

MEETING NO. 111

AEROSPACE CONTROL AND GUIDANCE SYSTEMS COMMITTEE

Atlantis Casino Resort and Spa
3800 South Virginia Street
Reno NV 89502
775.825.4700

5-8 March 2013

Tuesday **1-DAY SHORT COURSE**
5-Mar-13 Location – Treasures D Conference Room
8:00am-5:00pm

“L1 Adaptive Control and its Transition to Aerospace Applications”
by Naira Hovakimyan

Tuesday **1.0 PLANNING ADVISORY BOARD MEETING**
5-Mar-13 Location – Treasures A Conference Room
6:00pm

Chairman	Lou Knotts
Vice-Chairman	Phil Hattis
Immediate Past Chairman	Dave Klyde
Treasurer	Stan Pszczolkowski
Secretary	Marge Draper-Donley

Board Members

Gary Balas	Sanjay Garg	Piero Miotto
Christine Belcastro	Irene Gregory	Dave Mitchell
Dave Bodden	Ron Hess	Dave Schmidt
Jan De Luca	Steve Jacobson	Mark Tischler
Dave Doman	Gavin Jenney	Marty Waszak
Shawn Donley	Brian Lee	John Weyrauch
Dale Enns	Raman Mehra	Kevin Wise

Wednesday **2.0 REGISTRATION AND BREAKFAST**
6-Mar-13 Location – Treasures AB Room
7:00am – 8:30am

Wednesday **3.0 GENERAL BUSINESS MEETING**
6-Mar-13 Location – Treasures AB Room
8:30am – 9:00am Lou Knotts – Chairman

Wednesday **4.0 GENERAL COMMITTEE TECHNICAL SESSION**
6-Mar-13 Christine Belcastro and Dale Enns Co-Chairs
9:00am – 12:00pm

4.1 Government Agencies Summary Reports

- 4.1.1 DLR – Klaus Uwe Hahn
- 4.1.2 NASA
 - 4.1.2.1 Dryden – Steve Jacobson
 - 4.1.2.2 Engineering and Safety Center – Neil Dennehy
 - 4.1.2.3 Glenn – Sanjay Garg
 - 4.1.2.4 Langley – Carey Buttrill
- 4.1.3 DoD
 - 4.1.3.1 AFRL – Dave Doman

4.2 Research Institutions, Industry, and University Reports

- 4.2.1 Research Institutions and Companies
 - 4.2.1.1 Aurora Flight Sciences – Jim Paduano
 - 4.2.1.2 Barron Associates – John Schierman
 - 4.2.1.3 Calspan – Lou Knotts
 - 4.2.1.4 Draper Lab – Piero Miotto
 - 4.2.1.5 Heffley Engineering – Robert Heffley
 - 4.2.1.6 Mitchell Aerospace Research – Dave Mitchell
 - 4.2.1.7 Scientific Systems Company – Raman Mehra
 - 4.2.1.8 Systems Technology, Inc. – Dave Klyde
- 4.2.2 Universities
 - 4.2.2.1 University of Hamburg – Frank Thielecke
 - 4.2.2.2 University of Illinois at Urbana-Champaign – Enric Xargay
 - 4.2.2.3 Texas A&M – Jonathan Rogers

Wednesday 6-Mar-13 12:00pm – 1:30pm	LUNCHEON – TREASURES CD ROOM (Meet in Subcommittees) Subcommittee chairs, members and attendees will meet for lunch and agenda planning for Meeting No. 112.
Wednesday 6-Mar-13 1:30pm – 3:30pm	5.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION Raman Mehra and Marty Waszak, Co-Chairs Jan DeLuca, Vice Chair 5.1 “MIDCAS: European Midair Collision Avoidance project for RPAS”, Bengt-Göran Sundqvist, Saab Aircraft. 5.2 “NextGen Navigation”, Bill Wanner, FAA Technical Center 5.3 “Verifiable Real-time Convex Optimization of Autonomous Vehicles with Application to Mars Entry, Descent, and Landing”, Behcet Acikmese, University of Texas.
Wednesday 6-Mar-13 3:30pm – 3:50pm 3:50pm – 4:30pm	BREAK 5.4 “The ‘Max’ Launch Abort System (M-LAS): Design, Integration, and Flight Test”, Mike Gilbert, NASA Engineering and Safety Center.

