Industry Forum: Monitoring, Diagnostics, and Prognostics for Manufacturing Operations

NIST

MOVING from "REACT and REPAIR" to "PREDICT and PREVENT"

AGENDA: Tuesday, May 8, 2018 (Green Auditorium)

TIME	EVENT/SESSION	PRESENTERS
7:15-4:30	Registration (outside the auditorium)	
8:15-8:30	Introduction and Safety	Brian A. Weiss (NIST - Intelligent Systems Division), Michael Brundage (NIST - Systems Integration Division)
8:30-8:45	Overview of NIST's Engineering Laboratory and Welcome	Kirk Dohne (NIST - Engineering Laboratory)
8:45-9:20	PLENARY: Manufacturing USA: Solving Tough Industry Challenges Through Collaboration	Michael Molnar (NIST - Office of Advanced Manufacturing)
9:20-9:35	*BREAK*	
9:35 - 11:25	Large Manufacturing Needs and Case Studies - Presentations & Panel	Al Salour (Boeing), Luis Hernandez (Global Strategic Solutions), James Moyne (Applied Global Services)
11:25 - 12:40	*LUNCH*	
12:40 - 2:30	Small to Medium Manufacturing Needs and Case Studies - Presentations & Panel	Scott Sipe (Mantec), Tom Zbell (Genedge), Thorsten Wuest (West Virginia University), Mark Walker (D2K)
2:30 - 2:45	*BREAK*	
2:45 - 4:35	Communication and Information Flow to support PHM - Presentations & Panel	Will Sobel (Vimana), Moneer Helu (NIST - Systems Integration Division), Joel Neidig (ITAMCO), Rob Andes (The Knowledge Design Company)
4:35 - 4:55	The Costs and Benefits of Advanced Maintenance in Manufacturing	Doug Thomas (NIST - Applied Economics Office)
4:55 - 5:00	Closing and Departure	Brian A. Weiss (NIST - Intelligent Systems Division)

AGENDA: Wednesday, May 9, 2018 (Green Auditorium)

TIME	EVENT/SESSION	PRESENTERS
7:00-4:30	Registration (outside the auditorium)	
8:00-8:05	Welcome	Brian A. Weiss (NIST - Intelligent Systems Division), Michael Brundage (NIST - Systems Integration Division)
8:05 - 8:35	PLENARY: NIST Smart Manufacturing Programs: Driving Innovation and Reducing Risks of Adoption of New Technologies	Al Wavering (NIST - Intelligent Systems Division)
8:35 - 10:35	Emerging Sensing Technologies to Enable Monitoring, Diagnostics, and Prognostics - Presentations & Panel	Radu Pavel (TechSolve), Brittany Newell (Purdue University), Justinian Rosca (Siemens Corporation), Gregory Vogl (NIST - Intelligent Systems Division), Ed Spence (Machine Instrumentation)
10:35 - 10:50	*BREAK*	
10:50 - 12:50	Planning and Assessment to Promote Monitoring, Diagnostic, and Prognostic Technologies - Presentations & Panel	Karl Reichard (Penn State University Applied Research Lab), Ananth Seshan (MESA), Kai Goebel (NASA), Miguel Saez (University of Michigan), Jorge Arinez (General Motors)
12:50 - 1:50	*LUNCH*	
1:50 - 3:20	Monitoring and Analysis Technologies for Prognostics and Health Management (PHM) - Presentations	David Siegel (Predictronics), Nancy Diaz-Elsayed (University of South Florida), Sanket Amberkar (Falkonry), Robert Gao (Case Western Reserve University), ChaBum Lee (Tennessee Tech University)
3:20 - 3:35	*BREAK*	
3:35 - 4:05	Monitoring and Analysis Technologies for Prognostics and Health Management (PHM) - Panel	David Siegel (Predictronics), Nancy Diaz-Elsayed (University of South Florida), Sanket Amberkar (Falkonry), Robert Gao (Case Western Reserve University), ChaBum Lee (Tennessee Tech University)
4:05 - 4:25	Emerging Research Efforts	Junmin Lee (Seoul National University), Chan Hee Park (Seoul National University)
4:25 - 4:45	Using Unstructured Work Order Data to Improve Maintenance Procedures in Manufacturing	Michael Brundage (NIST - Systems Integration Division)
4:45 - 5:05	NIST Research on Monitoring, Diagnostics, and Prognostics for Manufacturing Workcells	Brian A. Weiss (NIST - Intelligent Systems Division)
5:05 - 5:10	Closing and Departure	Brian A. Weiss (NIST - Intelligent Systems Division), Michael Brundage (NIST - Systems Integration Division)

AGENDA: Thursday, May 10, 2018 (Green Auditorium)

