

MEETING NO. 115
PRELIMINARY AGENDA
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
8:00am-5:00pm

1-DAY SHORT COURSE

Location – Cambridge Room

“Model-Based Design Algorithm and Flight Software Development”
by Piero Miotto, and TBD

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
Oliver Brieger
Jan De Luca
Dave Doman
Shawn Donley
Dale Enns

Sanjay Garg
Irene Gregory
Klaus-Uwe Hahn
Ron Hess
Steve Jacobson
Gavin Jenney
Dave Klyde

Raman Mehra
Piero Miotto
Dave Mitchell
Dave Schmidt
Mark Tischler
Marty Waszak
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 or Klause Uwe Hahn

4.1.2 DoD

4.1.2.1 AFRL – Dave Doman

4.1.3 NASA

4.1.3.1 Glenn – Sanjay Garg

4.1.3.2 Langley – Carey Buttrill

4.1.3.3 Armstrong – Steve Jacobson

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 Mitchell Aerospace Research – Dave Mitchell

4.2.1.4 Calspan – Lou Knotts

4.2.2 Technical Committee Liaison

4.2.2.1 SAE S-7 HQ Technical Committee – Dick Newman

4.2.3 Universities

4.2.2.1 University of Illinois at Urbana-Champaign – Naira Hovakimyan

4.2.2.2 Georgia Tech University – Eric Feron

4.2.2.3 Hamburg University of Technology – Frank Thieleke

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

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

5.3 “AW 609 Tilt Rotor All-Engines-Inoperative Flight Test Results: From 8-Ton Glider to Autorotating Helicopter in 12 Seconds,” Dan Wells and Paul Edwards, Augusta-Westland

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 PENDING: “Magic Carpet Control Carrier Landing System,” POC: Marge Draper-Donley

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

5:30pm – 6:30pm **SOCIAL HOUR – Belmont B**

Thursday
5-Mar-15

7:00am – 8:00am **BREAKFAST – Belmont C Foyer**

8:00am – 10:00am **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

6.4 “Self Driving Cars – Status and Technology Challenges,” either Google or Audi – waiting for confirmation

10:00am – 10:20am **BREAK**

10:20am – 12:20pm **7.0 SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES**
Steve Jacobson, Chair
Dave Klyde, Dave Mitchell, Vice Chairs

7.1 “Helicopters and Multi-Rotor Work at Cloud Cap Technology,” Michael Allen, Cloud Cap Technology

7.2 “UAV Flying Qualities,” Kara Green, AFIT

7.3 “787 Flight Test,” 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
Dave Klyde, 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 "SLS Adaptive Flight Control Post-Flight Test Results Analysis," Curt Hanson, NASA Armstrong

8.3 "Survey of Guidance Strategies and Technology Gaps for Intercept of Maneuvering Targets," Tom Bucklaew, Draper Laboratory

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 **9.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION**

Raman Mehra and Marty Waszak, Co-Chairs

Jan DeLuca, Vice Chair

9.1 "Small UAS Development: an Unconventional Approach," Juris Vagners, Univ. of Washington

9:20 am – 9:40 am **BREAK**

9.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION (cont)

9:40 am – 11:20 am Raman Mehra and Marty Waszak, Co-Chairs

Jan DeLuca, Vice Chair

9.2 "Practical Aspects of the Frequency-Domain Approach for Aircraft System Identification," Gene Morelli, NASA Langley

9.3 The Significance of Simulation for the Insitu Unmanned Aircraft Systems," Rolf Rysdyk, Insitu

9.4 TENTATIVE (COULD CHANGE): "Flight Software for the LADEE Mission," Howard Cannon, NASA Ames