

MEETING NO. 115

**GENERAL MEETING PRELIMINARY AGENDA – 2/10/15 Update
AEROSPACE CONTROL AND GUIDANCE SYSTEMS COMMITTEE**

The Crowne Plaza Portland Downtown
1441 NE 2nd Avenue
Portland, OR 97232
503-233-2401

3-6 March 2015

Tuesday
3-Mar-15
6:00pm
1.0 PLANNING ADVISORY BOARD MEETING
Location – Windsor C

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

Board Members

Christine Belcastro	Sanjay Garg	Raman Mehra
Oliver Brieger	Irene Gregory	Piero Miotto
Jan De Luca	Klaus-Uwe Hahn	Dave Mitchell
Dave Doman	Ron Hess	Dave Schmidt
Shawn Donley	Steve Jacobson	Mark Tischler
Dale Enns	Gavin Jenney	Marty Waszak
	Dave Klyde	Kevin Wise

Wednesday
4-Mar-15
7:00am – 8:30am **2.0 REGISTRATION AND BREAKFAST**
Location – Belmont C Foyer
8:30am – 9:00am **3.0 GENERAL BUSINESS MEETING**
Location – Belmont C
Phil Hattis – Chairman

Wednesday

4-Mar-15

9:00am – 12:00pm

4.0 GENERAL COMMITTEE TECHNICAL SESSION

Christine Belcastro and Dale Enns Co-Chairs

4.1 Government Agencies Summary Reports

4.1.1 DLR – Oliver Brieger

4.1.2 DoD

4.1.2.1 Army – Tom Berger

4.1.2.2 AFRL – Dave Doman

4.1.3 NASA

4.1.3.1 Glenn – Sanjay Garg

4.1.3.2 Langley – Carey Buttrill

4.2 Research Institutions, Industry, and University Reports

4.2.1 Research Institutions and Companies

4.2.1.1 Systems Technology, Inc. – Dave Klyde

4.2.1.2 Scientific Systems Company – Raman Mehra

4.2.1.3 Alec Bateman – Barron & Associates

4.2.1.4 Darren Coffey – Rockwell Collins

4.2.1.5 Robert Hefley Engineering – Robert Hefley

4.2.1.6 Optimal Synthesis – P.K. Menon

4.2.1.7 Hoh Aeronautics, Inc. – Dave Mitchell

4.2.1.8 Aurora Flight Sciences – Jim Paduano

4.2.2 Technical Committee Liaison

4.2.3 Universities

4.2.2.1 University of Minnesota – John Weyrauch

12:00pm – 1:30pm

LUNCHEON – Belmont B (Meet in Subcommittees)

Subcommittee chairs, members and attendees will meet for lunch and agenda planning for Meeting No. 116.

1:30pm – 3:30pm

5.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS

Ron Hess and Dave Doman, Co-Chairs

Dave Schmidt, Vice Chair

5.1 “Multi-objective Adaptive Control for Safety Critical Dynamical Systems,” Tansel Yucelan, Univ. of MO

5.2 “Finite-Element Modeling of the Structural Dynamics of a Flying-Wing Research Drone”, Claudia Patricia Moreno, University of Minnesota

5.3 “Matlab-Based Flight Dynamics and Flutter Modeling of a Flexible Flying-Wing Research Drone,” Dave Schmidt, Univ. of CO, Colorado Springs

3:30pm – 3:50pm

BREAK

3:50pm – 4:30pm

5.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS (cont)

