AVIATION 2013

12–14 AUGUST 2013

LOS ANGELES, CALIFORNIA

CHARTING THE FUTURE OF FLIGHT

FINAL PROGRAM

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- **Venue Map –** *Hyatt Regency Century Plaza*
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Compatible with iPhone/iPad, Android, and BlackBerry!

AIAA

WELCOME

Dear Colleagues:

We are very excited to welcome you to AIAA AVIATION 2013, the very first AVIATION event in the new AIAA event model! Aviation is an essential component of the U.S. and world economy and of global security. The success of aviation is based upon the technological innovations that have brought an unprecedented level of capability, capacity, and efficiency. This year's theme of "Charting the Future of Flight" is explored in a forward-looking forum designed to showcase the many achievements in aviation, highlight new initiatives and plans, and address key issues that will help define clear roadmaps for future progress. AVIATION 2013 will provide leaders from government, industry, and academia an opportunity to share ideas on how best to focus the great talent and resources of the aeronautics community on creating the future of aviation, making everyday life better for us all.

The conference program is built around seven general sessions and an integrated technical program. Over the course of the next three days, you will engage with thought leaders and decision makers to discuss the global outlook for commercial, military, rotorcraft, general, and business aviation. Challenges and opportunities will be outlined by recognized experts. Key topics such as the impact of increased connectivity and the attendant cybersecurity issues, as well as the growing imperative associated with our industry's energy needs, will be discussed in depth. We'll look at the burgeoning demand for unmanned systems, and how this evolving capability will complement and add value to our traditional fleets and operations. And distinguished speakers will facilitate a dialogue on the technology and policy questions that will shape the discussion moving forward.

The themes from the general session have been integrated into a technical program with three main focus areas: the Complex Aerospace Systems Exchange (CASE); the Aviation Technology, Integration, and Operations (ATIO) Conference; and the International Powered Lift Conference (IPLC).

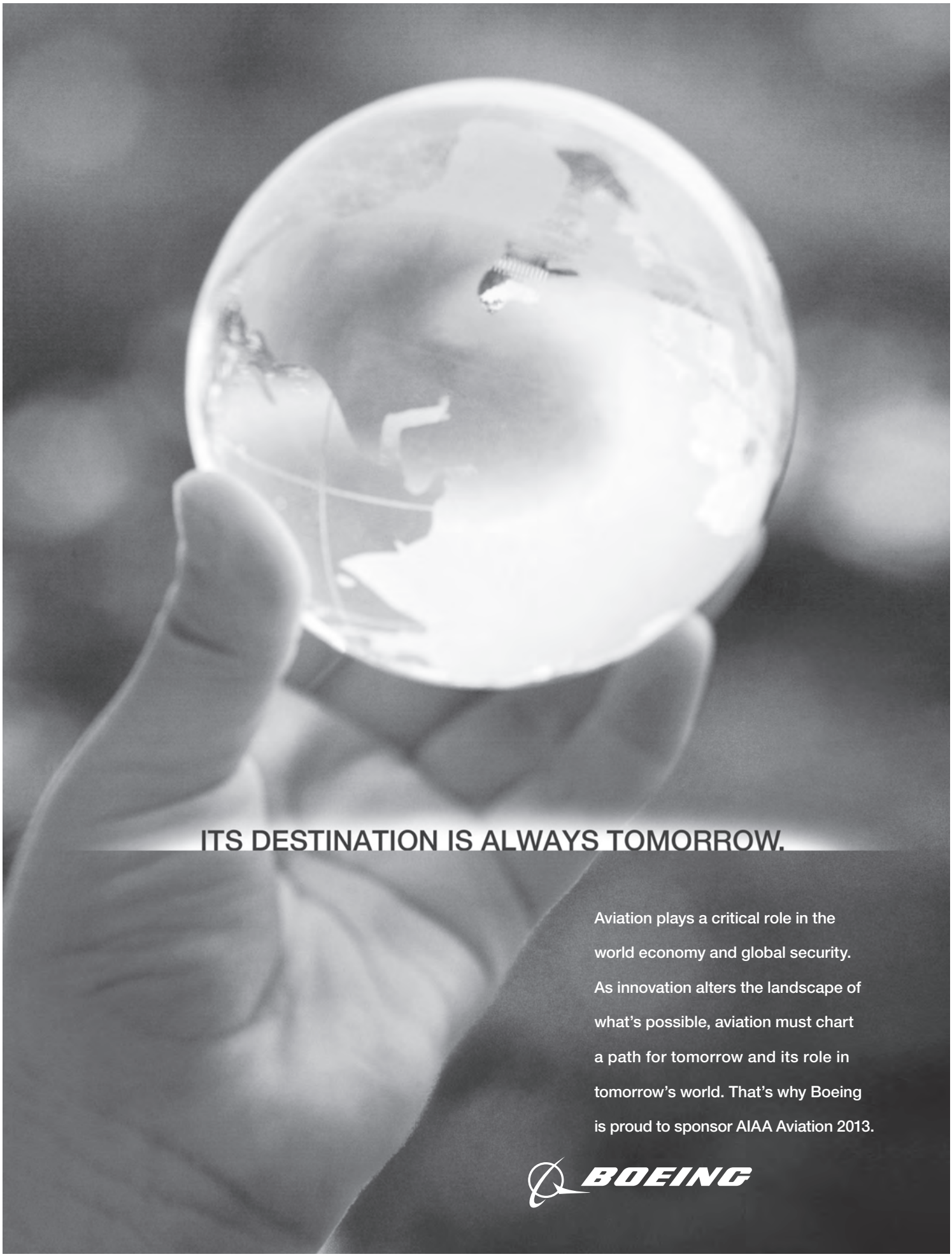
Thank you for participating in and supporting AVIATION 2013!

Sandra H. Magnus

Executive Director
AIAA

Michael P. Delaney

Executive Conference Chair
Vice President, Engineering
Boeing Commercial Airplanes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Aviation plays a critical role in the world economy and global security. As innovation alters the landscape of what's possible, aviation must chart a path for tomorrow and its role in tomorrow's world. That's why Boeing is proud to sponsor AIAA Aviation 2013.
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Forum Overview

	Monday 12 August 2013			Tuesday 13 August 2013			Wednesday 14 August 2013		
0700 hrs	**Networking Breakfast** (0700–0800 hrs)			**Networking Breakfast** (0700–0800 hrs)			**Networking Breakfast** (0700–0800 hrs)		
0730 hrs	**Speakers' Briefing**			**Speakers' Briefing**			**Speakers' Briefing**		
0800 hrs		**Technical Sessions**		**AVIATION Forum Keynote**			**AVIATION Forum Keynote**		
0830 hrs									
0900 hrs	**B2B Primes**			**Networking Break**			**Networking Break**		
0930 hrs		**Networking Break**		**Panel** Military Aviation	**Technical Sessions**	**CASE** Introduction and Opening Plenary	**Panel** Business/General/ Rotorcraft Aviation	**Technical Sessions**	**CASE**
1000 hrs		**Technical Sessions**							
1030 hrs									
1100 hrs				**AVIATION Forum Keynote Awards Presentation and Lunch**			**AVIATION Forum Luncheon Keynote**		
1130 hrs	**B2B**								
1200 hrs		**Lunch Break**							
1230 hrs									
1300 hrs		**Speakers' Briefing**		**Speakers' Briefing**			**Speakers' Briefing**		
1330 hrs	**AVIATION Forum Opening Keynote**			**Panel** Connectivity Challenge	**Technical Sessions**	**CASE**	**Panel** Developing the Market for UAS	**Technical Sessions**	**CASE**
1400 hrs									
1430 hrs	**Networking Break**			**Networking Break**			**Networking Break**		
1500 hrs	**Panel** Commercial Aviation	**Technical Sessions**	**CASE**	**Panel** The Energy Imperative	**Technical Sessions**	**CASE**	**Panel** Shaping the Policy Discussion	**Technical Sessions**	**CASE** Wrap up and Closing
1530 hrs									
1600 hrs									
1630 hrs									
1700 hrs	**Welcome Happy Hour**			**Off-Site Reception Museum of Flying**			**Closing Reception**		
1730 hrs									
1800 hrs									
1830 hrs									
1900 hrs									
1930 hrs									
2000 hrs									
2030 hrs									

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Keynote Speakers and Panel Sessions

Leaders share their perspectives on the new challenges, future opportunities, and emerging trends in aviation.

Monday, 12 August

1330–1430 hrs **Los Angeles Room**

Opening Keynote

Charting the Future of Flight

Jim Albaugh, President and Chief Executive Officer, Boeing Commercial Airplanes (retired)

In addition, please join us in congratulating three high-school aerospace students who received the Conrad Sprit of Innovation Award for designing the "Sleep Halo." (See page 13 for more information.)

1500–1700 hrs **Beverly Hills Room**

Panel – Commercial Aviation: Global Outlook, Opportunities, and Challenges

Moderator: **Patrick Shanahan,** Senior Vice President and General Manager, Airplane Programs, Boeing Commercial Airplanes

Panelists:

Jaiwon Shin, Associate Administrator for Aeronautics Research Mission Directorate, NASA

Paul Steele, Corporate Secretary and Senior Vice President, Member and External Relations, International Air Transport Association, and Executive Director, Air Transport Action Group

Graham Warwick, Senior Editor, *Aviation Week and Space Technology*

Michael Whitaker, Deputy Administrator, Federial Aviation Administration

Tuesday, 13 August

0800–0900 hrs **Los Angeles Room**

Morning Keynote

Air Power Dominance: Our Great Strategic Resource

Marion C. Blakey, President and Chief Executive Officer, Aerospace Industries Association

0930–1130 hrs **Beverly Hills Room**

Panel – Future Challenges Facing Military Aviation

Moderator: **Marion C. Blakey,** President and Chief Executive Officer, Aerospace Industries Association

Panelists:

Mark Gunzinger, Senior Fellow, Center for Strategic and Budgetary Assessments

James "Jim" O'Neill, President, Global Services & Support, Boeing Defense Space & Security

Al Romig, Vice President, Engineering and Advanced Systems, Chief Skunk; Lockheed Martin Aeronautics

Rear Admiral David B. Woods, Commander, Strike Force Training Pacific, U.S. Navy

0930–1130 hrs **Santa Monica Room**

Complex Aerospace Systems Exchange (CASE) Opening Session

Framing the Discussion on Complex Systems

Speakers:

Nassim N. Taleb, Distinguished Professor of Risk Engineering, Polytechnic Institute of New York University

Art Thompson, Technical Project Director, Red Bull Stratos

1130–1300 hrs **Los Angeles Room**

Luncheon Keynote

What the Cybersecurity Experience Can Mean for Aviation

Richard A. Clarke, Chairman and CEO, Good Harbor Security Risk Management

1330–1530 hrs **Beverly Hills Room**

Keynote Speakers and Panel Sessions

Panel – The Connectivity Challenge: Protecting Critical Assets in a Networked World

Moderator: **Paul Kurtz,** Chief Strategy Officer, CyberPoint International

Panelists:

Peter Andres, Vice President of Corporate Security, Deutsche Lufthansa AG

Larry Castro, Managing Director, Chertoff Group, LLC

Daniel Geer Jr., Chief Information Security Officer, In-Q-Tel

Dominic Nessi, Deputy Executive Director/Chief Information Officer, Los Angeles World Airports

Michael K. Sinnett, 787 Vice President and Chief Project Engineer, Senior Systems Engineer for Airplane Systems, Boeing Commercial Airplanes

1600–1800 hrs **Beverly Hills Room**

Panel – The Energy Imperative

Moderator: **Steve Csonka,** Executive Director, Commercial Aviation Alternative Fuels Initiative (CAAFI)

Panelists:

Alan Epstein, Vice President, Technology and Environment, Pratt & Whitney

Thomas W. Hicks, Deputy Assistant Secretary of the Navy, U.S. Navy

Mauro Kern Jr., Executive Vice President of Engineering and Technology, Embraer

Christopher Ryan, President, Chief Operating Officer, and Chief Technology Officer, Gevo, Inc.

Wednesday, 14 August

0800–0900 hrs **Los Angeles Room**

Morning Keynote

Embracing a World of Change: NASA's Aeronautics Research Strategy

Charles F. Bolden Jr., Administrator, NASA

0930–1200 hrs **Beverly Hills Room**

Panel – Business, General, and Rotorcraft Aviation: Global Outlook, Opportunities, and Challenges

Moderator: **Pete Bunce,** President and CEO, General Aviation Manufacturers Association

Panelists:

Pres Henne, Senior Vice President of Programs, Engineering and Test, Gulfstream Aerospace

Mike Hirschberg, Executive Director, AHS International

John S. Langford, Chairman and Chief Executive Officer, Aurora Flight Sciences Corporation

Jack Pelton, Chairman and President, Experimental Aircraft Association

1200–1300 hrs **Los Angeles Room**

Luncheon Keynote

The Aircraft Market in an Age Of Extremes: Industry Overview And Forecast

Richard L. Aboulafia, Vice President, Analysis, The Teal Group

1330–1530 hrs **Beverly Hills Room**

Panel – Developing the Market for UAS

Moderator: **John S. Langford,** Chairman and Chief Executive Officer, Aurora Flight Sciences Corporation

Panelists:

Douglas Marshall, Division Manager, UAS Regulatory & Standards Development, New Mexico State University

David D. McBride, Center Director, NASA Dryden Flight Research Center

Michael Neale, Manager, RF System Design, General Atomics Aeronautical Systems

Randy Willis, Air Traffic Manager, Unmanned Aircraft Systems Integration Office, FAA Headquarters

1600–1800 hrs **Beverly Hills Room**

Panel – The Future of Flight: Shaping the Policy Discussion

Moderator: **Richard L. Aboulafia,** Vice President, Analysis, The Teal Group

Panelists:

Fariba Alamdari, Vice President, Market and Aviation Policy, Boeing Commercial Airplanes

Tyler Duvall, Associate Principal, McKinsey & Company

Gina Marie Lindsey, Executive Director, Los Angeles World Airports

Paul Steele, Corporate Secretary and Senior Vice President, Member and External Relations, International Air Transport Association and Executive Director, Air Transport Action Group

Highlighted Sessions

Panel – Overview of the Threat Landscape

Monday, 12 August

1500–1700 hrs **Brentwood Room**

Moderator: **David Shaw,** CEO, Business Analysis

Panelists:

Remy Baumgarten, Security Researcher, ANRC

Jeffrey Carr, CEO, Taia Global, Inc

Barbara Endicott-Popovsky, Director, Center for Information Assurance and Cybersecurity, University of Washington

Emilio Iasiello, Chief, Threat Analysis, iSight Partners, Inc

The Inside View of Cybersecurity: An Interview with Dan Geer

Tuesday, 13 August

0930–1030 hrs **Sherman Oaks Room**

This interview with Dan Geer, Chief Information Security Officer for In-Q-Tel (moderated by Dr. Barbara Endicott-Popovsky) will discuss the types of threats that exist for the cyber landscape, the realities of responding to those threats, and what must be done to further create an adaptive and resilient cyber infrastructure that is capable of neutralizing threats.

Re-booting the System: Getting in Front of the Attacks and Preventing Losses

Tuesday, 13 August

1030–1130 hrs **Sherman Oaks Room**

Moderator: **Wayne Washer,** COO for Global Business Analysis

Panelists:

Barbara Endicott-Popovsky, Director, Center for Information Assurance and Cybersecurity, University of Washington

David Shaw, CEO, Global Business Analysis

Remy Baumgarten, Security Researcher, ANRC

Protecting Intellectual Property Workshop

Wednesday, 14 August

1330–1630 hrs **Westwood Room**

Investing in innovation is one of the keys to maintaining a competitive edge and for expanding business opportunities. Protecting this investment through intellectual property rights such as patents, copyrights, and trademarks is essential in today's global economy, particularly when contracting with government entities. The United States recently implemented extensive changes to the patent system with far-reaching effects for companies that wish to obtain and enforce their intellectual property rights. This workshop will explore various ways to protect intellectual property, contracting with government agencies, and how the new patent laws will impact your vital business IP assets.

Panel – Aviation Research in China

Tuesday, 13 August

0930–1130 hrs **Pacific Room**

Welcome Remarks by: **Susan Ying,** Vice President-International, AIAA

Moderator: **Song Wu,** President, Chinese Society of Aeronautics and Astronautics (CSAA)

Panelists:

Zhao Chuanliang, Senior Engineer, Shenyang Aero-engine Research Institute

Li Kaixiang, Engineer, Aircraft Strength Research Institute of China

Ye Liang, Senior Engineer, AVIC Aerodynamic Research Institute

Liu Quanliang, Senior Engineer, Aircraft Strength Research Institute of China

Guoqing Wang, President, AVIC Chinese Aeronautical Radio Electronics Research Institute

Sun Xun, Senior Engineer, AVIC Xi'an Flight Automatic Control Research Institute

Regional Leadership Conference

Thursday–Friday, 15–16 August

See committee list for time and location details.

The 2013 Regional Leadership Conference (RLC) is an opportunity to introduce new section officers and deputy directors to the Institute's resources and programs. In addition, it will provide sections and regions with information on upcoming events and new activities to increase member motivation and encourage member participation. The conference is open to all section officers and deputy directors.

