

Indo-US Workshop on Integrated Vehicle Health Management (IVHM) and Aviation Safety – WIAS
9th & 10th January, 2012

Venue: Orchid Hall, **The Oberoi Hotel**, MG Road, Bangalore - India

Day 1 : 9th January 2012		
	0830 0900	Registration / Reception
Inaugural Session	0900 0905	Invocation & Opening of Workshop Dr. Girija Gopalratnam, Deputy Head FMCD, NAL
	0905 0910	Welcome address by NAL Dr. Satish Chandra, PI WIAS India
	0910 0915	Background and introduction by NASA Dr. Ashok Srivastava, PI WIAS USA
	0915 0920	Background and introduction by IUSSTF Dr. Rajiv Sharma, ED, IUSSTF New Delhi
	0920 0930	Presidential Address Dr. K Radhakrishnan, Chairman ISRO
	0930 0945	Inaugural address Dr. VK Aatre, Chairman B-SMART
	0945 0950	Vote of thanks Dr. Vanam Upendranath, Covener WIAS
	0950 1000	Tea Break
Session - 1	Session Chair: Dr. V K Aatre	
	Session Coordinator: Mr. C M Ananda	
	1000 1030	Indian IVHM Scenario: IVHM for Military & civil aircraft domains Dr. Kota Harinarayana, Dr. DS Kothari DRDO Chair ADA Bangalore
	1030 1100	Kernel Machines for Large-Scale Anomaly Detection and Predictions: A Unifying Framework for Text and Numeric Data Dr. Ashok Srivastava, Principal Research Scientist & Intelligent Data Understanding Group Lead, NASA Ames Research Center, CA USA.
	1100 1130	Addressing Aviation Safety using Vehicle Level Reasoning Dr. Dinkar Mylaraswamy Honeywell - Aerospace AT Technology Fellow -- Health management and decision technologies, Honeywell, USA
	1130 1150	(i) Integrated Vehicle Health Management (IVHM) for commercial and business and military aviation Mr Pranav Patel GE Aviation USA
1150 1210	(ii) GE's Prognostics and Health Management Technologies Dr. Vinay Jammu, Technology Leader, GE – GRC, Prognostics Laboratory, Bangalore	
	1210 1250	Lunch
Session - 2	Session Chair: Dr. A R Upadhya	
	Session Coordinator: Mr. P S Vijaya Kumar	
	1250 1320	Challenges in Assessing System-level effects of IVHM Prof Vitali Volovoi School of Aerospace Engineering, Georgia Tech USA
	1320 1350	Structural health monitoring in the Indian context Prof. S Gopalakrishnan, Dept. of Aerospace Engg., IISc, Bangalore
1350 1420	Facilitating the Development and Maturation of New IVHM Technologies Dr. Robert Mah, Group Lead - Smart Systems, NASA Ames Research Center, CA, USA	
	1420 1435	Tea Break
Session - 3	Session Chair: Mr. Shyam Chetty	
	Session Coordinator: Dr. A Pashilkar	
	1435 1505	Systems Monitoring and Prognostics: Framework, Key Challenges, and Some Solutions Prof Nagi Gebraeel H. Milton Stewart School of Industrial and Systems Engineering Georgia Institute of Technology USA
	1505 1535	Proof-carrying auto-coded control software Prof Eric Feron, Georgia Institute of Technology USA
	1535 1605	Making Reliable Software; Making Software Reliable Dr. Natarajan Shankar Staff Scientist SRI International CA, USA
	1605 1635	Model-Based Design Approach for Development of Vehicle Health Management Systems Mr. Arvind Hosagrahara MathWorks, USA
1635 1705	TBD	TBD
	1705 1805	Industry discussion on IVHM vision
	1900 2200	Cocktail Dinner Sponsored by HCL India

Day 2 : 10th January 2012

Day 2 : 10 th January 2012			
Session - 4	Session Chair: Dr. Ashok Srivastava		Session Coordinator: Mr. Jitendra Singh
	Time	Title	Speaker with affiliation
	0900 0905	Recap of day1 and welcome the proceedings of day2	
	0905 0935	Managing the health of an aircraft landing gear system	Dr. Ravi Rajamani Director, MEGGITT, USA
	0935 1005	Health Monitoring and life estimation in turbo machinery	Prof Nalinaksh Vyas, Head, Dept. of Mechanical Engg, IIT Kanpur
	1005 1025	The Prognosis for Automotive IVHM	Mr. Steven W. Holland Warren MI USA
	1025 1055	Development and Testing of Propulsion Health Management	Dr. Gary W. Hunter, Intelligent Systems Hardware Lead, NASA Glenn Research Center, OH USA.
1055 1110	Tea break		
Session - 5	Session Chair: Dr. Robert Mah		Session Coordinator: Dr. V Mudkavi
	1110 1140	Prognostics Health Monitoring of High-Reliability Electronic Systems in Presence of Multiple Failure Modes	Prof Pradeep Lall Thomas Walter Professor Dept of Mechanical Engineering, Auburn Univ. AB USA
	1140 1200	Using fleetwide data to drive IVHM	Dr. Kallappa, India Science Lab, GM Bangalore India
	1200 1230	Battery prognosis	Prof Michel Pecht Director, CALCE UMD USA
	1230 1300	Integrity Management of Aerospace Systems for Improved Autonomy	Prof George Vachtsevanos, Emeritus Professor, Georgia tech USA
1300 1345	Lunch		
Session - 6	Session Chair: Prof. George Vachtsevanos		Session Coordinator: Dr. Ramesh Sundaram
	1345 1415	IVHM requirements for UAVs/ IVHM for flight controls	Mr. PS Krishnan, Director, ADE Bangalore
	1415 1445	The IVHM Centre – Technical capability	Prof Ian Jennions Director, IVHM Center, Cranfield University, UK
	1445 1515	IVHM from Boeing's perspective	Dr. P R Viswanath, Boeing Research & Technology-India
	1515 1530	Tea Break	
	1530 1600	FAA Research Efforts in IVHM	Mr. Vasudeva Kolli Information Systems Section, ANG-E221 FAA William J. Hughes Technical Center Atlantic City, NJ 08405
	1600 1630	IVHM requirements - NCAD project	Mr. Yogesh Kumar, Advisor NCAD (Former ED HAL)
1630 1730	Panel discussion		
1730 1745	Tea and light refreshments		

Day 3: 11th January 2012 TUTORIAL Venue: Valluri Auditorium, NAL, Bangalore		
0900 1000	Visit to selected laboratories of CSIR-NAL	
1000 1015	Tea break	
1015 1300	Anomaly detection and prognosis	Tutorial by Dr. Ashok Srivastava, NASA
1300 1400	Lunch	
1400 1645	EPS & aircraft wiring HM as experimented at Honeywell	Tutorial by Dr. Dinkar Mylaraswamy & team, Honeywell, USA
1645 1700	Tea Break	
1700 1830	Electronics Prognosis	Prof Michael Pecht & team, Center of Advanced Life Cycle Engineering (CALCE), Univ. of Mary Land, USA
1830-1835	Conclusions & closure	