

Monday, May 16

**Product Embedded Maintenance Information for Service
and End of Life (PROMISE) Workshop: International IMS Project**

Morning Session open to the public and FREE

8:30	SHUTTLE WILL DEPART HOLIDAY INN FOR UNIVERSITY OF MICHIGAN For guests who drive their own car, we will have a student handing out parking permits in the Pierpont Commons parking lot located on the corner of Murfin Ave. & Bonisteel Blvd.
	MEETING LOCATION -- ROOM 1504 GG BROWN BUILDING (UofM North Campus -- 2350 Hayward Street)
9:00	Introduction of IMS Center Interests – Jay Lee and Jun Ni
9:20	Introduction to PROMISE IMS Project and Partners – Markus Frey
9:40	The PROMISE Concepts – Dimitris Kiritsis
10:10	Break
10:30	The PROMISE E.U. Project: 11 demonstrators – Bjorn Moseng
10:50	The PROMISE Japanese Project – Shigeru Kobayashi
11:10	The PROMISE Australian Project – John Bishop
11:30	The PROMISE U.S. Project/IMS Center Projects and Intro. to IAB – Jay Lee, Jun Ni
11:50	Wrap-up Discussion – Markus Frey
12:00	Adjourn
	LUNCH – PIERPONT COMMONS CAFETERIA (walking distance)

Afternoon Session is Closed-Door and by invitation only

MEETING LOCATION MOVES FOR PM -- ROOM 1010 HH DOW BUILDING	
	Call to Order at 2:00pm
	Harmonization of Specifications
	Coordination of Activities & Deliverables
	Standardization Activities
	Dissemination and Exploitation Activities
	Publications
	Actions
	Next Meeting Scheduling
	Adjourn at 4:30pm
4:45	SHUTTLE WILL TAKE GUESTS FROM UNIVERSITY OF MICHIGAN TO HOLIDAY INN (Meet outside near entrance to Mechanical Engineering Department, Room 2250 GG Brown Bldg.)

Monday, May 16

IMS Prognostics Tool Short Course

12:15	SHUTTLE WILL DEPART HOLIDAY INN FOR UNIVERSITY OF MICHIGAN For guests who drive their own car, we will have a student handing out parking permits in the Pierpont Commons parking lot located on the corner of Murfin Ave. & Bonisteel Blvd.
	MEETING LOCATION -- ROOM 1504 GG BROWN BUILDING (UofM North Campus -- 2350 Hayward Street)
1:00	Introduction - Prof. Jay Lee (30 min.) <ul style="list-style-type: none"> • Vision and needs of next generation maintenance • Near-Zero-Downtime methodology • Issues and challenges in remote and embedded monitoring and prognostics • Overview of business models and best practices in industry
1:30	Data Acquisition Fundamentals-- Dr. Jeff Buterbaugh (National Instruments) (30 min.) <ul style="list-style-type: none"> • Data acquisition • Software • Communications and remote monitoring
2:00	Intelligent Diagnostics: Systems and Methods – Dr. Hai Qiu, Dr. Leandro Barajas (General Motors) (45 min.) <ul style="list-style-type: none"> • Introduction • Model Based Techniques • Case Based Reasoning • Decision Tree • Neural Network Approaches • Application Examples
2:45	BREAK (10 min.)
2:55	Predictive Condition Based Maintenance – Dr. Dragan Djurdjanovic, Dr. Fred Discenzo (Rockwell Automation) (90 min.) <ul style="list-style-type: none"> • Signal Processing/Feature Extraction Methods <ul style="list-style-type: none"> ○ Frequency Based Techniques ○ Wavelets Based Techniques ○ Joint Time-Frequency Based Techniques ○ Principal Component Analysis-based Dimensional Reduction • Performance Assessment Methods <ul style="list-style-type: none"> ○ Logistic Regression ○ Statistical Pattern Recognition • Performance Prediction Methods <ul style="list-style-type: none"> ○ ARMA ○ Match Matrix ○ Elman Recurrent Neural Network • Selection of Appropriate Modules for a Given Application
4:25	Reliability Theory and Reliability Centered Maintenance – Dr. Haitao Liao (45 min.) <ul style="list-style-type: none"> • Fundamental of reliability theory



Center for Intelligent Maintenance Systems
Industrial Advisory Board Meeting 9
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	<ul style="list-style-type: none">• Weibull Distribution and its application• Reliability Centered Maintenance• Case study
5:10	BREAK (10 min.)
5:20	Decision Support Tools – Prof. Jun Ni (30 min.) <ul style="list-style-type: none">• Prioritization of Maintenance Actions• Maintenance Scheduling• Risk Allocation
5:50	Open Discussion (25 min.)
6:15	Adjourn
6:15	SHUTTLE WILL TAKE GUESTS FROM UNIVERSITY OF MICHIGAN TO HOLIDAY INN (Meet outside near entrance to Mechanical Engineering Department, Room 2250 GG Brown Bldg.)

