufacturing Technology for Composite Sail Flood Ports Dr Jeffrey Hall General Dynamics Electric Boat	Framework for Assessment of Cost and Technology (FACT) applied to M777 Howitzer Provisioning Mr Victor Pugliano US Army ARDEC
2:30 PM - 3:00 PM - Refreshment Break - Osceola Foyer			

Osceola A	Osceola B	Osceola 1-2	Osceola 3-4
AME - Technical Data Mr Ben Kassel NSWC/CCD	Electronics - Electronic Materials Manufacturing Innovation Mr Mark Gordon National Center For Advanced Technologies Mr Richard Henson Office Of Naval Research	Composites - Composites Armor Manufacturing Technology Dr Ryan Emerson US Army Research Laboratory	Metals - Novel Processes for Metals Manufacturing Mr Curtis Toone BAE Systems Land Armaments
Modernizing TDP to Increase Supplier Bid Rate and Improve Productivity Mr Nainesh Rathod Imaginestics LLC	Novel Process Engineering for Sustaining High Yield/LowCost for National Security Space NSS Qualified Epiready Germanium Substrates for SpaceBased Power Systems Mr Richard Tellshow Sylarus Technologies	Production and Optical Finishing of Lightweight, Thin Transparent Ceramic Armor with Large Radius of Curvature Mr Joseph Spilman ArmorLine Corp	Field Assisted Sintering: A Viable Manufacturing Technology for DoD Applications
NetCentric Model Based Enterprise Update Mr Adam Frey US Army ARDEC	Manufacturing Challenges in Wide Bandgap WBG Semiconductor Power Devices Dr Krishna Shenai Argonne National Lab	Process and Manufacturing Technology as Enabler for Lighter CeramicBased Body Armor Dr Shawn Walsh US Army Research Lab	Development of a Hand-held, High-pressure Cold Spray System for Field Repairs and Reduced Sustainment Costs Mr Robert Hrahe VRC Metal Systems
PANEL: Session Discussion		Cost Reduction of Ceramic Composites for Armor Solutions for Tactical and Combat Vehicles Through the Use of Automated Manufacturing Processes Mr Erik Polsen US Army TARDEC	Surface Finish Enhancement of Ti6Al4V Components Fabricated via Electron Beam Additive Manufacturing Dr Eric Fodran Northrop Grumman Corp

as of Nov. 15



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