The conference will include a combined luncheon with the AIAA Board of Directors where AIAA President Mike Griffin will address the attendees. The afternoon sessions will be a rewarding experience for officers as they interact with each other and learn about valuable tools to help them have a successful Section Year. There will also be a reception so that attendees can mingle and discuss activities with other officers. Register for the RLC at the AIAA website.

Highlighted Sessions

Complex Aerospace Systems Exchange (CASE)

Over the course of three days, CASE will examine the following topics, organized in three tracks. All AVIATION 2013 attendees are welcome to attend.

Opening Session: Framing the Discussion on Complex Systems

Tuesday, 13 August

0930–1130 hrs **Santa Monica Room**

Keynote speakers:

Nassim N. Taleb, Distinguished Professor of Risk Engineering, Polytechnic Institute of New York University

Art Thompson, Technical Project Director, Red Bull Stratos

The opening session, moderated by Dr. Wilson Felder, will set the tone for the remainder of the event. The session will provide the opportunity to hear from key thought leaders in the complexity business as well as from successful complex aerospace systems practitioners. A key challenge for the aerospace community is to develop the theoretical underpinnings for systems engineering and this session will allow for discussion and development of those foundational themes.

Track One: Complex Systems Development

Society is challenged by the need to successfully develop increasingly complex and critical aerospace systems that meet stakeholders' needs within planned budgets and schedules. This track will focus on large system development activities from the establishment of requirements through the conceptual, preliminary, and detailed design phases, to address challenges faced by chief engineers and systems engineers working to develop Complex Aerospace Systems. Sessions include:

Tuesday, 13 August

Santa Monica Room

1330–1530 hrs Lessons Learned in Complex Systems Development – Chief Engineer Perspectives

1600–1800 hrs Making the Business Case for Model Based Engineering

Wednesday, 14 August

Pacific Room

0930–1200 hrs Managing Complexity: Academic and Industry Perspective on Metrics for Complex Systems

Santa Monica Room

1330–1530 hrs Model Based Engineering Use in System Development – Case Studies

Track Two: Integration, Test and Verification of Complex Systems

Pressure to conduct affordable development programs requires that the integration of complex systems must be planned to significant detail well in advance of detailed design. This includes strategies to design and mature models, databases, simulations, and test equipment to support program needs that extend from bench testing of prototypes through flight testing on multiple ranges. Sessions include:

Tuesday, 13 August

Brentwood Room

1330–1530 hrs Development of Testable Requirements at the SoS/Capability Level

1600–1800 hrs Cost Optimization and Risk Mitigation through Strategic Early Verification

Wednesday, 14 August

Brentwood Room

1330–1530 hrs Direction and Integration of Experimental Ground Test Capabilities and Computational Methods

Track Three: Program Management to Achieve Robust and Resilient Systems

Complex aerospace systems require program management strategies and integrated planning tools to coordinate the activities of technical teams from multiple organizations that are physically separated but closely networked to work collaboratively and share common databases. Managing the technical and direct support aspects in the development and operation of complex aerospace systems required focus on several dimensions including the management and integration of business operations, logistics issues, regulatory and policy issues, and workforce infrastructure. Sessions include:

Tuesday, 13 August

Pacific Room

1330–1530 hrs Program Management and Project Planning

1600–1800 hrs Supplier Management and Logistics

Wednesday, 14 August

Santa Monica Room

0930–1200 hrs Workforce Skills Development

Pacific Room

1330–1530 hrs Program Organization

Networking Events

Networking Breakfasts

Monday–Wednesday, 12–14 August

0700–0800 hrs **California Showroom**

Start the day sharing breakfast and discussion with colleagues and new contacts. Monday breakfast will be located in the California Foyer, and Tuesday and Wednesday breakfasts will be located in the California Showroom. This event is open to all attendees. (no tickets required.)

Networking Coffee Breaks

Networking coffee breaks will be held at the following times and locations:

Monday, 12 August

0930–1000 hrs **California Foyer**
1430–1500 hrs **California Showroom**

Tuesday, 13 August

0900–0930 hrs **California Showroom**
1530–1600 hrs **California Showroom**

Wednesday, 14 August

0900–0930 hrs **California Showroom**
1530–1600 hrs **California Foyer**

AIAA Corporate Member Business-to-Business (B2B) Networking

Monday, 12 August

0900–1330 hrs **Beverly Hills Room**

This B2B event will help both our prime and our small business members of the aviation supply chain to learn about the latest technology opportunities, to form new alliances and partnerships, and to maximize business resources. Companies will outline what they're looking for in partnerships, followed by one-on-one matchmaking and detailed discussion about programs and opportunities. Registration is required for this event, which is complimentary for AIAA corporate members. There is a $200 fee for non–corporate members. To register, please visit the Registration and Information Center.

Welcome Happy Hour

Monday, 12 August

1700–1800 hrs **California Showroom**

Catch up with old and new colleagues. Talk business. Share stories. Unwind. (No tickets required.)

Reception at the Museum of Flying

Tuesday, 13 August

1800–2000 hrs

Enjoy an evening reception among exhibits on the history of flight and the development of the aviation and aerospace industry in Southern California. The museum has nearly two dozen aircraft and a broad collection of aviation art, rare artifacts, and ephemera from famous aviators. This event, with heavy hors d'oeuvres, beer and wine, is included in the full conference registration. Transportation will depart from outside the front of the hotel starting at 1800 hrs. Last bus at 1830 hrs. (Ticket required.)

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AIAA Bookstore: Author Signings

The Aircraft Designers: A Grumman Historical Perspective

Monday, 12 August

1700–1800 hrs **California Showroom**

Meet *The Aircraft Designers: A Grumman Historical Perspective* author Michael Ciminera at the AIAA Bookstore during the Welcome happy hour located in the California Showroom. Speak with the author and have your copy of *The Aircraft Designers* signed. *The Aircraft Designers* will be on sale for $27.97 (orig. $39.95) at the AIAA Bookstore.

Fundamentals of Aircraft and Airship Design, Volumes I & II

Tuesday, 13 August

0900–0930 hrs **California Foyer**

During the Networking Coffee Break, meet *Fundamentals of Aircraft and Airship Design, Volumes I & II* author Leland Nicolai at the AIAA Bookstore near the Registration and Information Center. Speak with the author and have your copy of *Fundamentals of Aircraft and Airship Design, Volumes I & II* signed. *Fundamentals of Aircraft and Airship Design, Volumes I & II* will each be on sale for $83.97 (orig. $119.95) at the AIAA Bookstore.

Luncheons (Ticket required)

Tuesday, 13 August

1130–1300 hrs **Los Angeles Room**

Keynote: **Richard A. Clarke,** Chairman and CEO, Good Harbor Security Risk Management

What the Cybersecurity Experience Can Mean for Aviation

Wednesday 14 August

1200–1300 hrs **Los Angeles Room**

Keynote: **Richard Aboulafia,** Vice President, Analysis, The Teal Group

The Aircraft Market in an Age of Extremes: Industry Overview and Forecast

Closing Reception

Wednesday, 14 August

1800–1900 hrs **Outdoor Lawn**

Join us on the outdoor lawn (weather permitting) for drinks and discussion. What was the most surprising piece of information you learned at AIAA AVIATION 2013? How will you apply what you learned when you return to work? Who did you meet? What should we focus on for 2014?

Also, come fly with us and participate in the **paper airplane contest!** Build your paper airplane using the template provided or create your own unique design. Fly your plane towards a specified target for the chance to win free registration to the AIAA AVIATION 2014 Forum in Atlanta, Georgia! Contest details and rules will be provided on site. Sign up at the registration desk – space is limited! (No tickets required.)

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Recognition Events

Recognizing the best in the aerospace community for their outstanding achievement is one of the primary goals of AIAA. Join with us as we celebrate aerospace ingenuity and collaboration.

Monday Opening Keynote and Innovation Recognition

Monday, 12 August

1330–1430 hrs **Los Angeles Room**

We welcome the 2013 Conrad Foundation's Spirit of Innovation Aerospace and Aviation Challenge winners: Team M^3 from Warren High School in Downey, CA. Team M^3, consisting of three high school students, won the Aerospace and Aviation Challenge with their "Sleep Halo," a low-tech, but highly innovative product that has the potential to revolutionize the air travel industry. The product is an adjustable circular headrest and cushion for airplane seats to allow for maximum comfort during long flights. Please join us in recognizing Team M^3 members Matthew Pacheco, Mulan MacDougall, and Michele Tulean, along with their coach, Glenn Yamasaki.

Awards Luncheon and Keynote

Tuesday, 13 August

1130–1300 hrs **Los Angeles Room**

The following awards will be presented during the luncheon:

Aircraft Design Award

Egbert Torenbeek
Professor Emeritus, Aerospace Engineering
Delft University of Technology
Delft, The Netherlands

For lifetime achievement in advancing aircraft design education and promoting computer aided techniques in aircraft design.

F. E. Newbold V/STOL Award

William J. Lewis
Assistant Chief Engineer (retired)
Rolls-Royce PLC
Bristol, United Kingdom

For over 30 years of leadership and advocacy of supersonic V/STOL aircraft within Rolls-Royce and throughout the US/UK aerospace industry.

History Manuscript Award

Bruce Larrimer
Larrimer Associates
Columbus, Ohio

For the manuscript entitled, "Thinking Obliquely: Robert T. Jones, His Oblique Wing and Its Legacy.'

Display Area

The display area is located in the California Showroom, across from the Registration and Information Center. Networking breakfasts, coffee breaks, and happy hours are all held in the display area to give attendees and exhibitors the most opportunities to meet and do business.

Display Area Hours

Monday, 12 August	**1430–1800 hrs**
Tuesday, 13 August	**0700–1600 hrs**
Wednesday, 14 August	**0700–0930 hrs**

Networking Activities in the Display Area

Networking Breaks

Monday, 12 August	**1430–1500 hrs**
Tuesday, 13 August	**0900–0930 hrs** **1530–1600 hrs**
Wednesday, 14 August	**0900–0930 hrs**

Welcome Happy Hour

Monday, 12 August	**1700–1800 hrs**

Networking Breakfasts

Tuesday and Wednesday, 13–14 August	**0700–0800 hrs**

Exhibitors

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Applied Dynamics helps companies make better use of simulation assets through all stages of product development, verification testing, demonstration, training, and maintenance. Our user base includes more than 50% of the Fortune 500 aerospace and defense companies and extends into marine, power systems, oil and gas, and the automotive industry.

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Exhibitors

Georgia Center of Innovation for Aerospace

75 Fifth Street NW, Suite 1200
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aerospace.georgia.org

Georgia is a world leader in aerospace with over 500 companies and a total workforce of 88,000 – and growing. Georgia's aerospace exports are up over 800 percent over the last ten years (over $5B in 2012). The Georgia Center of Innovation for Aerospace acts as a catalyst, creating opportunities for aerospace companies and their suppliers by connecting them to new technologies, university research, potential business collaborators and current industry information. The Center advances recognition of Georgia's strength in the global aerospace industry, and contributes to the entrepreneurial and educational ecosystems required for its continued growth.

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General Information

AIAA Registration and Information Center Hours

The AIAA Registration and Information Center is located in the California Foyer at the Hyatt Regency Century Plaza. Hours are as follows:

Sunday, 11 August	**1500–1900 hrs**
Monday, 12 August	**0700–1700 hrs**
Tuesday, 13 August	**0700–1800 hrs**
Wednesday, 14 August	**0700–1800 hrs**

Cyber Café

Computers with complimentary Internet access for conference attendees will be available at the AIAA Cyber Café, located in the California Foyer. Hours of operation are as follows:

Sunday, 11 August	**1500–1900 hrs**
Monday, 12 August	**0700–1700 hrs**
Tuesday, 13 August	**0700–1800 hrs**
Wednesday, 14 August	**0700–1800 hrs**

Wi-Fi Internet access will be available in hotel sleeping rooms under the AIAA block.

Conference Proceedings

Proceedings for the forum will be available in online proceedings format. The cost is included in the registration fee where indicated. The online proceedings will be available on 12 August 2013. Attendees who register in advance for the online proceedings will be provided with instructions on how to access them. Those registering on site will be provided with instructions at that time.

Proceedings:

1. To view proceedings visit **www.aiaa.org** >ARC>Meeting Papers.
   a. Log in with the link at the top right of the page.
   b. Select the appropriate conference from the list.
   c. **Search for individual papers** with the **Quick Search toolbar** in the upper-right corner of the page:
      i. By paper number: Click the "Paper Number" link, select the conference year, and enter the paper number.
      ii. Use the Search textbox to find papers by author, title, or keyword. The Advanced Search link provides additional search information and options.
2. All manuscript files submitted by four days prior to the conference are currently in the proceedings. Files submitted after that date, both original and revised manuscripts, will not be available until the final proceedings update, which may take up to 15 business days after the last day of the conference.
3. AIAA provides limited Wi-Fi service for attendees to use while on site. To keep this service available and optimized for all attendees, please do not download files larger than 2MB, create multiple sessions across multiple devices, or download multiple files in one session. If you receive an error message that an AIAA server is blocking your current IP address, please inform the AIAA registration desk.
4. Direct any questions concerning access to proceedings and/or ARC to **arcsupport@aiaa.org.**

Manuscript Revisions:

1. To **request access to submit a revision**, email AIAA at **revisions@aiaa.org** no later than seven business days after the last day of the conference. Include the name of this conference as well as your paper number in the body of the email.
2. Revisions submitted for manuscripts already online **will not refresh until after the proceedings have been updated**, which may take up to 15 business days after the last day of the conference.

AIAA Livestream Channel

Visit www.livestream.com/aiaa to view selected keynotes and plenary sessions from the week's events. Share the link so colleagues who cannot attend the conference can watch live or view afterwards.

Certificate of Attendance

Certificates of Attendance are available for attendees who request documentation at the conference itself. AIAA offers this service to better serve the needs of the professional community. Claims of hours or applicability toward professional education requirements are the responsibility of the participant. Please request your copy at the on-site registration desk starting on Tuesday afternoon.

30% Off All AIAA Books at AVIATION 2013

AIAA is offering a special conference discount on all titles featured at AVIATION 2013. Attendees receive a 30% discount off the list price of all books for sale in the AIAA Bookstore in the display area. This special offer will only be available during AVIATION 2013. Also featured will be the entire 2013 AIAA Book of the Month collection at their special month prices.

In addition, *Unmanned Aircraft Systems,* by Reg Austin, has been selected as the conference book of AVIATION 2013 and is on sale for $79.95. Take advantage of these super savings and visit the bookstore.

Employment Opportunities

AIAA members can post and browse resumes, browse job listings, and access other online employment resources by visiting the AIAA Career Center at http://careercenter.aiaa.org.

Nondiscriminatory Practices

AIAA accepts registrations irrespective of race, creed, gender, color, sexual orientation, physical handicap, and national or ethnic origin.

Restrictions

Photos, video, or audio recording of sessions or exhibits, as well as the unauthorized sale of AIAA-copyrighted material, is prohibited.

General Information

Speakers' Briefings in Session Rooms

Authors who are presenting papers will meet with session chairs and co-chairs in their session room for a short briefing on the day of their session to exchange bios and review final details prior to the session. Monday–Wednesday morning sessions will meet from 0730 to 0800 hrs, and Monday–Wednesday afternoon sessions will meet from 1300 to 1330 hrs.

Speakers' Practice Room

Speakers who wish to practice their presentations may do so in the Bel-Air Room at the Hyatt Regency Century Plaza. A sign-up sheet will be posted on the door. In consideration of others, please limit practice time to 30-minute increments.

Session Chair Reports

All session chairs are asked to complete a session chair report to evaluate their session for future planning. AIAA has partnered with Canvas Solutions to provide an electronic Session Chair Report form. You can download the FREE mobile app in your App Store, AppWorld, or Marketplace by searching for "Canvas Solutions, Inc." The mobile app is free, so please make sure to download it. Detailed instructions will be provided in the session rooms. If you do not have a tablet or a smartphone, simply use this form as a guide and enter your session chair report information at the session chair reporting computer station located on site near the AIAA registration and information center. Report data is collected and used for future planning purposes, including session topics and room allocations. Please submit your session chair report electronically by 15 August 2013.

Audiovisual

Each session room will be preset with the following: one laptop computer, one LCD projector, one screen, and one microphone and sound system (if necessitated by room size). Please note that AIAA does not provide security in the session rooms and recommends that items of value, including computers, not be left unattended. For additional audiovisual requirements please come to the registration and information center.

"No Paper, No Podium" and "No Podium, No Paper" Policy

If a written paper is not submitted by the final manuscript deadline, authors will not be permitted to present the paper at the forum. Also, if the paper is not presented at the forum, it will be withdrawn from the proceedings. It is the responsibility of those authors whose papers or presentations are accepted to ensure that a representative attends the conference to present the paper. These policies are intended to improve the quality of the program for attendees.