BOLD TEXT means these projects are considered for “Project Voting.” As a reminder, project voting occurs one per year during the Spring IAB. Each FULL member company has 100 points to distribute and each AFFILIATE member has 30 points to distribute. Project Voting ranking is advisory in nature and helps the co-directors continue to set or redirect the center’s industry-university cooperative research agenda.

Tuesday, May 17

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	HOLIDAY INN – SALON ROOMS A, B, & C
7:30	Registration and Breakfast
8:00	Welcome – Dr. Dennis Assanis, Chair of the Mechanical Engineering Department, the University of Michigan College of Engineering; Intro. to IMS and IAB for our Guests – Jay Lee and Jun Ni, IMS Co-directors
8:10	Introduction of Participants
8:25	Remarks by NSF I/UCRC Program Director Alex Schwarzkopf
8:35	IAB Chairman’s Address
8:40	Technical Session #1 <ul style="list-style-type: none"> • Progress in Development of the Watchdog Agent™ – Dr. Dragan Djurdjanovic • Industrial Networks Health Monitoring, Diagnostics & Prognostics – Leandro Barajas (GM), Yong Lei • Sensor Performance Prediction and Validation – Jiang Li • Comparative Study of Predictive Tools in Manufacturing Process – Lei Yang • Watchdog Agent™ Toolbox Integration and Performance Assessment of a Discrete Event System – Katie Johnson
10:00	Break
10:15	Technical Session #2 <ul style="list-style-type: none"> • Progress in Development of Rotating Machinery Watchdog Agent™ – Hai Qiu • Centrifugal Air Compressor Surge Control Modeling – Angela Sodemann • A Predictive Tool For Remaining Useful Life Estimation of Rotating Machinery Components – Haitao Liao
10:55	New Projects <ul style="list-style-type: none"> • Update on Decision Support Tools Research and Proposed New Project on Maintenance Dispatching – Cindy Chang (GM) • Intelligent Diagnostics Tool for Multi-Dimensional Data Set: An Aircraft Engine Example – Xiaoqin Ma • Smart Machine Predictive Maintenance Platform Initiative – TechSolve/Jay Lee
11:40	Lunch & Networking Time <i>SALON ROOMS D&E</i>
1:00	Testbeds or Company-funded Projects <ul style="list-style-type: none"> • Toyota Testbed Project – Mark Rucker (Toyota), Hai Qiu, Tony Rousseau • ETAS Project Update – Jianbo Liu • Ford Motor’s Predictive Maintenance Activities – Dimitar Filev
1:45	IMS Collaborative Projects and International Activities Update



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	<ul style="list-style-type: none"> • Update on New IMS Satellite Site at University of Missouri-Rolla – Prof. Jag • IMS Watchdog/EXAKT – NSF/MMO TIE Grant with University of Toronto Condition Based Maintenance Lab – CBM Lab Team • Semiconductor Research Corporation (SRC) Project – Predictive Modeling and Intelligent Maintenance Tools for High Yield Next Generation Fab– IMS Team • NSF TIE Project on Developing a Unified Reliability Assessment and Prognostic Tool for Critical Vehicle Electronic Components – NSF I/UCRC on Advanced Vehicle Electronics (CAVE), Auburn University – CAVE/IMS Team • PROMISE Project Update – PROMISE EU Team
2:35	Poster & Demonstration Session (including refreshments) <i>CONNOISSEUR RM</i>
4:00	Company Presentations (tentative) <ul style="list-style-type: none"> • Introduction to Toyota Maintenance Systems and PDCA – Ed Welch • Introduction of KOMTRAX Remote Fleet Monitoring – Komatsu presenter • Introduction to Rockwell Automation Asset Management – Michel Yasso
4:45	IMS Strategy and Outlook – Co-Directors Jay Lee and Jun Ni
5:30	Adjourn
6:00	Reception with cash bar at the hotel, Dinner to follow <i>SALON ROOMS D&E</i>

Wednesday, May 18

	HOLIDAY INN – SALON ROOMS A, B, & C	
7:30	Breakfast	
8:00	LIFE forms Feedback Session	
9:00	Intellectual Property and Licensing of IMS Technology – guest panel	
10:15	New Member Presentations – Introduction and IMS Interests <ul style="list-style-type: none"> • Tongtai Machine Tool • TechSolve • Smart Commercial Kitchen • TBD • TBD 	
10:45	Closed Door Session – <i>members only</i> <ul style="list-style-type: none"> • Approval of IAB 8 Minutes • IAB Chair-directed Open Discussion • Project Voting • Financial/Operational Report • Updates on Relocation of IMS HQ to UC • Other Business • Choose IAB 10 date 	This session is open only to IMS Members and selected guests as approved by IAB Chairman and Co-Directors IN ADVANCE OF MEETING.
12:00	Lunch and networking time (boxed lunches)	<i>SALON ROOMS D&E</i>
12:30	Adjourn	
1-5pm	Individual Company Discussions with IMS Center Directors and Researchers	

If you have questions about voting, logistics, or otherwise, please contact Guido at 1 + (414) 229 – 3106 or guidocsd@uwm.edu.