Ron Hess and Dave Doman, Co-Chairs

Dave Schmidt, Vice Chair

5.4 “Control Science for Hypersonic Systems,” Michael Bolender, AFRL

Wednesday 4-Mar-15	6.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS Sanjay Garg and Irene Gregory, Co-Chairs
4:30pm – 5:10pm	6.1 “Aero Controls Technology Challenges for NASA Aeronautics Research Strategic Thrusts,” Sanjay Garg, NASA Glenn Research Center
5:30pm – 6:30pm	SOCIAL HOUR – Belmont B
Thursday 5-Mar-15	
7:00am – 8:00am	BREAKFAST – Belmont C Foyer
8:00am – 9:20am	6.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS (cont) Sanjay Garg and Irene Gregory, Co-Chairs
	6.2 . “Single Pilot Operations for Commercial Aircraft – Concept of Operations and Technology Needs,” Walter Johnson, NASA Ames
	6.3 “KQ-X Autonomous Unmanned Aerial Refueling,” POC Jan DeLuca, Northrop Grumman
9:20am – 10:00am	9.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION (cont) Raman Mehra and Marty Waszak, Co-Chairs Jan DeLuca, Vice Chair
	9.1 “Practical Aspects of the Frequency-Domain Approach for Aircraft System Identification,” Gene Morelli, NASA Langley
10:00am – 10:20am	BREAK
10:20am – 12:20pm	7.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES Steve Jacobson, Chair Klaus-Uwe Hahn, Dave Mitchell, Vice Chairs
	7.1 “Helicopter and Multi-Rotor Autopilot Development,” Michael Allen, Cloud Cap Technology
	7.2 “Flying Qualities Criteria for Unmanned Aircraft ,” Kara Greene, AFIT
	7.3 “Flight Testing the 787-9: Opportunities and Challenges in Certifying a Simple Derivate,” Nikos Mills, Boeing
12:30pm – 2:00pm	LUNCHEON – Belmont B PAB will meet for lunch and agenda planning for Meeting No. 116 Meeting attendees have open seating for lunch.
2:00pm – 2:40pm	7.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES (cont) Steve Jacobson, Chair Klaus-Uwe Hahn, Dave Mitchell, Vice Chairs
	7.4 “Comparison of Envelope Limiting Schemes,” Tony Lambregts, FAA-Retired
2:40 pm–3:20 pm	8.0 SUBCOMMITTEE B – MISSILES AND SPACE Piero Miotto, Chair Kevin Wise, Vice Chair
	8.1 “MAJIC: A Gyroscopically Actuated Astronaut Mobility Unit for Future EVA Missions,” Michelle Carpenter, Draper Laboratory

3:20 pm – 3:40 pm

BREAK

3:40 pm–5:00 pm

8.0 SUBCOMMITTEE B – MISSILES AND SPACE (cont)

Piero Miotto, Chair

Kevin Wise, Vice Chair

8.2 “Piloted Aircraft Testing of Launch Vehicle Manual Steering with Adaptive Augmenting Control,” Curt Hanson, NASA Armstrong

8.3 “Preliminary Design and Prototyping of a Low-Cost Spacecraft Attitude Determination and Control Setup,” Kamran Turkoglu, San Jose State University

Friday

6-Mar-15

7:00 am – 8:00 am

BREAKFAST – Belmont C Foyer

8:00 am – 8:40 am

8.0 SUBCOMMITTEE B – MISSILES AND SPACE (cont)

Piero Miotto, Chair

Kevin Wise, Vice Chair

8.4 “Mission and Fault Management (MFM) for the NASA SLS Launch Vehicle,” TBD, NASA

8:40 am – 9:20 am

6.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS (cont)

Sanjay Garg and Irene Gregory, Co-Chairs

6.4 “Overview of DARPA HAMCS (High Assurance Military Cyber Systems) with focus on Aerospace Applications,” John Launchbury, DARPA

9:20 am – 9:40 am

BREAK

9:40 am – 11:40 am

9.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION (cont)

Raman Mehra and Marty Waszak, Co-Chairs

Jan DeLuca, Vice Chair

9.2 “Certification Considerations for Adaptive Systems,” Darren Coffey, Rockwell Collins

9.3 “Small UAS Development: an Unconventional Approach,” Juris Vagners, Univ. of Washington

9.4 “The Significance of Simulation for the Insitu Unmanned Aircraft Systems,” Rolf Rysdyk, Insitu