Journal Publication

Authors of appropriate papers are encouraged to submit them for possible publication in one of the Institute's archival journals: *AIAA Journal; Journal of Aircraft; Journal of Guidance, Control, and Dynamics; Journal of Propulsion and Power; Journal of Spacecraft and Rockets; Journal of Thermophysics and Heat Transfer;* or *Journal of Aerospace Information Systems* (formerly *Journal of Aerospace Computing, Information, and Communication*). You may now submit your paper online at **http://mc.manuscriptcentral.com/aiaa.**

Young Professional Guide for Gaining Management Support

Young professionals have the unique opportunity to meet and learn from some of the most important people in the business by attending conferences and participating in AIAA activities. A detailed online guide, published by the AIAA Young Professional Committee, is available to help you gain support and financial backing from your company. The guide explains the benefits of participation, offers recommendations and provides an example letter for seeking management support and funding, and shows you how to get the most out of your participation. The online guide can be found on the AIAA website at www.aiaa.org/YPGuide.

AIAA Membership

AIAA is your vital lifelong link to the collective creativity and brainpower of the aerospace profession and a champion for its achievements – and nonmembers who pay the full nonmember registration fee will receive their first year's AIAA membership at no additional cost.

International Traffic in Arms Regulations (ITAR)

AIAA speakers and attendees are reminded that some topics discussed in the conference could be controlled by the International Traffic in Arms Regulations (ITAR). U.S. nationals (U.S. citizens and permanent residents) are responsible for ensuring that technical data they present in open sessions to non-U.S. nationals in attendance or in conference proceedings are not export restricted by the ITAR. U.S. nationals are likewise responsible for ensuring that they do not discuss ITAR export-restricted information with non-U.S. nationals in attendance.

Committee Meetings

Sunday, 11 August

1100–1600 hrs	**Management TC**	Regents

Monday, 12 August

0800–1330 hrs	**AIAA Corporate Member B2B Networking**	Beverly Hills
1000–1100 hrs	**AVIATION 2014 Forum Organizing Committee**	Malibu
1100–1200 hrs	**AVIATION 2014 Technical Program Committee**	Malibu
1100–1300 hrs	**TAC Aircraft and Atmospheric Systems Group**	Governors 2
1200–1430 hrs	**Value Driven Design PC**	Regents
1800–1900 hrs	**CASE Planning Meeting**	Pacific
1800–2000 hrs	**Newbold V/STOL Award Reception**	Encino
1800–2100 hrs	**Product Support TC**	Malibu
1800–2100 hrs	**Aircraft Operations TC**	Preview 2
1800–2100 hrs	**Economics TC**	Senators 2
1830–2300 hrs	**Aircraft Design TC**	Westwood
1900–2200 hrs	**Air Transportation Systems TC**	Governors 2

Tuesday, 13 August

0800–1100 hrs	**Summer Public Policy Committee Meeting**	Senators 2
0800–1200 hrs	**TAC Executive Board Meeting**	Governors 2
0900–1200 hrs	**General Aviation TC**	Regents
1300–1600 hrs	**DETC Subcommittee Meeting**	Regents
1400–1530 hrs	**International Activities Committee**	Senators 2
1400–1600 hrs	**Finance Committee Meeting**	Malibu
1400–1800 hrs	**TAC New Initiatives Subcommittee**	Governors 2
1530–1630 hrs	**AIAA/CSAA Collaboration Meeting**	Senators 2
1800–1900 hrs	**CASE Planning Meeting**	Pacific
1800–2100 hrs	**Design Engineering TC**	Regents

Wednesday, 14 August

0730–1430 hrs	**Region and Section Activities Committee**	Westside
0800–1600 hrs	**Technical Activities Committee**	Olympic 2
1000–1200 hrs	**Emerging Technologies Committee**	Regents
1300–1500 hrs	**Foundation Board of Trustees**	Regents
1330–1430 hrs	**AVIATION 2013 Hotwash**	Governors 2
1500–1700 hrs	**IDC Meeting**	Westside
1800–1900 hrs	**CASE Planning Meeting**	Pacific
1800–2100 hrs	**Transformational Flight PC**	Senators 2
1800–2100 hrs	**V/STOL Aircraft Systems TC**	Regents
1900–2130 hrs	**Two Great New Ways for Sections to Engage in STEM Outreach**	Directors 1 & 2

Thursday, 15 August

0700–1830 hrs	**AIAA Regional Leadership Conference**	Pacific and Palisades
0730–0800 hrs	**Board Breakfast**	Olympic 1 & 2
0800–1230 hrs	**Board Meeting**	Olympic 1 & 2
1230–1400 hrs	**Board and Regional Leadership Conference Luncheon**	Westside
0800–1430 hrs	**CASE Rapporteur Wrap Up**	Encino
1400–1700 hrs	**Nominating Committee Meeting**	Brentwood
1500–1700 hrs	**Standards Executive Council**	Encino
1845–2030 hrs	**AIAA Regional Leadership Conference Reception**	Breeze Lawn

Friday, 16 August

0700–1215 hrs	**AIAA Regional Leadership Conference**	Pacific and Palisades
0800–1600 hrs	**EXCOM/IDC Strategic Retreat**	Malibu

Organizing Committee

Conference Executive Chair

Michael P. Delaney, Vice President, Engineering, Boeing Commercial Airplanes

Executive Steering Committee

Conference General Chair

James Vasatka, Chief Engineer of Aviation Security, Boeing Commercial Airplanes

Brian Argrow, Professor, Department of Aerospace Engineering Sciences, Research and Engineering Center for Unmanned Vehicles, University of Colorado

Jeff Hamstra, Lockheed Martin Senior Fellow, F-35 Vehicle Systems, Lockheed Martin Aeronautics Company

Robert Pearce, NASA Aeronautics Research Mission Directorate

Graham Warwick, Senior Editor, *Aviation Week and Space Technology*

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General Chair

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Rich Christiansen, Vice President, Sierra Lobo, Inc.

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Technical Program Committee Chair

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Track 1 Chair

Laura J. McGill, Engineering Deputy, Raytheon Company

Track 2 Chair

David Dress, Deputy, Space Technology Projects Office, NASA Langley Research Center

Track 3 Chair

T. Sophia Bright, Manager, P-8A Mission Training Integration & Test, The Boeing Company

Program at a Glance

Abbreviation	Title	Start Time	Location
	Monday, 12 August		
3-ATIO-1	**Airspace Configuration (formerly OASIS)**	0800 hrs	Park
4-ATIO-2	**Drag Reduction**	0800 hrs	Palisades
5-ATIO-3	**Simulation of Airport Operations**	0800 hrs	Directors 1 & 2
6-ATIO-4	**Software in Aviation**	0800 hrs	Senators 1
7-ATIO-5	**Surface Congestion**	0800 hrs	Governors 1
8-ATIO-6	**Unmanned Air Systems: Performance**	0800 hrs	Encino
9-ATIO-7	**Weather: Analysis**	0800 hrs	Sherman Oaks
10-IPLC-1	**Powered-Lift Control Systems and Techniques I**	0800 hrs	Westwood
11-IPLC-2	**Powered-Lift Modeling and Simulation I**	0800 hrs	Pacific
14-ATIO-8	**Air Traffic Management I**	1000 hrs	Park
15-ATIO-9	**Aviation Economics**	1000 hrs	Palisades
16-ATIO-10	**Descent and Arrivals I**	1000 hrs	Senators 1
17-ATIO-11	**Flight Management I**	1000 hrs	Sherman Oaks
18-ATIO-12	**Terminal: Performance**	1000 hrs	Governors 1
19-ATIO-13	**Trajectory I**	1000 hrs	Directors 1 & 2
20-ATIO-14	**Unmanned Air Systems: Management**	1000 hrs	Encino
21-IPLC-3	**Powered-Lift Control Systems and Techniques II**	1000 hrs	Westwood
22-IPLC-4	**Powered-Lift Modeling and Simulation II**	1000 hrs	Pacific
26-KN-1	**Monday Afternoon Keynote Address**	1330 hrs	Los Angeles
28-ATIO-15	**Air Traffic Management II**	1500 hrs	Park
29-ATIO-16	**Descent and Arrivals II**	1500 hrs	Senators 1
30-ATIO-17	**Economics and the Value Chain**	1500 hrs	Palisades
31-ATIO-18	**Flight Management II**	1500 hrs	Sherman Oaks
32-ATIO-19	**Terminal: Analysis**	1500 hrs	Governors 1
33-ATIO-20	**Trajectory II**	1500 hrs	Directors 1 & 2
34-CASE-1	**CASE: Brainstorming Session: Complex Systems Primer**	1500 hrs	Santa Monica
35-IPLC-5	**Powered-Lift Flight Operations**	1500 hrs	Pacific
36-PNL-3	**Commercial Aviation Panel**	1500 hrs	Beverly Hills
37-PNL-5	**Panel: Overview of the Cyber Threat Landscape**	1500 hrs	Brentwood

Abbreviation Key	
ATIO	**2013 Aviation Technology, Integration, and Operations Conference**
IPLC	**2013 International Powered Lift Conference**
CASE	**Complex Aerospace Systems Exchange**
KN	**Keynote**
PNL	**Panel**
WKSHP	**Workshop**

Program at a Glance

Abbreviation	Title	Start Time	Location
	Tuesday, 13 August		
41-KN-2	**Tuesday Morning Keynote Address**	0800 hrs	Los Angeles
43-ATIO-21	**Aircraft Conceptual Design I**	0930 hrs	Encino
44-ATIO-22	**Airport Surface Scheduling**	0930 hrs	Directors 1 & 2
45-ATIO-23	**Creative Next Generation Aviation Systems**	0930 hrs	Palisades
46-ATIO-24	**Electric Aircraft: Design and Performance**	0930 hrs	Governors 1
47-ATIO-25	**Environment and Design I**	0930 hrs	Park
48-ATIO-26	**Fuel Burn I**	0930 hrs	Senators 1
49-ATIO-27	**JPDO: Outlook and Response Strategies**	0930 hrs	Brentwood
50-CASE-2	**CASE Introduction and Opening Keynote: Framing the Discussion on Complex Systems**	0930 hrs	Santa Monica
51-IPLC-6	**Powered-Lift New Concepts I**	0930 hrs	Westwood
52-PNL-7	**Aviation Research in China Panel**	0930 hrs	Pacific
53-PNL-8	**The Inside View of Cybersecurity: An Interview with Dan Geer**	0930 hrs	Sherman Oaks
54-PNL-9	**Military Aviation Panel**	0930 hrs	Beverly Hills
55-PNL-17	**Re-booting the System: Getting in Front of the Attacks and Preventing Losses**	1030 hrs	Sherman Oaks
56-LNCH-2	**AVIATION Forum Keynote, Awards Presentation and Lunch**	1130 hrs	Los Angeles
58-ATIO-28	**Aerodynamics**	1330 hrs	Sherman Oaks
59-ATIO-29	**Aircraft Conceptual Design II**	1330 hrs	Encino
60-ATIO-30	**Conflict Resolution I**	1330 hrs	Governors 1
61-ATIO-31	**Enroute and Mission Optimization I**	1330 hrs	Directors 1 & 2
62-ATIO-32	**Environment and Design II**	1330 hrs	Park
63-ATIO-33	**Environmental Technology in Aircraft Operations**	1330 hrs	Palisades
64-ATIO-34	**Uncertainty in ATM I**	1330 hrs	Senators 1
65-CASE-3	**CASE: Lessons Learned in Complex Systems Development – Chief Engineers Perspectives**	1330 hrs	Santa Monica
66-CASE-5	**CASE: Program Management and Project Planning**	1330 hrs	Pacific
67-CASE-7	**CASE: Development of Testable Requirements at the SoS / Capability Level**	1330 hrs	Brentwood
68-IPLC-7	**Powered-Lift New Concepts II**	1330 hrs	Westwood
69-PNL-10	**Connectivity Challenge Panel**	1330 hrs	Beverly Hills
71-ATIO-35	**Aircraft Conceptual Design III**	1600 hrs	Encino
72-ATIO-36	**Aircraft Subsystem Performance**	1600 hrs	Sherman Oaks
73-ATIO-37	**Conflict Resolution II**	1600 hrs	Governors 1
74-ATIO-38	**Enroute and Mission Optimization II**	1600 hrs	Directors 1 & 2
75-ATIO-39	**Environment and Design III**	1600 hrs	Park
76-ATIO-40	**Uncertainty in ATM II**	1600 hrs	Senators 1
77-CASE-4	**CASE: Making the Business Case for Model Based Engineering**	1600 hrs	Santa Monica
78-CASE-6	**CASE: Supplier Management and Logistics**	1600 hrs	Pacific
79-CASE-8	**CASE: Cost Optimization and Risk Mitigation through Strategic Early Verification**	1600 hrs	Brentwood
80-PNL-11	**The Energy Imperative Panel**	1600 hrs	Beverly Hills
81-PNL-12	**Panel: Transformational Flight Discussion: Future Visions, Policies and Technologies for On-Demand Mobility**	1600 hrs	Palisades
82-PNL-13	**Panel: Powered Lift Flight Testing**	1600 hrs	Westwood

Program at a Glance

Abbreviation	Title	Start Time	Location
	Wednesday, 14 August		
86-KN-3	**Wednesday Morning Keynote**	0800 hrs	Los Angeles
88-ATIO-41	**Air Traffic Management and Flow**	0930 hrs	Directors 1 & 2
89-ATIO-42	**Airport Capacity Analysis**	0930 hrs	Park
90-ATIO-43	**Human Factors in Aviation**	0930 hrs	Senators 1
91-ATIO-44	**JPDO: Methods and Results**	0930 hrs	Brentwood
92-ATIO-45	**Separation Assurance**	0930 hrs	Governors 1
93-ATIO-46	**Structural Design & Analysis**	0930 hrs	Encino
94-ATIO-47	**Transformational Flight Advanced I**	0930 hrs	Palisades
95-ATIO-48	**Weather: Impact I**	0930 hrs	Sherman Oaks
96-CASE-9	**CASE: Workforce Skills Development**	0930 hrs	Santa Monica
97-CASE-10	**CASE: Managing Complexity: Academic and Industry Perspective on Metrics for Complex Systems**	0930 hrs	Pacific
98-IPLC-8	**Powered-Lift Fluidics and Flowfields**	0930 hrs	Westwood
99-PNL-14	**Business, General and RotorCraft Aviation Panel**	0930 hrs	Beverly Hills
100-LNCH-3	**Wednesday Keynote Luncheon**	1200 hrs	Los Angeles
102-ATIO-49	**Enroute and Mission Optimization III**	1330 hrs	Directors 1 & 2
103-ATIO-50	**Fuel Burn II**	1330 hrs	Senators 1
104-ATIO-51	**Platform and Fleet Design Methods**	1330 hrs	Encino
105-ATIO-52	**Runway Efficiency**	1330 hrs	Park
106-ATIO-53	**Safety in Surface Operations**	1330 hrs	Governors 1
107-ATIO-54	**Transformational Flight Advanced II**	1330 hrs	Palisades
108-ATIO-55	**Weather: Impact II**	1330 hrs	Sherman Oaks
109-CASE-11	**CASE: Model Based Engineering Use in System Development – Case Studies**	1330 hrs	Santa Monica
110-CASE-12	**CASE: Program Organization**	1330 hrs	Pacific
111-CASE-13	**CASE: Direction and Integration of Experimental Ground Test Capabilities and Computational Methods**	1330 hrs	Brentwood
112-PNL-15	**Developing the Market for UAS Panel**	1330 hrs	Beverly Hills
113-WKSHP-1	**Protecting Intellectual Property Workshop**	1330 hrs	Westwood
115-ATIO-56	**Aircraft Subsyem Safety**	1600 hrs	Governors 1
116-ATIO-58	**Environment Efficiency**	1600 hrs	Sherman Oaks
117-ATIO-60	**Powerplant Performance**	1600 hrs	Brentwood
118-ATIO-61	**Systems Engineering**	1600 hrs	Park
119-ATIO-62	**Transformational Flight: Autonomy and Airspace**	1600 hrs	Palisades
120-ATIO-63	**Unmanned Air System Design**	1600 hrs	Encino
121-ATIO-64	**Wakes**	1600 hrs	Pacific
122-CASE-14	**CASE: Wrap Up**	1600 hrs	Santa Monica
123-PNL-16	**Shaping the Discussion; Policy Development Panel**	1600 hrs	Beverly Hills

Monday, 12 August 2013		
1-NB-1 0700 - 0800 hrs	Monday Networking Breakfast	California Showroom

Monday, 12 August 2013		
2-SB-1 0730 - 0800 hrs	Monday Morning Speakers' Briefing	Session Rooms

Monday, 12 August 2013				
3-ATIO-1	Airspace Configuration (formerly OASIS)			Park
Chaired by: M. BLOEM, NASA-Ames				
0800 hrs AIAA-2013-4201 **An Approach for Finding Multiple Area of Specialization Configuration Advisories** M. Bloem, NASA Ames Research Center, Moffett Field, CA; N. Bambos, Stanford University, Stanford, CA	0830 hrs AIAA-2013-4202 **An Evaluation of Operational Airspace Sectorization Integrated System (OASIS) Advisory Tool** P. Lee, San Jose State University, San Jose, CA; R. Mogford, NASA Ames Research Center, Moffett Field, CA; W. Bridges, Flight Research Associates, Moffett Field, CA; N. Buckley, San Jose State University, San Jose, CA; M. Evans, Dell Services, Moffett Field, CA; V. Gujral, San Jose State University, San Jose, CA; H. Lee, Amazon.com, Seattle, CA; D. Peknik, San Jose State University, San Jose, CA; W. Preston, Dell Services, Moffett Field, CA			

