



NIST Roadmapping Workshop: Measurement Science for Prognostics and Health Management of Smart Manufacturing Systems

November 19-20, 2014 | NIST Campus | Gaithersburg, MD

Agenda*

All plenary sessions will take place in the NIST Advanced Measurement Laboratory Conference Room in Buildings 215/216.

Wednesday, November 19, 2014

7:30 am	Registration and Networking Continental Breakfast	AML Conference Rm. Foyer
8:30 am	Opening Plenary Session <ul style="list-style-type: none">• Welcome ~ Howard Harary, NIST• Workshop Scope and Objectives ~ Brian A. Weiss, NIST	
9:00 am	Keynote Presentation: Current Manufacturing PHM Challenges and Vision <ul style="list-style-type: none">➢ Al Salour, Technical Fellow, The Boeing Company	
9:30 am	Panel 1: PHM Capabilities, Best Practices, Challenges, and Needs <ul style="list-style-type: none">• Moderated Session and Q&A<ul style="list-style-type: none">➢ Moderator ~ Greg Vogl, NIST➢ Panelists ~<ul style="list-style-type: none">Andy Inman, ToyotaCarl Byington, IMPACT TechnologiesBill Marscher, Mechanical SolutionsDavid Siegel, Predictronic	
10:30 am	Break	
10:45 am	Panel 2: Performance Assessment – Monitoring and Measurement <ul style="list-style-type: none">• Moderated Session and Q&A<ul style="list-style-type: none">➢ Moderator ~ Moneer Helu, NIST➢ Panelists ~<ul style="list-style-type: none">Harry Kekedjian, FordKai Goebel, NASA – Prognostics Center of ExcellenceWill Sobel, System InsightsJohn Oskin, Sage Clarity	
11:45 am	Morning Wrap up and Instructions for Breakout Sessions <ul style="list-style-type: none">➢ Joan Pellegrino, Energetics, Incorporated	
11:50 am	Lunch	NIST Cafeteria, Bldg. 101
	Breakout Sessions <p>After lunch, participants will move to their assigned breakouts:</p> <ul style="list-style-type: none">• PHM Manufacturing Process Techniques and Metrics• PHM Performance Assessment• PHM Infrastructure – Hardware, Software, and Integration	
1:00 pm	Breakout Session I: Desired Capabilities <ul style="list-style-type: none">➢ Envisioned future: What capabilities do we want and need the most	
	Flexible Break	
3:00 pm	Breakout Session II: Challenges and Barriers for Achieving the Capabilities <ul style="list-style-type: none">➢ Barriers limiting implementation and/or integration➢ Measurement and standards barriers, challenges, and gaps	
4:00 pm	Adjourn Day 1	

Optional no-host networking dinner at the Dogfish Head Alehouse (across from NIST's main gate)

Thursday, November 20, 2014

8:30 am **Plenary Session**

- **Day 2 Overview** ~ Al Wavering, NIST

8:35 am **Keynote Presentation: Recent Advances and Transformation Direction of PHM**

- Jay Lee, University of Cincinnati

9:05 am **Panel 3: PHM and the Human Element**

- **Moderated Session and Q&A**
 - **Moderator** ~ Patrick Brown, University of Cincinnati
 - **Panelists** ~
 - Jenny Burke**, The Boeing Company
 - Gerard Gonos**, Chrysler
 - Andy Hess**, Hess PHM Consulting

10:05 am **Transition Break**

Breakout Sessions

Participants will return to their assigned breakouts:

- PHM Manufacturing Process Techniques and Metrics
- PHM Performance Assessment
- PHM Infrastructure – Hardware, Software, and Integration

10:20 am **Breakout Session III: Prioritization of Challenges**

- Review, clarify, and vote on the top challenges
- Determine R&D priorities
- Identify standardization priorities

11:45 am **Lunch**

NIST Cafeteria, Bldg. 101

12:30 pm **Breakout Session IV: Pathways for Measurement Science Roadmap**

- **Small groups work to develop roadmap elements:**
 - R&D, standards, and other approaches for addressing priority challenges
 - Next steps and actionable plan

1:45 pm **Transition Break**

2:00 pm **Plenary Session**

- **Breakout Group Reports**

3:00 pm • **Workshop Wrap up and Next Steps**

- Brian A. Weiss, NIST

3:15 pm **Adjourn Workshop**

*All speakers and panelists listed are confirmed.