Wednesday 6-Mar-13	6.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS Ron Hess and Dave Doman, Co-Chairs Dave Schmidt, Vice Chair
4:30pm – 5:10pm	6.1 “NASA X-56 Multi-Use Technology Testbed” Brian Holm-Hansen, Lockheed-Martin Aeronautics
Wednesday 6-Mar-13	SOCIAL HOUR – TREASURES CD ROOM
6:00pm – 7:00pm	
Thursday 7-Mar-13	BREAKFAST – TREASURES AB ROOM
7:00am – 8:00am	
Thursday 7-Mar-13	6.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS (cont) Ron Hess and Dave Doman, Co-Chairs Dave Schmidt, Vice Chair
8:00am – 10:00am	6.2 “Bifurcation Analysis for Subscale Aircraft,” Mark Lowenberg, Bristol University 6.3 Title TBD, Susana Muñoz, Composite Engineering, Inc.
	6.4 “Flight Investigation of Helicopter Low-Speed Response Characteristics,” (One of the AFM “Most Influential Papers of the 1980’s), Dave Mitchell, Handling Qualities Research
Thursday 7-Mar-13	BREAK
10:00am – 10:20am	
Thursday 7-Mar-13	7.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS Sanjay Garg and Irene Gregory, Co-Chairs
10:20am – 12:20pm	7.1 “Ducted Fan Unmanned Aerial Vehicles guidance, Navigation, and Control”, Dale Enns, Honeywell. 7.2 “Condor Retrospective” Tony Lambregts 7.3 TBD
Thursday 7-Mar-13	LUNCHEON – TREASURES CD ROOM PAB will meet for lunch and agenda planning for Meeting No. 111. Meeting attendees have open seating for lunch.
12:30pm – 2:00pm	
Thursday 7-Mar-13	7.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS

2:00pm – 2:40pm Sanjay Garg and Irene Gregory, Co-Chairs
7.4 “A Systems Level Perspective on Engine Ice Accretion” Ryan May, Vantage Partners LLC, NASA GRC

Thursday **8.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES**
7-Mar-13 Steve Jacobson, Chair
2:40 pm–3:20 pm Brian Lee and Dave Mitchell, Vice Chairs
8.1 “Boundary Avoidance Testing”, Bill Gray, USAF Test Pilot School

Thursday **BREAK**
7-Mar-13
3:20 pm – 3:40 pm

Thursday **8.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES**
7-Mar-13 Steve Jacobson, Chair
3:40 pm–5:00 pm Brian Lee and Dave Mitchell, Vice Chairs
4:20 pm – 5:00 pm 8.2 “Pilot Gain and the Workload Buildup Flight Test Technique,” Ina Niewind, DLR Institute of Flight Systems
8.3 “Unmanned Submarines for Oil Rig Inspection”, Sekhar Tangirala, Lockheed-Martin

Friday **BREAKFAST – TREASURES AB ROOM**
8-Mar-13
7:00 am – 8:00 am

Friday **8.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES (cont)**
8-Mar-13 Steve Jacobson, Chair
8:00 am – 8:40 am Brian Lee and Dave Mitchell, Vice Chairs
8.4 “F-35B First Sea Trial”, Greg Walker, Lockheed Martin.

Friday **9.0 SUBCOMMITTEE B – MISSILES AND SPACE**
8-Mar-13 Piero Miotto, Chair
8:40 am – 10:00 am John Weyrauch and Kevin Wise, Vice Chairs
9.1 “QF-16 Full Scale Aerial Target” Kevin A. Wise
9.2 “AR&D Lidar Sensor Evaluation” Cornelius J. Dennehy

Friday **BREAK**
8-Mar-13
10:00 am – 10:20 am

Friday **9.0 SUBCOMMITTEE B – MISSILES AND SPACE**

8-Mar-13 Piero Miotto, Chair
10:20 am – 11:40 am John Weyrauch and Kevin Wise, Vice Chairs

9.3 “The Design of the Orion GN&C” Mark C. Jackson

9.4 “History of Lifting Bodies” Russell Howard