Monday, 12 August 2013				
4-ATIO-2	Drag Reduction			Palisades Room
Chaired by: W. ANEMAAT, DARcorporation				
0800 hrs AIAA-2013-4203 **Curious Circumstances Surrounding Optimal Non-Planar Wings** T. Takahashi, C. Kady, Arizona State University, Tempe, AZ	0830 hrs AIAA-2013-4204 **A Unified Perspective of Business Jet Cruise Drag** N. Pfeiffer, Self, Wichita, KS	0900 hrs AIAA-2013-4205 **Improved Computation of Induced Drag for Wakes of Arbitrary Shape** D. Pate, B. German, Georgia Institute of Technology, Atlanta, GA		

Monday, 12 August 2013				
5-ATIO-3	Simulation of Airport Operations			Directors 1&2
Chaired by: D. THIPPHAVONG, NASA Ames Research Center				
0800 hrs AIAA-2013-4206 **Ramp Operation Model Based on Observation in Hartsfield-Jackson Atlanta Airport** S. Kim, A. Proal, E. Feron, Georgia Institute of Technology, Atlanta, GA	0830 hrs AIAA-2013-4207 **Validation of Simulations of Airport Surface Traffic with the Surface Operations Simulator and Scheduler** R. Windhorst, J. Montoya, NASA Ames Research Center, Moffett Field, CA; Z. Zhu, S. Gridnev, Stinger Ghaffarian Technologies, Inc., Moffett Field, CA; K. Griffin, A. Saraf, S. Stroiney, Saab Sensis Corporation, Campbell, CA	0900 hrs AIAA-2013-4208 **More Input - Generic Data for Microscopic Airport Simulation** T. Alers, German Aerospace Center (DLR), Cologne, Germany; S. Kellner, RWTH Aachen University, Aachen, Germany; A. Classen, German Aerospace Center (DLR), Cologne, Germany		

Monday, 12 August 2013				
6-ATIO-4	Software in Aviation			Senators 1
Chaired by: J. BUTTERFIELD, Queen's University Belfast				
0800 hrs AIAA-2013-4209 **Platform as a Service (PaaS) as an Alternative for Commercial Aviation Applications** P. Mallasch, B. Miller, J. Schramm, iJet Onboard, Seattle, WA	0830 hrs AIAA-2013-4210 **Intellectual Property Law and Legacy FORTRAN Code** T. Takahashi, Arizona State University, Tempe, AZ			

Monday, 12 August 2013				
7-ATIO-5	Surface Congestion			Governors 1
Chaired by: P. ROLING, Delft Technical University of Technology				
0800 hrs AIAA-2013-4211 **Analysis of Time and Cost Benefits of Hybrid Dynamic Gate Assignment for Aircraft Taxi Movements and Gate allocation** O. Guclu, C. Cetek, Anadolu University, Eskisehir, Turkey	0830 hrs AIAA-2013-4212 **The Benefit of Innovative Taxi Concepts: The Impact of Airport Size, Fleet Mix and Traffic Growth** N. Dzikus, German Aerospace Center (DLR), Hamburg, Germany; R. Wollenheit, German Aerospace Center (DLR), Braunschweig, Germany; M. Schaefer, German Aerospace Center (DLR), Cologne, Germany; V. Gollnick, German Aerospace Center (DLR), Hamburg, Germany			

Monday, 12 August 2013				
8-ATIO-6	Unmanned Air Systems: Performance			Encino
Chaired by: D. MARONEY, The MITRE Corporation				
0800 hrs AIAA-2013-4213 **Study on the Hybrid Power Source Concept of Unmanned Aircraft Systems** J. Leuchter, University of Defence, Brno, Czech Republic	0830 hrs AIAA-2013-4214 **What Makes Unmanned Aircraft Systems so Complex to Certify for Civil Operations?** L. Mutuel, Thales, Seattle, WA			

Monday, 12 August 2013				
9-ATIO-7	Weather: Analysis			Sherman Oaks
Chaired by: T. REYNOLDS, Massachusetts Institute of Technology				
0800 hrs AIAA-2013-4215 **Use of the Convective Weather Avoidance Polygon (CWAP) to Identify Temporally Coherent Convective Storm Boundaries** M. Rubnich, M. Matthews, R. DeLaura, Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA	0830 hrs AIAA-2013-4216 **Identifying Representative Weather-Impact Scenarios for Flow Contingency Management** S. Tien, C. Taylor, C. Wanke, MITRE Corporation, McLean, VA			

Monday, 12 August 2013				
10-IPLC-1	Powered-Lift Control Systems and Techniques I			Westwood
Chaired by: S. WURTH, Lockheed Martin Corporation and G. WALKER, Lockheed Martin Aeronautics				
0800 hrs AIAA-2013-4217 **High AOA Short Landing Modeling and Control based on Fluidic Thrust Vector** Z. Fan, L. Liu, X. Sun, Xi'an Flight Automatic Control Research Institute, Xi'an, China	0830 hrs Oral Presentation (Invited) **Development of the Prototype Technology Evaluation and Research Aircraft Combined Circulation Control (PTERA C-3) Test Bed and Flight Simulation** B. Cogan, NASA, Edwards AFB, CA			

Monday, 12 August 2013				
11-IPLC-2	**Powered-Lift Modeling and Simulation I**			**Pacific Room**
Chaired by: I. CURTIS, CENTRA Technology, Inc.				
0800 hrs AIAA-2013-4218 **Bayesian Adaptive Sampling for Categorical Design Alternatives** J. Valenzuela-del Río, D. Mavris, Georgia Institute of Technology, Atlanta, GA	0830 hrs AIAA-2013-4219 **The simulation and analysis of the Roll Stability of the Three-rotor Cyclogyro** F. Du, Y. Hu, Northwestern Polytechnical University, Xi'an, China	0900 hrs AIAA-2013-4220 **JBLADE: a Propeller Design and Analysis Code** M. Silvestre, J. Morgado, J. Pascoa, University of Beira Interior, Covilha, Portugal		

Monday, 12 August 2013		
12-B2B-1 **0900 - 1100 hrs**	**Business-to-Business Presentations**	**Beverly Hills**

Monday, 12 August 2013		
13-BRK-1 **0930 - 1000 hrs**	**Monday Morning Networking Coffee Break**	**California Showroom**

Monday, 12 August 2013				
14-ATIO-8	**Air Traffic Management I**			**Park**
Chaired by: A. SARAF, Saab Sensis Corporation - STC				
1000 hrs AIAA-2013-4221 **How Much Delay does New York Inject into the National Airspace System? A Graph Theory Analysis** M. Bolanos, CNA, Alexandria, VA; D. Murphy, Federal Aviation Administration, Washington, DC	1030 hrs AIAA-2013-4222 **Similar Days in the NAS: an Airport Perspective** S. Grabbe, B. Sridhar, NASA Ames Research Center, Moffett Field, CA; A. Mukherjee, University of California, Santa Cruz, Moffett Field, CA	1100 hrs AIAA-2013-4223 **ETA Forecasting and Shadow Mode Concepts for the National Airspace** G. Hunter, Saab Sensis Corporation, Campbell, CA	1130 hrs AIAA-2013-4224 **Enumeration of National Airspace System uncertainties within an agent-based, state-based model** S. Landry, J. Archer, N. Nguyen, Purdue University, West Lafayette, IN	

Monday, 12 August 2013				
15-ATIO-9	**Aviation Economics**			**Palisades Room**
Chaired by: P. HOLLINGSWORTH, The University of Manchester and S. WISEALL, Rolls-Royce PLC				
1000 hrs AIAA-2013-4225 **A Micro-Economic Model of Airline Choice of Airfare and Aircraft Size in the Presence of Changing Energy Costs** L. Sherry, G. Donohue, George Mason University, Fairfax, VA	1030 hrs AIAA-2013-4226 **Making the Case for NextGen Concepts—Using the FAA Benefit-Cost Analysis Methodology** A. Lagu, S. Akkoush, A. Cheng, B. Dunlay, LeighFisher, Burlingame, CA	1100 hrs AIAA-2013-4227 **Estimation of airline benefits from avionics upgrade under preferential merge re-sequence scheduling** T. Kotegawa, NASA Ames Research Center, Moffett Field, CA; C. Cayabyab, University of California, Santa Cruz, Moffett Field, CA; N. Almog, Aerospace Computing, Inc., Moffett Field, CA	1130 hrs AIAA-2013-4228 **Finance-related flows within an ANSP: A generic modeling approach in system dynamics** M. Kreuz, German Aerospace Center (DLR), Braunschweig, Germany	

Monday, 12 August 2013				
16-ATIO-10	**Descent and Arrivals I**			**Senators 1**
Chaired by: P. RAJ, Virginia Polytechnic Institute and State University				
1000 hrs AIAA-2013-4229 **Feasible Time Range Analysis of Wide Fleet for Continuous Descent Arrival** S. Park, J. Clarke, Georgia Institute of Technology, Atlanta, GA	1030 hrs AIAA-2013-4230 **Air-Ground Trajectory Predictions during Required Time of Arrival Operation** D. Gouldey, R. Sgorcea, W. Symionow, MITRE Corporation, McLean, VA			

Monday, 12 August 2013				
17-ATIO-11	**Flight Management I**			**Sherman Oaks**
Chaired by: S. HASAN, LMI				
1000 hrs AIAA-2013-4231 **Developing an On-Board Traffic-Aware Flight Optimization Capability for Near-Term Low-Cost Implementation** D. Wing, M. Ballin, NASA Langley Research Center, Hampton, VA; S. Koczo, Rockwell Collins, Inc., Cedar Rapids, IA; R. Vivona, Engility Corporation, Billerica, MA	1030 hrs AIAA-2013-4232 **Effect of LNAV and VNAV Equipage on Time-Based Scheduling** V. Vaddi, X. Bai, M. Tandale, Optimal Synthesis, Inc., Los Altos, CA; D. Mulfinger, NASA Ames Research Center, Moffett Field, CA; L. Bagasol, Spectrum Software Technology, Moffett Field, CA			

Monday, 12 August 2013				
18-ATIO-12	**Terminal: Performance**			**Governors 1**
Chaired by: A. HUANG, Saab Sensis Corporation				
1000 hrs AIAA-2013-4233 **Performance Comparison of Interval Management Concepts Using an Optimization-Based Scheduler in Terminal Airspace** M. Ryu, J. Song, S. Choi, Korea Advanced Institute of Science and Technology, Daejeon, South Korea	1030 hrs AIAA-2013-4234 **Estimating Secondary Delay Effects for New York Area Departures** J. DeArmon, M. Klinker, H. Bateman, D. Greenbaum, A. Srivastava, MITRE Corporation, McLean, VA	1100 hrs AIAA-2013-4235 **A Model for Investigating the Interaction Between Go-Arounds and Runway Throughput** J. Shortle, L. Sherry, George Mason University, Fairfax, VA	1130 hrs AIAA-2013-4236 **Real-Time Air Traffic Flow Estimation for Improved Situational Awareness in the Terminal Area** B. Yang, P. Menon, Optimal Synthesis, Inc., Los Altos, CA	

Monday, 12 August 2013				
19-ATIO-13	**Trajectory I**			**Directors 1&2**
Chaired by: B. HOLGUIN, Federal Aviation Administration				
1000 hrs AIAA-2013-4237 **Trajectory Prediction via Modeling Vectored Area Navigation Arrivals** S. Hong, K. Lee, Korea Aerospace University, Goyang, South Korea	1030 hrs AIAA-2013-4238 **Emergency flight replanning for minimum loss of life risk using a decoupled trajectory optimization approach** R. Fernandes de Oliveira, EADS, Ottobrunn, Germany; C. Büskens, University of Bremen, Bremen, Germany	1100 hrs AIAA-2013-4239 **Minimising Overall Fuel Usage with Optimum Scheduling of User Preferred Trajectories** P. Simon, C. Bil, RMIT University, Melbourne, Australia		

Monday, 12 August 2013				
20-ATIO-14	**Unmanned Air Systems: Management**			**Encino**
Chaired by: D. MARONEY, The MITRE Corporation				
1000 hrs AIAA-2013-4240 **Effects of UAS-Specific Capacity Constraints on Delays and Aircraft Encounters** C. Park, H. Lee, Stanford University, Moffett Field, CA	1030 hrs AIAA-2013-4241 **A Systems-Based Approach to Functional Decomposition and Allocation for Developing UAS Operational Concepts** S. Lee, University of California, Santa Cruz, Moffett Field, CA; E. Mueller, NASA Ames Research Center, Moffett Field, CA	1100 hrs AIAA-2013-4242 **Challenges to Producing Standards for the Integration of Unmanned Aircraft Systems in the NAS** L. Mutuel, Thales, Seattle, WA		

Monday, 12 August 2013				
21-IPLC-3	Powered-Lift Control Systems and Techniques II			Westwood
Chaired by: R. MANGE, Lockheed Martin Corporation				
1000 hrs AIAA-2013-4243 **F-35B Integrated Flight-Propulsion Control Development** G. Walker, Lockheed Martin Corporation, Fort Worth, TX; J. Fuller, Pratt & Whitney, East Hartford, CT; S. Wurth, Lockheed Martin Corporation, Fort Worth, TX				

Monday, 12 August 2013				
22-IPLC-4	Powered-Lift Modeling and Simulation II			Pacific Room
Chaired by: W. FREDERICKS, NASA-Langley Research Center				
	1030 hrs AIAA-2013-4244 **Two dimensional numerical simulation of cycloidal propellers with flat plate airfoil in hovering status** Y. Hu, Northwestern Polytechnical University, Xi'an, China	1100 hrs AIAA-2013-4245 **F-35B Aircraft Performance Model Validation of Short Take-off Flight Test Data** J. Mason, Lockheed Martin Corporation, Fort Worth, TX		

Monday, 12 August 2013		
23-B2B-2 1130 - 1330 hrs	Business-to-Business Matchmaking	Beverly Hills

Monday, 12 August 2013		
24-LNCH-1 1200 - 1300 hrs	Monday Afternoon Lunch Break	Lunch on Own

Monday, 12 August 2013		
25-SB-2 1300 - 1330 hrs	Monday Afternoon Speakers' Briefing	Session Rooms

Monday, 12 August 2013		
26-KN-1 1330 - 1430 hrs	Monday Afternoon Keynote Address	Los Angeles
Charting the Future of Flight **Jim Albaugh** President and Chief Executive Officer, Boeing Commerical Airplanes		

Monday, 12 August 2013		
27-BRK-2 1430 - 1500 hrs	Monday Afternoon Networking Coffee Break	California Showroom

Monday, 12 August 2013				
28-ATIO-15	**Air Traffic Management II**			**Park**
Chaired by: A. SARAF, Saab Sensis Corporation - STC				
1500 hrs AIAA-2013-4246 **GPS Outage Impacts on the National Airspace System** M. Wambsganss, Crown Consulting, Inc., Arlington, VA	1530 hrs AIAA-2013-4247 **Analysis and Modeling of Miles-in-Trail Restrictions in the National Airspace System** K. Sheth, NASA Ames Research Center, Moffett Field, CA; S. Gutierrez-Nolasco, J. Petersen, University of California, Santa Cruz, Moffett Field, CA	1600 hrs AIAA-2013-4248 **Space Transition Corridors in the National Airspace System** K. Bilimoria, M. Jastrzebski, NASA Ames Research Center, Moffett Field, CA	1630 hrs AIAA-2013-4249 **Finding Airspace Efficiencies by Pivoting Technology Implementation in Air Traffic Management** S. Young, The Boeing Company, Chantilly, VA	

Monday, 12 August 2013				
29-ATIO-16	**Descent and Arrivals II**			**Senators 1**
Chaired by: P. RAJ, Virginia Polytechnic Institute and State University				
1500 hrs AIAA-2013-4250 **Choosing Descent Flight-Path Angles for Small Jets: Case Study for the JFK Airport** M. Wu, University of California, Santa Cruz, Moffett Field, CA; S. Green, NASA Ames Research Center, Moffett Field, CA	1530 hrs AIAA-2013-4251 **Identifying Airport Opportunities for Increased Use of Delayed Deceleration Approaches** Y. Rodriguez, T. Reynolds, J. Venuti, Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA; R. Hansman, J. Dumont, Massachusetts Institute of Technology, Cambridge, MA	1600 hrs AIAA-2013-4252 **Incentivizing Aircraft Equipment Upgrade Through Preferential Merging: A Phoenix Case Study** N. Almog, Aerospace Computing, Inc., Mountain View, CA; T. Kotegawa, NASA Ames Research Center, Moffett Field, CA		

Monday, 12 August 2013				
30-ATIO-17	**Economics and the Value Chain**			**Palisades Room**
Chaired by: S. WISEALL, Rolls-Royce PLC				
1500 hrs AIAA-2013-4253 **The Application of the Extreme Value Distribution to Network Traffic Assessment** J. Wilder, The Boeing Company, Aurora, CO	1530 hrs AIAA-2013-4254 **Air Navigation in Eastern Poland based on EGNOS** J. Cwiklak, A. Ciecko, M. Grzegorzewski, S. Oszczak, H. Jafernik, Polish Air Force Academy, Deblin, Poland			

