Welcome to the 2021 MBE Summit

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National Institute of Standards and Technology

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National Institute of Standards and Technology
U.S. Department of Commerce

Disclaimer

- Identification of commercial systems does not imply recommendation or endorsement by NIST
- Identified commercial systems are not necessarily the best available for the purpose

National Institute of Standards and Technology

- Non-regulatory agency of the Dept. of Commerce
- 3400 employees + 3500 associates
- Two primary campuses: Gaithersburg, MD + Boulder, CO
- Three core programs:
  - NIST Laboratories (7)
  - Hollins Manufacturing Extension Partnership
  - Baldridge Performance Excellence Program

Promote ***U.S. innovation and industrial competitiveness*** by advancing ***measurement science, standards, and technology*** in ways that enhance economic security and improve quality of life

https://www.nist.gov/about-nist

NIST Engineering Laboratory

- Engineering and manufacturing materials, products, processes, equipment, technical data, and standards
- Manufacturing enterprise integration
- Systems integration and engineering
- Intelligent systems and control
- Robotics and automation
- Cyber-physical systems
- Productivity measurement

Promote ***U.S. innovation and industrial competitiveness*** by advancing measurement science, standards, and technology ***for engineered systems*** in ways that enhance economic security and improve quality of life

https://www.nist.gov/el/about-el

Measurement Science

- Development of critical enabling tools for U.S. manufacturers and industry
- Research that helps establish the technical basis for standards, codes, guidelines, and practices, e.g.:
  - Protocols
  - Performance metrics
  - Guidelines and recommended practices
  - Reference architectures and models
  - Reference data and algorithms
  - Methods for testing, validation, verification, and uncertainty quantification
  - Modeling and simulation tools

Standards ***level the playing field*** and ***democratize innovation***

Model-Based Enterprise Summit

Identify ***challenges, implementation issues, and lessons learned*** in design, manufacturing, quality assurance, and sustainment of products and processes where ***digital models provide an authoritative source of information*** for activities across a product's lifecycle

This Year's Meeting

- 12th Annual Event
- 1st Virtual Event
- >750 registered participants (=> ***MOST EVER!***)

Supporting Resilient Supply Chains with MBE

The agility and flexibility of manufacturing supply chains requires insight gained from manufacturing analytics using reliable and trustworthy data and information generated by the MBE

Important Research Questions

- What data, information, or models to use?
- How to collect and/or generate this data, information, and models?
- How to bring together this disparate data to create context for different viewpoints (i.e., interoperability)?
- How to apply fundamental analysis tools and methodologies so that contextualized data, information, and models lead to valuable insights?
- How to use these insights in decision making and control?

Day #1: April 12th

10:00-11:00 ET	***Welcome and Introduction to 2021 MBE Summit*** Moneer Helu NIST
12:00-13:00 ET	***Digitally Transforming the Security Posture of Supply Chains Using Model-Based Enterprise*** Thomas Hedberg, Jr. University of Maryland, College Park Applied Research Laboratory Intelligence & Security
16:00-18:00 ET	***Technical Language Processing COI Workshop***

Day #2: April 13th

10:00-11:00 ET	***Beyond Industrial AI: The Path to Actionable Intelligence*** Michael Sharp NIST
12:00-13:00 ET	***ASME MBE Standards Committee Overview*** Fred Constantino ASME
14:00-15:35 ET	***ASME MBE Standards Workshop: What are the Key Characteristics of a Model-Based Standard?***
16:00-18:00 ET	***Technical Language Processing COI Workshop***

Day #3: April 14th

10:00-11:00 ET ***Supply Chain 2030***
Deborah Dull
GE Digital

12:00-13:00 ET ***Usability of Manufacturing Data for Analytics***
Jan de Nijs
Lockheed Martin Corporation

16:00-18:00 ET ***Technical Language Processing COI Workshop***

Day #4: April 15th

10:00-11:00 ET	***Information Service Analytics*** Robert Bonneau Office of the Secretary of Defense US Department of Defense
16:00-18:00 ET	***Technical Language Processing COI Workshop***

Day #5: April 16th

12:00-13:00 ET	***The 3D Model-Based Definition as Visualized by a Non-Technical Member of the Workforce*** Ben Kassel LMI
14:00-16:00 ET	***DEDMWG Meeting***
16:00-18:00 ET	***Technical Language Processing COI Workshop***

Virtual Meeting Platforms

- BlueJeans Events
  - https://primetime.bluejeans.com/a2m/live-event/xtxaevgz
  - Please use Q&A for questions
- Slack
  - https://join.slack.com/t/2021mbesummit/shared_invite/zt-of69zciu-tyJ1co7kZQq1pOMRW7k9Nw
  - Available for (optional) asynchronous discussion
- Sli.do
  - Available during TLP COI Workshop for interactions with the audience
- Optional dial-in instructions:
  - a) Dial: +1 (415) 466-7000 (US)
  - b) Enter the participant PIN: 9705681 followed by # to confirm
  - Additional US and International numbers

Thank You!

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