TIME	EVENT/SESSION	PRESENTERS
7:30-4:30	Registration (outside the auditorium)	
8:30 - 8:35	Welcome Address	Brian A. Weiss (NIST - Intelligent Systems Division), Michael Brundage (NIST - Systems Integration Division)
8:35 - 9:05	PLENARY: Process Monitoring & Diagnosis	Jaime Camellio (Commonwealth Center for Advanced Manufacturing)
9:05 - 10:17	Standards and Best Practices - Presentations	Andrew Hess (Hess PHM Group), Ravi Rajamani (drR2), Tom Fiske (Yokogawa), Tom Hedberg (NIST - Systems Integration Division)
10:17 - 10:30	BREAK	
10:30 - 10:50	Standards and Best Practices - Presentations Cont.	Logen Johnson (SAE), Donnie Alonzo (ASME)
10:50 - 11:50	Standards and Best Practices - Panel	Andrew Hess (Hess PHM Group), Ravi Rajamani (drR2), Tom Fiske (Yokogawa), Tom Hedberg (NIST - Systems Integration Division), Logen Johnson (SAE), Donnie Alonzo (ASME)
11:50 - 1:00	LUNCH	
1:00 - 2:15	PHM within the International Manufacturing Community - Presentations	Byeng Youn (Seoul National University), Hyunbo Cho (Pohang University of Science and Technology), Hyunseok Oh (Gwangju Institute of Science and Technology)
2:15 - 3:15	Visualization Tools for PHM - Presentations & Panel	Jeremy Marvel (NIST - Intelligent Systems Division), Sinan Bank (Siemens Corporation)
3:15 - 3:30	BREAK	
3:30 - 4:00	Demystifying Today's AI	Michael Garris (NIST - Information Technology Laboratory)
4:00 - 4:30	Industry AI-- A System Perspective in Machine Learning for Smart Manufacturing and Maintenance	Jay Lee (University of Cincinnati, Center for Intelligent Maintenance Systems)
4:30 - 5:00	Planning for the Future - Building and Leveraging Artificial Intelligence: Panel Discussion	Jay Lee (University of Cincinnati, Center for Intelligent Maintenance Systems), Michael Garris (NIST - Information Technology Laboratory)
5:00 - 5:10	Closing and Departure	Brian A. Weiss (NIST - Intelligent Systems Division), Michael Brundage (NIST - Systems Integration Division)

AGENDA: Friday, May 11, 2018 (Green Auditorium)

ASME Standards Meeting - Monitoring, Diagnostics, and Prognostics for Manufacturing Operations

8:05 – 8:15 - Introduction to ASME's Efforts in Monitoring, Diagnostics, and Prognostics (Brian Weiss / Michael Brundage) • Motivation for building up this standards community • Highlighted gaps from June and October 2017 Workshops · June 2017 Workshop Report - https://nvlpubs.nist.gov/nistpubs/ams/NIST.AMS.100-13.pdf
8:15 – 8:30 – Introduction to ASME (Donnie Alonzo/Steve Weinman)
8:30 – 9:00 – Presentation and collection of comments and feedback on Draft Charter for New Subcommittee (Brian Weiss)
9:10 – 10:00 – BRAINSTORMING #1 Discussion on Areas of Priority / Subcommittee Work Breakdown This session will feature discussion on the top (6) priority areas that were identified in prior workshops and a determination which of these (6) areas should be discussed in greater detail in the BRAINSTORMING #2 • Standardized Terminology for PHM Guideline on Data and Collection Strategies • Guideline to Determine What Health Data to Capture and Collection Strategies to Employ • Guideline to Determine What Sensors and Where they should be deployed to inform on Process/Equipment Health • Guideline for implementing sensor data fusion/multi-modal data fusion • Guideline to Determine When and Where PHM should be added/integrated • Expand MTConnect/Data Communications
10:00 – 10:15 – BREAK
10:15 – 12:30 – BRAINSTORMING #2 - Work Breakdown Structures and Project Team / Committee Structure Groups will be formed and will be tasked to further detail a priority area (noted above). This effort will include definition/clarification of key deliverables, specific tasks, and an estimated timeline.
12:30 - 1:30 – LUNCH
1:30 – 2:15 – BRAINSTORMING #3 - Report Back, Interested Parties and Identification of potential Members / Finalizing of Committee Structure and Breakdown
2:15 – 2:30 – RECAP FROM ASME ON NEXT STEPS AND REQUIRED ITEMS FOR MEMBERSHIP (Donnie Alonzo/Steve Weinman)
2:30 – 2:45 – CLOSING AND DEPARTURE (Brian Weiss, Michael Brundage)