Monday, 12 August 2013				
31-ATIO-18	**Flight Management II**			**Sherman Oaks**
Chaired by: S. HASAN, LMI				
1500 hrs AIAA-2013-4255 **Design and Evaluation of 3D Path Tracking Guidance Algorithms** X. Bai, V. Vaddi, Optimal Synthesis, Inc., Los Altos, CA	1530 hrs AIAA-2013-4256 **Low calculation time interpolation method on the altitude optimization algorithm for the FMS CMA-9000 improvement on the A310 and L-1011 aircraft** R. Patron, R. Botez, University of Québec, Montréal, Canada; D. Labour, Esterline Technologies Corporation, Saint Laurent, Canada	1600 hrs AIAA-2013-4257 **Speed and altitude optimization on the FMS CMA-9000 for the Sukhoi Superjet 100 using genetic algorithms** R. Patron, A. Oyono Owono, R. Botez, University of Québec, Montréal, Canada; D. Labour, Esterline Technologies Corporation, Saint Laurent, Canada		

Monday, 12 August 2013				
32-ATIO-19	**Terminal: Analysis**			**Governors 1**
Chaired by: A. HUANG, Saab Sensis Corporation				
1500 hrs AIAA-2013-4258 **Dynamic Terminal Airspace Configuration** W. Hall, A. Churchill, Mosaic ATM, Inc., Leesburg, VA; I. Hwang, Purdue University, West Lafayette, IN; P. Lucic, CSSI, Inc., Landover, MD	1530 hrs AIAA-2013-4259 **Modeling and Simulation Tools for Analysis of Terminal Airspace Operations** M. Tandale, J. Kwan, S. Lin, V. Vaddi, Optimal Synthesis, Inc., Los Altos, CA	1600 hrs AIAA-2013-4260 **An Integer Programming based Sector Design Algorithm for Terminal Dynamic Airspace Configuration** J. Wei, V. Sciandra, I. Hwang, Purdue University, West Lafayette, IN; W. Hall, Mosaic ATM, Inc., Leesburg, VA	1630 hrs AIAA-2013-4261 **Benefit Analysis of a Sector Design Algorithm for Terminal Dynamic Airspace Configuration** V. Sciandra, J. Wei, I. Hwang, Purdue University, West Lafayette, IN; W. Hall, Mosaic ATM, Inc., Leesburg, VA	

Monday, 12 August 2013				
33-ATIO-20	**Trajectory II**			**Directors 1&2**
Chaired by: B. HOLGUIN, Federal Aviation Administration				
1500 hrs AIAA-2013-4262 **Controller Strategies for Automation Tool Use under Varying Levels of Trajectory Prediction Uncertainty** S. Morey, San Jose State University Foundation, Moffett Field, CA; T. Prevot, NASA Ames Research Center, Moffett Field, CA; J. Kraut, N. Bienert, L. Martin, J. Mercer, San Jose State University Foundation, Moffett Field, CA	1530 hrs AIAA-2013-4263 **Performance of an Adaptive Trajectory Prediction Algorithm for Climbing Aircraft** Y. Park, San Jose State University, San Jose, CA; D. Thipphavong, NASA Ames Research Center, Moffett Field, CA	1600 hrs AIAA-2013-4264 **Algorithms of FMS Reference Trajectory Synthesis to Support NextGen Capability Studies** Y. Zhao, Simcon Technology Corporation, Middletown, NY; V. Vaddi, Optimal Synthesis, Inc., Los Altos, CA		

Monday, 12 August 2013		
34-CASE-1 **1500 - 1700 hrs**	**CASE: Brainstorming Session: Complex Systems Primer**	**Santa Monica**

Monday, 12 August 2013				
35-IPLC-5	**Powered-Lift Flight Operations**			**Pacific Room**
Chaired by: A. GIBSON, Empirical Systems Aerospace LLC				
1500 hrs AIAA-2013-4265 **Analysis of Terminal Area Operations and Short Field Performance of TurboElectric Distributed Propulsion** B. Schiltgen, M. Green, A. Gibson, Empirical Systems Aerospace, Inc., Pismo Beach, CA	1530 hrs AIAA-2013-4266 **Simulation of Landing Maneuvers of Rotorcraft in Brownout Conditions** D. Garrick, R. Rajagopalan, Iowa State University, Ames, IA; K. Guntupalli, Sukra Helitek, Inc., Chennai, India	1600 hrs AIAA-2013-4267 **Integration of the F-35 Joint Strike Fighter with the UK QUEEN ELIZABETH Class Aircraft Carrier** D. Atkinson, R. Brown, R. Potts, D. Bennett, BAE Systems, Samlesbury, United Kingdom; J. Ward, E. Trott, Aircraft Carrier Alliance, Bristol, United Kingdom	1630 hrs AIAA-2013-4268 **An overview of researches on deck-landing of carrier-based aircrafts** X. Wei, Nanjing University of Aeronautics and Astronautics, Nanjing, China	

Monday, 12 August 2013		
36-PNL-3 **1500 - 1700 hrs**	**Commercial Aviation Panel**	**Beverly Hills**

Moderator: Patrick Shanahan, Senior Vice President and General Manager, Airplane Programs, Boeing Commercial Airplanes

Panelists:

Michael Whitaker
Deputy Administrator, FAA

Jaiwon Shin
Associate Administrator for Aeronautics Research, NASA

Paul Steele
Corporate Secretary and Senior Vice-President, Member & External Relations
International Air Transport Association
Executive Director, Air Transport Action Group

Graham Warwick
Senior Editor, Aviation, Aviation Week and Space Technology

Monday, 12 August 2013		
37-PNL-5 1500 - 1700 hrs	Panel: Overview of the Cyber Threat Landscape	Brentwood

Moderator: David Shaw, CEO, Business Analysis

Panelists:

Jeffrey Carr
CEO, Taia Global, Inc.

Emilio Iasiello
Chief, Threat Analysis, iSight Partners, Inc.

Barbara Endicott-Popovsky
Director, Center for Information Assurance and Cybersecurity (CIAC), University of Washington

Remy Baumgarten
Security Researcher, ANRC

Monday, 12 August 2013		
38-HH-1 1700 - 1800 hrs	Welcome Happy Hour	California Showroom

Tuesday

Tuesday, 13 August 2013		
39-NB-2 0700 - 0800 hrs	Tuesday Networking Breakfast	California Showroom

Tuesday, 13 August 2013		
40-SB-3 0730 - 0800 hrs	Tuesday Morning Speakers' Briefing	Session Rooms

Tuesday, 13 August 2013		
41-KN-2 0800 - 0900 hrs	Tuesday Morning Keynote Address	Los Angeles

Air Power Dominance: Our Great Strategic Resource

Marion C. Blakey
President and Chief Executive Officer, Aerospace, Industries Association

Tuesday, 13 August 2013		
42-BRK-3 0900 - 0930 hrs	Tuesday Morning Networking Coffee Break	California Showroom

Tuesday, 13 August 2013				
43-ATIO-21	Aircraft Conceptual Design I			Encino
Chaired by: W. ANEMAAT, DARcorporation				
0930 hrs AIAA-2013-4269 **Lsa Aircraft development in Brazil - Different concepts and Challenges** E. Nilson Rodrigues da Cunha, FABE, Uberlândia, Brazil; O. Almeida, D. Alves Rade, Federal University of Uberlândia, Uberlândia, Brazil	1000 hrs AIAA-2013-4270 **Conceptual Design and Cost Estimate of a Subsonic NASA Testbed Vehicle (NTV) for Aeronautics Research** C. Nickol, NASA Langley Research Center, Hampton, VA; P. Frederic, Tecolote Research, Inc., Lompoc, CA	1030 hrs AIAA-2013-4271 **Development of a Real-Time Capable Integrated Aircraft Model for Test, Integration, and Development Support** C. Savaglio, Applied Dynamics Corporation, Ann Arbor, MI	1100 hrs AIAA-2013-4272 **Comparison of Two Business Jets - Usage and Flight Loads** K. Rokhsaz, L. Kliment, A. Yee, Wichita State University, Wichita, KS; E. Weinstein, Federal Aviation Administration, Atlantic City, NJ	

Tuesday, 13 August 2013				
44-ATIO-22	**Airport Surface Scheduling**			**Directors 1&2**
Chaired by: C. BIL, RMIT University				
0930 hrs AIAA-2013-4273 **Evaluation of a Dynamic Taxi-time Estimation Model Using Process-based Segmentation in an A-CDM Environment** X. Sogno, P. Roling, Delft University of Technology, Delft, The Netherlands; R. Maan, Holland Institute of Traffic Technology, Apeldoorn, The Netherlands; R. Curran, Delft University of Technology, Delft, The Netherlands	1000 hrs AIAA-2013-4274 **Wheels-Off Time Estimation at Non-ASDE-X Equipped Airports** G. Chatterji, Y. Zheng, University of California, Santa Cruz, Moffett Field, CA	1030 hrs AIAA-2013-4275 **Analysis of Airport Surface Schedulers Using Fast-time Simulation** J. Montoya, R. Windhorst, NASA Ames Research Center, Moffett Field, CA; S. Stroiney, K. Griffin, A. Saraf, Saab Sensis Corporation, San Jose, CA; Z. Zhu, S. Gridnev, Stinger Ghaffarian Technologies, Inc., Moffett Field, CA	1100 hrs AIAA-2013-4276 **Recommendations for NextGen Airport Surface Traffic Scheduling Algorithms: A Fast-time Simulation-based Perspective** A. Saraf, K. Griffin, Saab Sensis Corporation, Campbell, CA; S. Stroiney, Saab Sensis Corporation, Syracuse, NY; R. Windhorst, NASA Ames Research Center, Moffett Field, CA; V. Felipe, Saab Sensis Corporation, Campbell, CA	

Tuesday, 13 August 2013				
45-ATIO-23	**Creative Next Generation Aviation Systems**			**Palisades Room**
Chaired by: R. SAMPIGETHAYA, Boeing Engineering Operations & Technology				
0930 hrs AIAA-2013-4277 **Distributed Environment Experiment for NextGen** S. Doucett, Federal Aviation Administration, Pomona, NJ	1000 hrs AIAA-2013-4278 **A Framework for Verification and Validation of Complex Aerospace Systems** W. Felder, Stevens Institute of Technology, Hoboken, NJ	1030 hrs AIAA-2013-4279 **Application of Game Theoretic Models to Evaluate Airline Equipage Dynamics of NextGen Technologies** J. Alonso, Stanford University, Stanford, CA; P. Bonnefoy, Booz Allen Hamilton, Boston, MA; J. Bono, Bayes Optimal, San Francisco, CA; A. Fan, D. McConnachie, Booz Allen Hamilton, Boston, MA; B. Tracey, Stanford University, Stanford, CA; D. Wolpert, Los Alamos National Laboratory, Los Alamos, NM; D. Xie, American University, Washington, DC	1100 hrs AIAA-2013-4280 **Assessing the Impact of A Carbon Tax Policy on Commercial Aviation and National Airspace System Performance** S. Tsao, S. Agbolosu-Amison, J. McQueston, G. Foster, A. Mahashabde, MITRE Corporation, McLean, VA	

Tuesday, 13 August 2013				
46-ATIO-24	**Electric Aircraft: Design and Performance**			**Governors 1**
Chaired by: D. MAVRIS, Georgia Institute of Technology				
0930 hrs AIAA-2013-4281 **Operating Cost Estimation for Electric-Powered Transport Aircraft** K. Ploetner, Bauhaus Luftfahrt e.V., Munich, Germany	1000 hrs AIAA-2013-4282 **Development of a Sizing and Analysis Tool for Electrohydrostatic and Electromechanical Actuators for the More Electric Aircraft** I. Chakraborty, D. Jackson, D. Trawick, D. Mavris, Georgia Institute of Technology, Atlanta, GA	1030 hrs AIAA-2013-4283 **Electric Control Surface Actuator Design Optimization and Allocation for the More Electric Aircraft** I. Chakraborty, D. Trawick, D. Jackson, D. Mavris, Georgia Institute of Technology, Atlanta, GA		

Tuesday, 13 August 2013				
47-ATIO-25	**Environment and Design I**			**Park**
Chaired by: W. CROSSLEY, Purdue University				
0930 hrs AIAA-2013-4284 **Effects of Technology R&D Investments on System Level Performance** H. Pfaender, H. Jimenez, D. Mavris, Georgia Institute of Technology, Atlanta, GA	1000 hrs AIAA-2013-4285 **Implication of Tanker Mission Concept on the Benefits Evaluation of a Civil Air-to-Air Refuelling Transport System** R. McRoberts, J. Early, Queen's University Belfast, Belfast, United Kingdom; F. Morscheck, German Aerospace Center (DLR), Braunschweig, Germany; M. Price, Queen's University Belfast, Belfast, United Kingdom; B. Korn, German Aerospace Center (DLR), Braunschweig, Germany	1030 hrs AIAA-2013-4286 **Next Generation Civil Transport Aircraft Design Considerations for Improving Vehicle and System-Level Efficiency** D. Acosta, NASA Ames Research Center, Moffett Field, CA; M. Guynn, R. Wahls, NASA Langley Research Center, Hampton, VA; R. Del Rosario, NASA Glenn Research Center, Cleveland, OH; P. Kopardekar, NASA Ames Research Center, Moffett Field, CA	1100 hrs AIAA-2013-4287 **AIRCRAFT PRODUCTION - ECOLOGICAL ASSESSMENT IN THE PRE-DESIGN STAGE** M. Weiss, V. Gollnick, German Aerospace Center (DLR), Hamburg, Germany	

Tuesday, 13 August 2013				
48-ATIO-26	**Fuel Burn I**			**Senators 1**
Chaired by: K. MARAIS, Purdue University				
0930 hrs AIAA-2013-4288 **A Usage-Based Analysis Method for Predicting Fleet Fuel Savings Due to Aircraft Improvements** L. Bays, K. Halpin, Lockheed Martin Corporation, Marietta, GA	1000 hrs AIAA-2013-4289 **Commercial Airline Speed Optimization Strategies for Reduced Cruise Fuel Consumption** L. Jensen, R. Hansman, Massachusetts Institute of Technology, Cambridge, MA; J. Venuti, T. Reynolds, Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA	1030 hrs AIAA-2013-4290 **New method for aircraft fuel saving using Flight Management System and its validation on the L-1011 aircraft** J. Gagne, A. Murrieta, R. Botez, University of Québec, Montréal, Canada; D. Labour, Esterline Technologies Corporation, Saint Laurent, Canada	1100 hrs AIAA-2013-4291 **The Impact of Fuel Price on Airline Fuel Efficiency and Operations** D. McConnachie, C. Wollersheim, R. Hansman, Massachusetts Institute of Technology, Cambridge, MA	

Tuesday, 13 August 2013				
49-ATIO-27	**JPDO: Outlook and Response Strategies**			**Brentwood**
Chaired by: S. HASAN, LMI				
0930 hrs AIAA-2013-4292 **Telepresence as a Transportation Mode** Y. Gawdiak, NASA Headquarters, Washington, DC; D. Ballard, GRA, Inc., Jenkintown, PA	1000 hrs AIAA-2013-4293 **Integrated Future World Generation System** Y. Gawdiak, NASA Headquarters, Washington, DC	1030 hrs AIAA-2013-4294 **On-Demand Mobility (ODM): A Discussion of Concepts and Required Research** M. Narkus-Kramer, Logistics Management Institute, McLean, VA		

Tuesday, 13 August 2013		
50-CASE-2 **0930 - 1130 hrs**	**CASE Introduction and Opening Keynote: Framing the Discussion on Complex Systems**	**Santa Monica**
Speakers: **Nassim Taleb** Distinguished Professor of Risk Engineering, Polytechnic Institute of New York University **Art Thompson** Chief Executive Officer, Sage Cheshire Aerospace, Inc.		

Tuesday, 13 August 2013				
51-IPLC-6	**Powered-Lift New Concepts I**			**Westwood**
Chaired by: D. HALL, DHC Engineering				
0930 hrs AIAA-2013-4295 **Feasibility Study of a Novel Asymmetric Rotorcraft Configuration: Single-Rotor Advancing Blade Concept** P. Romero, Technical University of Madrid, Madrid, Spain; S. Sartorius, Technical University of Munich, Munich, Germany	1000 hrs AIAA-2013-4296 **The Evolution of Transformational Flight** B. Seeley, CAFE Foundation, Santa Rosa, CA			

Tuesday, 13 August 2013		
52-PNL-7 **0930 - 1130 hrs**	**Aviation Research in China Panel**	**Pacific Room**

Welcome Remarks
Susan Ying
Vice President-International, AIAA

Featured Speaker
Guoqing Wang
President, AVIC Chinese Aeronautical Radio Electronics Research Institute

Moderator: Song Wu, President, Chinese Society of Aeronautics and Astronautics (CSAA)

Panelists:

Sun Xun	**Liu Quanliang**	**Zhao Chuanliang**	**Ye Liang**	**Li Kaixiang**
Senior Engineer	Senior Engineer	Senior Engineer	Senior Engineer	Engineer
AVIC Xi'an Flight Automatic Control Research Institute	Aircraft Strength Research Institute of China	Shenyang Aero-engine Research Institute	AVIC Aerodynamic Research Institute	Aircraft Strength Research Institute of China

Tuesday, 13 August 2013		
53-PNL-8 **0930 - 1030 hrs**	**The Inside View of Cybersecurity: An Interview with Dan Geer**	**Sherman Oaks**

Moderator: Dr. Barbara Endicott-Popovsky

Dan Geer, Chief Information Security Officer for In-Q-Tel, will discuss the types of threats that exist for the cyber landscape, the realities of responding to those threats, and what must be done to further create an adaptive and resilient cyber infrastructure that is capable of neutralizing threats.

Tuesday, 13 August 2013		
54-PNL-9 **0930 - 1130 hrs**	**Military Aviation Panel**	**Beverly Hills**

Moderator: Marion C. Blakey, President and Chief Executive Officer, Aerospace Industries Association

Panelists:

James (Jim) O'Neill	**Al Romig**	**Mark Gunzinger**	**Rear Admiral David B. Woods**
President, Global Services and Support, Boeing Defense Space & Security	Vice President, Engineering and Advanced Systems, Chief Skunk Lockheed Martin Aeronautics	Senior Fellow, Center for Strategic and Budgetary Assessments	Commander, Strike Force Training Pacific, U.S. Navy

Tuesday, 13 August 2013		
55-PNL-17 **1030 - 1130 hrs**	**Re-booting the System: Getting in Front of the Attacks and Preventing Losses**	**Sherman Oaks**

Moderator: Wayne Washer, COO for Global Business Analysis

Panelists:

Barbara Endicott-Popovsky	**David Shaw**	**Remy Baumgarten**
Director, Center for Information Assurance and Cybersecurity, University of Washington	CEO, Global Business Analysis	Security Researcher, ANRC

Tuesday, 13 August 2013		
56-LNCH-2 **1130 - 1300 hrs**	**AVIATION Forum Keynote, Awards Presentation and Lunch**	**Los Angeles**

What the Cyber Security Experience Can Mean for Aviation
Richard A. Clarke
Chairman and CEO, Good Harbor Security Risk Management, LLC

Tuesday, 13 August 2013				
57-SB-4 1300 - 1330 hrs	Tuesday Afternoon Speakers' Briefing			Session Rooms

Tuesday, 13 August 2013				
58-ATIO-28	Aerodynamics			Sherman Oaks
Chaired by: R. VOS, TU Delft fac. Aerospace Engineering				
1330 hrs AIAA-2013-4298 **Application of Turbulence Model on the CFD Simulation of Combustor Film Cooling** C. Zhao, Shenyang Liming Aero-Engine Group Corporation, Ltd., Shenyang, China; R. Singh, Cranfield University, Bedford, United Kingdom	1400 hrs AIAA-2013-4299 **A New Compressibility Correction Method to Predict Aerodynamic Interaction between Lifting Surfaces** R. Vos, F. Vaessen, Delft University of Technology, Delft, The Netherlands	1430 hrs AIAA-2013-4300 **Investigating the effect of applying tubercles on post stall behavior of Cessna 172** I. Fernandes, Y. Sapkota, T. Mammen, A. Rasheed, C. Rebello, Y. Kim, Emirates Aviation College, Dubai, United Arab Emirates	1500 hrs AIAA-2013-4301 **Boundary Layer Transition due to Free Stream Particles - A Simple Experimental Approach** C. Schmidt, T. Young, University of Limerick, Limerick, Ireland; E. Benard, University of Toulouse, Toulouse, France; L. Zhao, University of Glasgow, Glasgow, United Kingdom	

Tuesday, 13 August 2013				
59-ATIO-29	Aircraft Conceptual Design II			Encino
Chaired by: M. DRAKE, Boeing Commercial Airplanes				
1330 hrs AIAA-2013-4302 **Ce-Liner - Case Study for eMobility in Air Transportation** M. Hornung, A. Isikveren, M. Cole, A. Sizmann, Bauhaus Luftfahrt e.V., Munich, Germany	1400 hrs AIAA-2013-4303 **Conceptual Design and Sizing of an Amphibian Transport Aircraft** M. Bendarkar, R. Pant, S. Eberhardt, Indian Institute of Technology Bombay, Mumbai, India	1430 hrs AIAA-2013-4304 **Design and Shape Optimization of Morphing Winglet for Regional Jetliner** M. Zhang, Royal Institute of Technology (KTH), Stockholm, Sweden; R. Nangia, Nangia Aero Research Associates, Bristol, United Kingdom; S. Ricci, Technical University of Milan, Milan, Italy; A. Rizzi, Royal Institute of Technology (KTH), Stockholm, Sweden	1500 hrs AIAA-2013-4305 **Weight and Fuel saving Potential Through Changed Cabin and Fuselage Design** J. Fuchte, B. Nagel, V. Gollnick, German Aerospace Center (DLR), Hamburg, Germany	

Tuesday, 13 August 2013				
60-ATIO-30	Conflict Resolution I			Governors 1
Chaired by: D. THIPPHAVONG, NASA Ames Research Center				
1330 hrs AIAA-2013-4306 **Overview of the Multipurpose Aircraft Simulation Laboratory experience** M. Cassaro, P. Gunetti, M. Battipede, P. Gili, Technical University of Turin, Turin, Italy	1400 hrs AIAA-2013-4307 **Coded-Light Attitude Transmission for Collision Avoidance** F. Meysel, F. Morlang, German Aerospace Center (DLR), Braunschweig, Germany	1430 hrs AIAA-2013-4308 **Investigating Effects of Well Clear Definitions on UAS Sense-And-Avoid Operations in Enroute and Transition Airspace** S. Lee, C. Park, University of California, Santa Cruz, Moffett Field, CA; M. Johnson, E. Mueller, NASA Ames Research Center, Moffett Field, CA		

Tuesday, 13 August 2013				
61-ATIO-31	Enroute and Mission Optimization I			Directors 1&2
Chaired by: J. POST, Federal Aviation Administration				
1330 hrs AIAA-2013-4309 **Supersonic Diversions - Assessment of Great-Circle versus Sonic Boom-Restricted Flight Routing** B. Liebhardt, German Aerospace Center (DLR), Hamburg, Germany	1400 hrs AIAA-2013-4310 **Generic Airspace Research** P. Lee, San Jose State University, Moffett Field, CA; R. Mogford, NASA Ames Research Center, Moffett Field, CA; W. Bridges, Flight Research Associates, Moffett Field, CA; J. Kraut, San Jose State University, Moffett Field, CA; W. Preston, Dell Services, Moffett Field, CA	1430 hrs AIAA-2013-4311 **Point-to-Point Operations: How flexible are they?** L. Vempati, A. Ramadani, Federal Aviation Administration, Washington, DC	1500 hrs AIAA-2013-4312 **DNL Contour Error Quantification for Operations Scaling in Context of Varying Fleet Distribution** J. Bernardo, B. Havrilesko, M. LeVine, M. Kirby, D. Mavris, Georgia Institute of Technology, Atlanta, GA	

Tuesday, 13 August 2013				
62-ATIO-32	**Environment and Design II**			**Park**
Chaired by: H. PFAENDER, Georgia Institute of Technology				
1330 hrs AIAA-2013-4313 **Optimization of End-Around Taxiway for Efficient Operations and Environmental Benefits** T. Le, K. Marais, Purdue University, West Lafayette, IN	1400 hrs AIAA-2013-4314 **Assessing the Environmental Benefits of NextGen Improvements in the National Airspace System** P. Truong, J. Post, Federal Aviation Administration, Washington, DC	1430 hrs AIAA-2013-4315 **Investigation of Benefits and Impacts of Aircraft Design Cruise Speed Reductions on Airlines Operations and Economics** P. Bonnefoy, A. Fan, Booz Allen Hamilton, Boston, MA		

Tuesday, 13 August 2013				
63-ATIO-33	**Environmental Technology in Aircraft Operations**			**Palisades Room**
Chaired by: H. JIMENEZ, Georgia Institute of Technology				
1330 hrs AIAA-2013-4316 **The Clean Sky Technology Evaluator Information System** M. Brunet, R. Lafage, S. Aubry, ONERA, Toulouse, France	1400 hrs AIAA-2013-4317 **Scenario Development to Evaluate System-wide Environmental Benefits of Aircraft Technologies and Concepts** C. Frank, H. Jimenez, H. Pfaender, D. Mavris, Georgia Institute of Technology, Atlanta, GA	1430 hrs AIAA-2013-4318 **Environmental and Economic Impacts of Advanced Aircraft Operations Technologies on a Duopolistic Airline Model** R. Foley, Metron Aviation, Inc., Dulles, VA; W. Crossley, S. Roy, Purdue University, West Lafayette, IN	1500 hrs AIAA-2013-4319 **Study of Resource Constraints and Environmental Performance Objectives in Pareto-Optimal Aircraft Technology Portfolios** H. Jimenez, C. Acuff, D. Mavris, Georgia Institute of Technology, Atlanta, GA	

Tuesday, 13 August 2013				
64-ATIO-34	**Uncertainty in ATM I**			**Senators 1**
Chaired by: M. BLOEM, NASA-Ames				
1330 hrs AIAA-2013-4320 **The Impact of Trajectory Prediction Uncertainty on Air Traffic Controller Performance and Acceptability** J. Mercer, N. Bienert, A. Gomez, S. Hunt, J. Kraut, L. Martin, S. Morey, San Jose State University, Moffett Field, CA; S. Green, T. Prevot, NASA Ames Research Center, Moffett Field, CA; M. Wu, University of California Santa Cruz, Moffet Field, CA	1400 hrs AIAA-2013-4321 **Methodology for Calibration of ANGIM Subjected to Atmospheric Uncertainties** M. LeVine, A. Kaul, J. Bernardo, M. Kirby, D. Mavris, Georgia Institute of Technology, Atlanta, GA	1430 hrs AIAA-2013-4322 **Optimization of Integrated Departures and Arrivals Under Uncertainty** M. Xue, University of California, Santa Cruz, Moffett Field, CA; S. Zelinski, NASA Ames Research Center, Moffett Field, CA	1500 hrs AIAA-2013-4323 **4D Trajectory Optimization in the Presence of Uncertainty** Y. Matsuno, T. Tsuchiya, University of Tokyo, Bunkyo, Japan	

Tuesday, 13 August 2013				
65-CASE-3 **1330 - 1530 hrs**	**CASE: Lessons Learned in Complex Systems Development - Chief Engineers Perspectives**			**Santa Monica**
Speakers: **Dave Kusnierkiewicz** Chief Engineer Space Programs Johns Hopkins University Applied Physics Lab	**Michael Sinnett** 787 Vice President & Chief Project Engineer, Sr. Systems Engineer for Airplane Systems, Boeing Commercial Airplanes	**Paul Olechnovich** Chief Engineer, SM-2, Raytheon	**Rick Shannon** The Boeing Company	**Bill Kimmel** Chief Technologist for Systems Analysis and Concepts Directorate NASA Langley

Tuesday, 13 August 2013				
66-CASE-5 **1330 - 1530 hrs**	**CASE: Program Management and Project Planning**			**Pacific Room**
Moderator: Reece Lumsden, Manager - KC-46A Tanker Systems Integration, Boeing Commercial Airplanes Panelists: **Leo Ahearn** Program Manager - Rapid Development, Boeing Phantom Works	**James Johnson** Cost Analysis Division, NASA Headquarters	**Patricia Hartman** Project Lead - Space Systems, Lockheed Martin	**Gerry Jeffs** Director, Implementations, APL Logistics	

Tuesday, 13 August 2013				
67-CASE-7 **1330 - 1530 hrs**	**CASE: Development of Testable Requirements at the SoS /Capability Level**			**Brentwood**
Moderator: Bryan Herdlick, Senior Professional Staff, Johns Hopkins University Applied Physics Laboratory Panelists: **Katherine L. Morse** Princile Professional Staff Johns Hopkins University Applied Physics Laboratory **Eileen A. Bjorkman** Technical Advisor, Air Force Flight Test Center Edwards Air Force Base **Suzanne M. Beers** The MITRE Corporation **Frank J. Serna** Director of Systems Engineering, Draper Laboratory **George Wauer** Developmental T&E, OSD				

Tuesday, 13 August 2013				
68-IPLC-7	**Powered-Lift New Concepts II**			**Westwood**
Chaired by: T. WENDEL, Boeing Defense, Space & Security				
1330 hrs AIAA-2013-4324 **Benefits of Hybrid-Electric Propulsion to Achieve 4x Cruise Efficiency for a VTOL UAV** W. Fredericks, M. Moore, R. Busan, NASA Langley Research Center, Hampton, VA	1400 hrs AIAA-2013-4325 **Longitudinal Double Wing (LDW) Aircraft** M. Dizdarevic, Self, Anaheim, CA	1430 hrs AIAA-2013-4326 **Tilt Wing Demonstrator Concept Design** M. Judas, N. Deligiannidis, CASSIDIAN, Manching, Germany		

Tuesday, 13 August 2013				
69-PNL-10 **1330 - 1530 hrs**	**Connectivity Challenge Panel**			**Beverly Hills**
Moderator: Paul Kurtz, Chief Strategy Officer, CyberPoint International Panelists: **Dominic Nessi** Deputy Executive Director/Chief Information Officer Los Angeles World Airports **Daniel Geer, Jr.** Chief Information Security Officer, In-Q-Tel **Larry Castro** Managing Director, Chertoff Group, LLC **Michael K. Sinnett** 787 Vice President & Chief Project Engineer, Sr. Systems Engineer for Airplane Systems Boeing Commercial Airplanes **Peter Andres** Vice President of Corporate Security Deutsche Lufthansa				

Tuesday, 13 August 2013				
70-BRK-4 **1530 - 1600 hrs**	**Tuesday Afternoon Networking Coffee Break**			**California Showroom**

Tuesday, 13 August 2013				
71-ATIO-35	**Aircraft Conceptual Design III**			**Encino**
Chaired by: T. TAKAHASHI, Santa Clara University				
1600 hrs AIAA-2013-4327 **High Altitude Hot Rod - An Energy Efficient N+1 Transport** T. Takahashi, Arizona State University, Tempe, AZ	1630 hrs AIAA-2013-4328 **Platform Design for Fleet-Level Efficiency under Uncertain Demand: Application for Air Mobility Command (AMC)** J. Choi, P. Govindaraju, N. Davendraingam, W. Crossley, Purdue University, West Lafayette, IN	1700 hrs AIAA-2013-4329 **Multi-Disciplinary Design of an Advanced Narrow-Body Transport Aircraft** C. Gedeon, S. Huffer, T. Takahashi, Arizona State University, Tempe, AZ	1730 hrs AIAA-2013-4330 **Advanced Single-Aisle Transport Propulsion Design Options Revisited** M. Guynn, NASA Langley Research Center, Hampton, VA; J. Berton, M. Tong, W. Haller, NASA Glenn Research Center, Cleveland, OH	

Tuesday, 13 August 2013				
72-ATIO-36	**Aircraft Subsystem Performance**			**Sherman Oaks**
Chaired by: S. CONWAY, Boeing Commercial Airplanes				
1600 hrs AIAA-2013-4331 **Optimising Oil-Cooler Duct Position for a Pusher Type Turboprop Aircraft** P. Pottanam Selvarajan, Kumaraguru College of Technology, Coimbatore, India; S. Kumar C, Madras Institute of Technology, Chennai, India; E. Srinivasan, Bharath University, Chennai, India; B. Chakravarthy, National Aerospace Laboratories, Bangalore, India	1630 hrs AIAA-2013-4332 **The Liebherr Fully Integrated FCS Design - a Case Study** G. Weber, T. Lammering, S. Thierer, P. Schaedler, G. Ried, T. Schneider, Liebherr-Aerospace, Lindenberg, Germany			

Tuesday, 13 August 2013				
73-ATIO-37	**Conflict Resolution II**			**Governors 1**
Chaired by: D. THIPPHAVONG, NASA Ames Research Center				
1600 hrs AIAA-2013-4333 **Exploratory Study of Interoperability Between Tactical and Strategic Separation Assurance Functions** D. Thipphavong, NASA Ames Research Center, Moffett Field, CA; G. Albrecht, University of California, Santa Cruz, Santa Cruz, CA	1630 hrs AIAA-2013-4334 **Analysis of Traffic Conflicts in a Mixed-Airspace Evaluation of Airborne Separation Assurance** T. Lewis, NASA Langley Research Center, Hampton, VA	1700 hrs AIAA-2013-4335 **A Study of Conflict Resolution Timeliness and Impact of Horizontal Maneuver Parametric Settings** C. Pankok, North Carolina State University, Raleigh, NC; C. Santiago, NASA Ames Research Center, Moffett Field, CA	1730 hrs AIAA-2013-4336 **Considerations for Developing the Improved Collision Avoidance System** S. Arnac, K. Marais, S. Kreissler, Purdue University, West Lafayette, IN; M. Skoog, NASA Dryden Flight Research Center, Edwards, CA; D. Sizoo, Federal Aviation Administration, Kansas City, MO	

Tuesday, 13 August 2013				
74-ATIO-38	**Enroute and Mission Optimization II**			**Directors 1&2**
Chaired by: D. MARONEY, The MITRE Corporation				
1600 hrs AIAA-2013-4337 **Impact of Cleveland Center Jet Route Changes on Airspace Metrics** M. Drew, University of California, Santa Cruz, Santa Cruz, CA; K. Bilimoria, NASA Ames Research Center, Moffett Field, CA; M. Jastrzebski, University of California, Santa Cruz, Santa Cruz, CA	1630 hrs AIAA-2013-4338 **Incorporating Fleet Assignment with Aircraft Allocation to Measure Fleet-Level Metrics** I. Tetzloff, W. Crossley, Purdue University, West Lafayette, IN	1700 hrs AIAA-2013-4339 **Diagnostic Tool for Throughput Factor Analysis in En-route Airspace** S. Shin, J. Suraj Nandiganahalli, I. Hwang, Purdue University, West Lafayette, IN	1730 hrs AIAA-2013-4340 **Proof-of-Concept of a Networked Validation Environment for Distributed Air/Ground NextGen Concepts** J. Grisham, University of Texas, Arlington, Arlington, TX; N. Larson, University of California, San Diego, La Jolla, CA; J. Nelson, University of Wisconsin, Stout, Menomonie, WI; J. Reed, Old Dominion University, Norfolk, VA; M. Suggs, Arkansas Tech University, Russellville, AR; Y. Papelis, Old Dominion University, Norfolk, VA; M. Ballin, NASA Langley Research Center, Hampton, VA	

Tuesday, 13 August 2013				
75-ATIO-39	**Environment and Design III**			**Park**
Chaired by: H. PFAENDER, Georgia Institute of Technology				
1600 hrs AIAA-2013-4341 **An Approach for Aeroacoustic Footprint-Modeling of Low Altitude Platforms by Means of Time Domain System Identification** S. Speck, M. Hornung, Technical University of Munich, Garching, Germany	1630 hrs AIAA-2013-4342 **Determining Aviation Technology Goals Related to Noise Impacts: How Much Is Enough?** T. Thompson, Metron Aviation, Inc., Dulles, VA	1700 hrs AIAA-2013-4343 **Noise Analysis and Negotiation Tool for Terminal RNP Procedure Design** H. Cho, M. Azzam, R. Hansman, L. Jensen, Massachusetts Institute of Technology, Cambridge, MA	1730 hrs AIAA-2013-4344 **Attitude Determination of an Aircraft Using Global Navigation Satellite System: Design, Simulation and Analysis** N. Naqvi, L. Jun, Northwestern Polytechnical University, Xi'an, China	

Tuesday, 13 August 2013				
76-ATIO-40	**Uncertainty in ATM II**			**Senators 1**
Chaired by: M. BLOEM, NASA-Ames				
1600 hrs AIAA-2013-4345 **Uncertainty & Decision Making in Air Traffic Management** H. Reynolds, R. DeLaura, J. Venuti, M. Wolfson, Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA	1630 hrs AIAA-2013-4346 **Upper and Lower Bound Estimation of Runway Throughput in the Presence of Uncertainty** S. Bae, J. Clarke, Georgia Institute of Technology, Atlanta, GA	1700 hrs AIAA-2013-4347 **Uncertainty Analysis of Integrated Departures and Arrivals: A Los Angeles Case Study** M. Xue, University of California, Santa Cruz, Moffett Field, CA; S. Zelinski, D. Mulfinger, NASA Ames Research Center, Moffett Field, CA		

Tuesday, 13 August 2013					
77-CASE-4 **1600 - 1800 hrs**	**CASE: Making the Business Case for Model Based Engineering**				**Santa Monica**
Speakers:					
David Nichols Assistant Director for Engineering and Science, JPL	**Bob Erickson** Raytheon	**Gregory L. Roth** USAF Wright-Patterson AFB	**Gary Kamsickas** Boeing	**Christopher Forgie** Boeing	**Eelco Scholte** UTC Aerospace Systems

Tuesday, 13 August 2013				
78-CASE-6 **1600 - 1800 hrs**	**CASE: Supplier Management and Logistics**			**Pacific Room**
Moderator: Lt. General George Muellner (USAF, Ret.)				
Panelists:				
Gerry Jeffs Director, Implementations, APL Logistics	**Craig Giffi** Vice Chairman, Deloitte LLP	**Beth Anderson** VP Supply Chain Capability SM Operations, Boeing Commercial Airplanes	**Mary Simmerman** Vice President F-35 Supply Chain Management, Lockheed Martin	

Tuesday, 13 August 2013				
79-CASE-8 **1600 - 1800 hrs**	**CASE: Cost Optimization and Risk Mitigation through Strategic Early Verification**			**Brentwood**
Moderator: Jim Blohowiak, Strategic Integration, Boeing Commercial Airplanes/Boeing Test & Evaluation				
Panelists:				
Steve Holt Associate Technical Fellow Boeing Commercial Airplanes	**Mostafa Rassaian** Technical Fellow Computational Structural Mechanics, Impact Dynamics Boeing Research and Technology	**Jeff Rose** Manager of Aero Sciences L-3 Communications - Platform Integration, L-3 Communications	**Steve Helland** Test Program Manager NASA Aeronautics Test Program	

Tuesday, 13 August 2013				
80-PNL-11 **1600 - 1800 hrs**	**The Energy Imperative Panel**			**Beverly Hills**
Moderator: Steve Csonka, Executive Director, Commercial Aviation Alternative Fuels Initiative (CAAFI)				
Panelists:				
Alan Epstein Vice-President, Technology and Environment, Pratt & Whitney	**Thomas W. Hicks** Deputy Assistant Secretary of the Navy (Energy), U.S. Navy	**Mauro Kern** Executive Vice President, Embraer	**Christopher Ryan** President, Chief Operating Officer and Chief Technology Officer, Gevo, Inc.	

Tuesday, 13 August 2013		
81-PNL-12 1600 - 1800 hrs	Panel: Transformational Flight Discussion: Future Visions, Policies and Technologies for On-Demand Mobility	Palisades Room

Speakers:

Bob Pearce	Andy Supinie	Tom Gunnarson	Claude Le Tallec
NASA Aeronautics Systems Analysis and Assessment Office Director	Cessna Senior Manager of Aerosciences	FAA Small Aircraft Directorate	P-Plane European Project Personal Air Transport System (PATS)

Tuesday, 13 August 2013		
82-PNL-13 1600 - 1800 hrs	Panel: Powered Lift Flight Testing	Westwood

Moderator: Mike Hirschberg, Executive Director, AHS International

Panelists:

Steve Weiner	Dr. James Wang	David "Doc" Nelson	Steve Webster
Chief Engineer Joint Multi-Role Technology Demonstrator, Sikorsky Aircraft	VP Research & Technology, AgustaWestland	F-35 Site Lead Test Pilot - Edwards AFB, Lockheed Martin	Vice President Engineering and Flight Operations, American Eurocopter

Tuesday, 13 August 2013		
83-OE-1 1800 - 2000 hrs	Tuesday Evening Offsite Event: Museum of Flying	Museum of Flying

Bus Transportation leaves at 1800 hrs from the hotel lobby.

Wednesday

Wednesday, 14 August 2013		
84-NB-3 0700 - 0800 hrs	Wednesday Networking Breakfast	California Showroom

Wednesday, 14 August 2013		
85-SB-5 0730 - 0800 hrs	Wednesday Morning Speakers' Briefing	Session Rooms

Wednesday, 14 August 2013		
86-KN-3 0800 - 0900 hrs	Wednesday Morning Keynote	Los Angeles

Embracing a World of Change: NASA's Aeronautics Research Strategy
Charles F. Bolden, Jr.
Administrator, NASA Headquarters

Wednesday, 14 August 2013		
87-BRK-5 0900 - 0930 hrs	Wednesday Morning Networking Coffee Break	California Showroom

Wednesday, 14 August 2013				
88-ATIO-41	**Air Traffic Management and Flow**			**Directors 1&2**
Chaired by: S. CONWAY, Boeing Commercial Airplanes				
0930 hrs AIAA-2013-4349 **Massively Parallel Optimal Solution to the Nationwide Traffic Flow Management Problem** M. Tandale, S. Wiraatmadja, V. Vaddi, Optimal Synthesis, Inc., Los Altos, CA; J. Rios, NASA Ames Research Center, Moffett Field, CA	1000 hrs AIAA-2013-4350 **Analysis of AFP Route-Outs in Preparation for CTOP Post-Implementation Assessment** S. Kamine, S. Tien, J. Conroy, W. Cooper, MITRE Corporation, McLean, VA	1030 hrs AIAA-2013-4351 **Exploring Design Trade-offs for Strategic Flow Planning** C. Wanke, C. Taylor, MITRE Corporation, McLean, VA	1100 hrs AIAA-2013-4352 **A Probabilistic Collocation Method Based Approach for Optimal Strategic Air Traffic Flow Management under Weather Uncertainties** Y. Zhou, Y. Wan, University of North Texas, Denton, TX; C. Wanke, C. Taylor, MITRE Corporation, McLean, VA; S. Roy, Washington State University, Pullman, WA	

Wednesday, 14 August 2013				
89-ATIO-42	**Airport Capacity Analysis**			**Park**
Chaired by: P. ROLING, Delft Technical University of Technology				
0930 hrs AIAA-2013-4353 **Calculating capacity of dependent runway configurations: A discrete-event simulation approach for analysing the effect of aircraft sequencing** J. Klugt, P. Roling, Delft University of Technology, Delft, The Netherlands; R. Hove, Schiphol Group, Amsterdam, The Netherlands; R. Curran, Delft University of Technology, Delft, The Netherlands	1000 hrs AIAA-2013-4354 **Simulation-Based Airport Capacity Estimation** K. Ramamoorthy, G. Hunter, Saab Sensis Corporation, Campbell, CA	1030 hrs AIAA-2013-4355 **Capacity Variation Algorithms for Simulation Modeling and Performance Analysis** A. Chow, J. Gulding, Federal Aviation Administration, Washington, DC	1100 hrs AIAA-2013-4356 **Forecasting Weather-Impacted Airport Capacities for Flow Contingency Management: Advanced Methods and Integration** R. Dhal, S. Roy, Washington State University, Pullman, WA; C. Taylor, C. Wanke, MITRE Corporation, McLean, VA	

Wednesday, 14 August 2013				
90-ATIO-43	**Human Factors in Aviation**			**Senators 1**
Chaired by: T. HANKERS, Technical University of Braunschweig				
0930 hrs AIAA-2013-4357 **Identification of Present-Day Transport Pilot Workflow and Derivation of Mobile Aids** T. Hankers, P. Hecker, Technical University of Braunschweig, Braunschweig, Germany; N. Barraci, J. Schiefele, Jeppesen GmbH, Neu-Isenburg, Germany	1000 hrs AIAA-2013-4358 **Compression of PIREPs for Throughput-Limited Transmission** J. Rios, NASA Ames Research Center, Moffett Field, CA; M. de la Cruz, Autonomous University of Nuevo León, San Nicolás de Los Garza, Mexico	1030 hrs AIAA-2013-4359 **How do Air Traffic Controllers Use Automation and Tools Differently During High Demand Situations?** J. Kraut, J. Mercer, San Jose State University, San Jose, CA; S. Morey, NASA Ames Research Center, Moffett Field, CA; J. Homola, A. Gomez, San Jose State University, San Jose, CA; T. Prevot, NASA Ames Research Center, Moffett Field, CA	1100 hrs AIAA-2013-4360 **Pilot Subjective Assessments during an Investigation of Separation Function Allocation Using a Human-In-The-Loop Simulation** K. Burke, D. Wing, T. Lewis, NASA Langley Research Center, Hampton, VA	

Wednesday, 14 August 2013				
91-ATIO-44	**JPDO: Methods and Results**			**Brentwood**
Chaired by: S. HASAN, LMI				
0930 hrs AIAA-2013-4361 **Modal Preference Modeling of Transportation Demand and Supply for Strategy Portfolio Analyses - Results and Future Plans** Y. Gawdiak, NASA Headquarters, Washington, DC; J. Herriot, B. Holmes, B. Sawhill, NextGen AeroSciences, LLC, Williamsburg, VA; J. Creedon, Old Dominion University, Norfolk, VA; J. Eckhause, D. Long, Logistics Management Institute, McLean, VA; D. Ballard, GRA, Inc., Jenkintown, PA	1000 hrs AIAA-2013-4362 **Future National Airspace System Architecture Evaluation: Methods and Initial Results** J. Eckhause, D. Long, R. Hemm, Logistics Management Institute, McLean, VA; J. Creedon, Old Dominion University, Norfolk, VA; M. Alcabin, The Boeing Company, Seattle, WA; F. Wieland, IAI, Inc., Rockville, MD; T. Thompson, Metron Aviation, Inc., Dulles, VA; D. Ballard, GRA, Inc., Jenkintown, PA	1030 hrs AIAA-2013-4363 **Analyzing the Business Case and Economic Viability of Unmanned Aircraft Systems within the Nation's Airspace** B. Litvinas, Joint Planning and Development Office (JPDO), Washington, DC; N. Dickerson, Boox Allen Hamilton, Washington, DC	1100 hrs AIAA-2013-4364 **Predicting Future Unmanned Aerial System Flights** F. Wieland, R. Sharma, Intelligent Automation, Inc., Rockville, MD; D. Watulak, Raytheon Company, Marlborough, MA	1130 hrs AIAA-2013-4365 **Initial System Integrity Assessment for NextGen: Methods and Results** S. Bertish, S. Darr, R. Hemm, Y. Gawdiak, Joint Planning and Development Office (JPDO), Washington, DC

Wednesday, 14 August 2013				
92-ATIO-45	**Separation Assurance**			**Governors 1**
Chaired by: A. SARAF, Saab Sensis Corporation - STC				
0930 hrs AIAA-2013-4366 **A Trajectory Management Strategy for Nonconforming Flights and Multi-Agent Separation Assurance** C. Santiago, NASA Ames Research Center, Moffett Field, CA	1000 hrs AIAA-2013-4367 **Paving the Way to Free Flight - ASAS Separation in the Upper European Airspace** H. Lenz, German Aerospace Center (DLR), Braunschweig, Germany	1030 hrs AIAA-2013-4368 **Coordination Between Multiple Ground-Based Separation Assurance Agents** T. Lauderdale, NASA Ames Research Center, Moffett Field, CA; T. Wang, University of California, San Diego, Moffett Field, CA		

Wednesday, 14 August 2013				
93-ATIO-46	**Structural Design & Analysis**			**Encino**
Chaired by: M. PRICE, Queen's University Belfast				
0930 hrs AIAA-2013-4369 **Overview of Some Advanced Technique Applications on Full Scale Fatigue Test for MA600 Aircraft Structure** Q. Liu, Z. Wang, J. Zhang, B. Qiang, Aircraft Strength Research Institute, Xi'an, China	1000 hrs AIAA-2013-4370 **Semi-active Vibration Suppression of Aircraft Panel Using Piezoelectric Actuator with Synchronized Switch Damping Technique** K. Li, Aircraft Strength Research Institute, Xi'an, China	1030 hrs AIAA-2013-4371 **A Refined Method for Wing Weight Estimation and A New Method for Wing Center of Gravity Estimation** W. Liu, W. Anemaat, DARcorporation, Lawrence, KS	1100 hrs AIAA-2013-4372 **Aerostructural design optimization of a 100-passenger regional jet with surrogate-based mission analysis** R. Liem, C. Mader, E. Lee, University of Toronto, Toronto, Canada; J. Martins, University of Michigan, Ann Arbor, Ann Arbor, MI	

Wednesday, 14 August 2013				
94-ATIO-47	**Transformational Flight Advanced I**			**Palisades Room**
Chaired by: L. UNRAU, Cessna Aircraft Company				
0930 hrs AIAA-2013-4373 **High Speed Mobility through On-Demand Aviation** M. Moore, K. Goodrich, NASA Langley Research Center, Hampton, VA	1000 hrs Oral Presentation (Invited) **Semi Tandem Tilt Wing VTOL Concept** W. Fredericks, NASA Langley Research Center, Hampton, VA	1030 hrs AIAA-2013-4374 **A Multifunctional Rotor Concept for Quiet and Efficient VTOL Aircraft** A. Stoll, E. Stilson, J. Bevirt, Joby Aviation, Santa Cruz, CA; P. Sinha, Transition Robotics, Santa Cruz, CA	1100 hrs Oral Presentation (Invited) **ROTORwing Concept** M. Page, M. McCue, DZYNE Technologies, Irvine, CA	

Wednesday, 14 August 2013				
95-ATIO-48	**Weather: Impact I**			**Sherman Oaks**
Chaired by: A. MUKHERJEE				
0930 hrs AIAA-2013-4375 **Geographical Weather-Impact Sourcing: Analytical and Data-Driven Approaches** S. Roy, Washington State University, Pullman, WA; Y. Wan, University of North Texas, Denton, TX	1000 hrs AIAA-2013-4376 **Optimization of the European air traffic during Grímsvötn eruption in 2011 based on advanced volcanic ash forecast** R. Vujasinovic, A. Schmitt, J. Zillies, V. Mollwitz, C. Edinger, A. Kuenz, German Aerospace Center (DLR), Braunschweig, Germany	1030 hrs AIAA-2013-4377 **Using Flight Information to Improve Weather Avoidance Predictions** T. Stewart, J. DeArmon, MITRE Corporation, McLean, VA; D. Chaloux, QinetiQ, McLean, VA		

Wednesday, 14 August 2013				
96-CASE-9 **0930 - 1200 hrs**	**CASE: Workforce Skills Development**			**Santa Monica**

Moderators: Brett Hoffstadt, Project Engineer, The Boeing Company, Steven D'Urso, Program Coordinator, Aerospace Systems Engineering, University of Illinois/Urbana-Champaign

Panelists:

Debra Facktor Lepore
Vice President and General Manager, Strategic Operations
Ball Aerospace & Technologies Corp.

Steven Dunn
Chief Engineer, NASA/Jacobs Technology, Inc.

Franz-Josef Kahlen
Associate Professor, Dept. of Mechanical Engineering
University of Cape Town

David M. Rogers
Chief of Systems Engineering, Rolls-Royce Corporation

Wednesday, 14 August 2013		
97-CASE-10 **0930 - 1200 hrs**	**CASE: Managing Complexity: Academic and Industry Perspective on Metrics for Complex Systems**	**Pacific Room**

Speakers:

Dan DeLaurentis
Associate Professor, Aeronautics and Astronautics
Director, Center for Integrated Systems in Aerospace
Purdue University

Laura McGill
Deputy Vice President of Engineering, Missile Systems
Raytheon

Douglas Allaire
Research Scientist, Department of Aeronautics and Astronautics
MIT

Douglas A. Stuart
Senior Analyst, Boeing Company

Kirstie L. Bellman
Principal Scientist, Head of the Aerospace Integration Science Center
Aerospace Corporation

Wednesday, 14 August 2013				
98-IPLC-8	**Powered-Lift Fluidics and Flowfields**			**Westwood**
Chaired by: D. WARDWELL, NASA Ames Research Center				
0930 hrs AIAA-2013-4378 **Effect of Strouhal Number on the Flow Field of a Turbulent Pulsed Jet** I. Choutapalli, University of Texas, Pan American, Edinburg, TX	1000 hrs AIAA-2013-4379 **Full Range Airfoil Polars for Propeller Blade Element Momentum Analysis** J. Morgado, M. Silvestre, J. Pascoa, University of Beira Interior, Covilha, Portugal	1030 hrs AIAA-2013-4380 **Multiple Jet/Wall/Cross-Wind Interaction Relevant to VSTOL Ground Effects** J. Barata, University of Beira Interior, Covilha, Portugal	1100 hrs AIAA-2013-4381 **A numerical study on tilt rotor aircraft flow fields and aerodynamics in transition mode based on actuator model and unstructured embedded grid** Z. Ying, Y. Liang, Chinese Aerodynamic Research Institute on Aeronautics, Shenyang City, China	1130 hrs AIAA-2013-4382 **Aerodynamics On Flapping Rotary Wing In Low Reynolds Number** D. Wang, J. Wu, Y. Zhang, Beihang University, Beijing, China

Wednesday, 14 August 2013		
99-PNL-14 **0930 - 1200 hrs**	**Business, General and RotorCraft Aviation Panel**	**Beverly Hills**

Moderator: Pete Bunce, President and CEO, General Aviation Manufacturers Association

Panelists:

Mike Hirschberg
Executive Director, AHS International

John S. Langford
Chairman and Chief Executive Officer, Aurora Flight Sciences Corporation

Pres Henne
Senior Vice President of Programs, Engineering and Test Gulfstream Aerospace

Jack Pelton
Chairman and President, Experimental Aircraft Association

Wednesday, 14 August 2013		
100-LNCH-3 **1200 - 1300 hrs**	**Wednesday Keynote Luncheon**	**Los Angeles**

The Aircraft Market In An Age Of Extremes: Industry Overview And Forecast
Richard Aboulafia
Vice President, Analysis, The Teal Group

Wednesday, 14 August 2013		
101-SB-6 **1300 - 1330 hrs**	**Wednesday Afternoon Speakers' Briefing**	**Session Rooms**

Wednesday, 14 August 2013				
102-ATIO-49	**Enroute and Mission Optimization III**			**Directors 1&2**
Chaired by: J. POST, Federal Aviation Administration				
1330 hrs AIAA-2013-4383 **Foundations of a Technology Assessment Technique Using a Scenario-Based Fleet System Dynamics Model** N. Randt, Technical University of Munich, Munich, Germany	1400 hrs AIAA-2013-4384 **Probabilistic and Coordinated Traffic Flow Management Optimization** A. Saraf, G. Hunter, K. Ramamoorthy, G. Nagle, K. Cheng, Saab Sensis Corporation, Campbell, CA	1430 hrs AIAA-2013-4385 **Agent-Based Modeling and Simulation of Emergent Behavior in Air Transportation** S. Bouarfa, Delft University of Technology, Delft, The Netherlands; H. Blom, National Aerospace Laboratory (NLR), Amsterdam, The Netherlands; R. Curran, Delft University of Technology, Delft, The Netherlands; M. Everdij, National Aerospace Laboratory (NLR), Amsterdam, The Netherlands	1500 hrs AIAA-2013-4386 **Discovery of Abnormal Flight Patterns in Flight Track Data** B. Matthews, SGT, Inc., Moffett Field, CA; A. Srivsatava, NASA Ames Research Center, Moffett Field, CA; J. Schade, D. Schleicher, K. Chan, R. Gutterud, M. Kiniry, ATAC Corporation, Santa Clara, CA	

Wednesday, 14 August 2013				
103-ATIO-50	**Fuel Burn II**			**Senators 1**
Chaired by: C. HANGE, NASA Ames Research Center				
1330 hrs AIAA-2013-4387 **Fuel burn and emissions evaluation for a missed approach procedure performed by a B737-400** R. Dancila, R. Botez, University of Québec, Montréal, Canada; S. Ford, Esterline Technologies Corporation, Sugargrove, IL	1400 hrs AIAA-2013-4388 **A Time-Saving and Fuel-Saving Benefit Analysis on Terminal Arrival Spacing and Scheduling Concepts** A. Huang, A. Trapani, S. Timar, Saab Sensis Corporation, Campbell, CA; D. Howell, D. Slocum, MCR, LLC, Arlington, CA; J. Poage, JLP Performance Consulting, Lexington, MA; P. Lee, San Jose State University, San Jose, CA	1430 hrs AIAA-2013-4389 **Estimated Fuel Burn Performance for MDW Arrivals** A. Belle, L. Sherry, George Mason University, Fairfax, VA	1500 hrs AIAA-2013-4390 **Evaluation of Formation Flight as a Fuel Reduction Strategy Given Realistic Flight Dispatching Constraints** C. Hange, NASA Ames Research Center, Moffett Field, CA	

Wednesday, 14 August 2013				
104-ATIO-51	**Platform and Fleet Design Methods**			**Encino**
Chaired by: D. MAVRIS, Georgia Institute of Technology				
1330 hrs AIAA-2013-4391 **Profit Motivated Airline Fleet Allocation and Concurrent Aircraft Design for Multiple Airlines** P. Govindaraju, W. Crossley, Purdue University, West Lafayette, IN	1400 hrs AIAA-2013-4392 **Coupled Optimization of Aircraft Design and Fleet Allocation with Uncertain Passenger Demand** P. Jansen, R. Perez, Royal Military College of Canada, Kingston, Canada	1430 hrs AIAA-2013-4393 **Framework for Sustainability-Driven Aircraft Design** K. Franz, K. Risse, E. Stumpf, RWTH Aachen University, Aachen, Germany	1500 hrs AIAA-2013-4394 **Quantifying Uncertainty Across Fidelity Levels in the Design of Aerospace Systems** J. Thomas, J. Agte, Air Force Institute of Technology, Wright-Patterson AFB, OH	

Wednesday, 14 August 2013				
105-ATIO-52	**Runway Efficiency**			**Park**
Chaired by: Y. JUNG, NASA Ames Research Center				
1330 hrs AIAA-2013-4395 **Benefits Assessment for Tactical Runway Configuration Management Tool** R. Oseguera-Lohr, N. Phojanamongkolkij, G. Lohr, NASA Langley Research Center, Hampton, VA; J. Fenbert, Analytical Mechanics Associates, Inc., Hampton, VA	1400 hrs AIAA-2013-4396 **Sensitivity of NASA's Spot and Runway Departure Advisor to Traffic Forecast Errors** S. Atkins, A. Churchill, B. Capozzi, Mosaic ATM, Inc., Leesburg, VA	1430 hrs AIAA-2013-4397 **Decision Support for Optimal Runway Reconfiguration** X. Bai, P. Menon, Optimal Synthesis, Inc., Los Altos, CA		

Wednesday, 14 August 2013				
106-ATIO-53	**Safety in Surface Operations**			**Governors 1**
Chaired by: D. WELLS, NASA Langley Research Center				
1330 hrs AIAA-2013-4398 **Le Chatelier Approach and Safety Problems in the New Theory of Technogenic Catastrophes** S. Korshakovskiy, Moscow State Technical University of Radio Engineering, Electronics and Automation, Moscow, Russia	1400 hrs AIAA-2013-4399 **Predictability in Airport Surface Operation Management** Y. Liu, M. Hansen, University of California, Berkeley, Berkeley, CA; G. Gupta, W. Malik, University of California, Santa Cruz, Moffett Field, CA	1430 hrs AIAA-2013-4400 **Analysis of Runway Incursion Data** L. Green, NASA Langley Research Center, Hampton, VA	1500 hrs AIAA-2013-4401 **Comparison of Actual and Projected Safety Impacts of Surface Automation** D. Howell, MCR, LLC, Beavercreek, OH	

Wednesday, 14 August 2013				
107-ATIO-54	**Transformational Flight Advanced II**			**Palisades Room**
Chaired by: L. UNRAU, Cessna Aircraft Company				
1330 hrs Oral Presentation (Invited) **Sizing and Optimization of Advanced High Power Density Electrical Machines for Propulsion Applications** M. Ricci, LaunchPoint Technologies, Inc., Goleta, CA	1400 hrs Oral Presentation (Invited) **Turbo-Compound Contra-Rotating Ducted Propulsor** G. Stevenson, GSE, Inc., South Lake Tahoe, CA	1430 hrs AIAA-2013-4402 **Numerical Investigation of Fuselage Boundary Ingestion Propulsion Techniques** A. Elmiligui, W. Fredericks, NASA Langley Research Center, Hampton, VA		

Wednesday, 14 August 2013				
108-ATIO-55	**Weather: Impact II**			**Sherman Oaks**
Chaired by: K. SHETH, NASA Ames Research Center				
1330 hrs AIAA-2013-4403 **Classification of Days Using Weather Impacted Traffic in the National Airspace System** A. Mukherjee, University of California, Santa Cruz, Santa Cruz, CA; S. Grabbe, B. Sridhar, NASA Ames Research Center, Moffett Field, CA	1400 hrs AIAA-2013-4404 **Spatio-Temporally Correlated Wind Uncertainty Model for Simulation of Terminal Airspace Operations** V. Vaddi, M. Tandale, S. Lin, Optimal Synthesis, Inc., Los Altos, CA	1430 hrs AIAA-2013-4405 **Improved Estimation of Average Annual Aircraft Delay for Variable Wind / Weather Conditions and Runway Configurations Using Queuing Theory** A. Lagu, A. Cheng, S. Akkoush, B. Dunlay, LeighFisher, Burlingame, CA	1500 hrs AIAA-2013-4406 **Assessing Wind Impacts on Flight Interval Management Performance** M. Sandberg, T. Reynolds, M. McPartland, S. Troxel, Y. Glina, Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA	

Wednesday, 14 August 2013						
109-CASE-11 **1330 - 1530 hrs**	**CASE: Model Based Engineering Use in System Development - Case Studies**					**Santa Monica**
Speakers:						
David Nichols Assistant Director for Engineering and Science, JPL	**Bob Erickson** Raytheon	**Gregory L. Roth** USAF Wright-Patterson AFB	**Gary Kamsickas** Boeing	**Christopher Forgie** Boeing	**Eelco Scholte** UTC Aerospace Systems	

Wednesday, 14 August 2013				
110-CASE-12 **1330 - 1530 hrs**	**CASE: Program Organization**			**Pacific Room**
Moderators: Anna-Maria Mcgowen, Senior Aerospace Engineer, NASA Langley Research Center, Jim Rankin, Vice Provost for Research and Economic Development, University of Arkansas Panelists:				
Ali Abbas Associate Professor, Industrial and Enterprise Systems Engineering University of Illinois at Urbana-Champaign	**Bob Broeder** Sr. Manager, Software Engineering, Boeing	**Jeff Loren** Principal Staff Consultant, Systems Engineering & Mission Assurance Dynamics Research Corporation HPTG	**Jeff Hamstra** Lockheed Martin Senior Fellow, Lockheed Martin	

Wednesday, 14 August 2013		
111-CASE-13 1330 - 1530 hrs	CASE: Direction and Integration of Experimental Ground Test Capabilities and Computational Methods	Brentwood

Moderator: Steven Dunn, Chief Engineer, Jacobs Technology, Inc.

Panelists:

Tom Wayman	Ed Marquart	Shigeya Watanabe	Ruben Delrosario	Alex Krynetzky
Gulfstream Aerospace Corporation	Engineering Fellow, Aerodynamics Department Raytheon Missile Systems	Director, Wind Tunnel Technology Center, Institute of Aernautic Technology, Japan Aerospace Exploration Agency	Principle Investigator, Subsonic Fixed Wing Project, NASA Aeronautics Research Program	Boeing Commercial Airplanes

Wednesday, 14 August 2013		
112-PNL-15 1330 - 1530 hrs	Developing the Market for UAS Panel	Beverly Hills

Moderator: John Langford, Chairman and Chief Executive Officer, Aurora Flight Sciences Corporation

Panelists:

David McBride	Michael Neale	Randy Willis	Douglas Marshall
Center Director, NASA Dryden Flight Research Center	RF System Design Manager General Atomics Aeronautical Systems	Air Traffic Manager, Unmanned Aircraft Systems Integration Office FAA	President at Truenorth Consulting LLC Division Manager, UAS Regulatory & Standards Development New Mexico State University

Wednesday, 14 August 2013		
113-WKSHP-1 1330 - 1630 hrs	Protecting Intellectual Property Workshop	Westwood

Wednesday, 14 August 2013		
114-BRK-6 1530 - 1600 hrs	Wednesday Afternoon Networking Coffee Break	California Showroom

Wednesday, 14 August 2013				
115-ATIO-56	Aircraft Subsyem Safety			Governors 1
Chaired by: D. EAMES, Rolls-Royce Corporation				
1600 hrs AIAA-2013-4407 **Usage and Flight Loads Analysis of King Airs in USFS Service** L. Kliment, K. Rokhsaz, Wichita State University, Wichita, KS; J. Nelson, B. Terning, Forest Service, Boise, ID; E. Weinstein, Federal Aviation Administration, Atlantic City, NJ	1630 hrs AIAA-2013-4408 **A Top Level Safety Analysis of N+2 Aircraft in NextGen Operations** V. Stouffer, R. Hemm, Logistics Management Institute, McLean, VA	1700 hrs AIAA-2013-4409 **Bird Strike Warning System** E. Aydogan, Anadolu University, Eskisehir, Turkey; R. Edizkan, Osmangazi University, Eskisehir, Turkey		

Wednesday, 14 August 2013				
116-ATIO-58	Environment Efficiency			Sherman Oaks
Chaired by: W. CROSSLEY, Purdue University				
1600 hrs AIAA-2013-4410 **An Approach for Estimating System-Wide Environmental Benefits of Future Air Traffic Management Concepts** A. Mahashabde, W. Baden, J. DeArmon, J. Field, G. Foster, J. Harding, K. Amefia, D. Hechtman, F. Bankert, MITRE Corporation, McLean, VA	1630 hrs AIAA-2013-4411 **Investigation of Notional CO2 Standard Applicability to Fleet-wide Fuel Efficiency** M. Kirby, D. Lim, T. Nam, G. Burdette, B. Boling, Georgia Institute of Technology, Atlanta, GA	1700 hrs AIAA-2013-4412 **System-level Environmental and Operational Assessment of Future Aviation Concepts and Technologies** T. Thompson, Metron Aviation, Inc., Dulles, VA		

Wednesday, 14 August 2013				
117-ATIO-60	**Powerplant Performance**			**Brentwood**
Chaired by: Y. CHATI, Massachusetts Institute of Technology				
1600 hrs AIAA-2013-4413 **Civil Aeroengine Health Management and Maintenance Decision Support System: Development and Application** X. Fu, S. Zhong, Harbin Institute of Technology, Weihai, China; J. Zhu, Air China, Beijing, China	1630 hrs AIAA-2013-4414 **Aircraft Engine Performance Study Using Flight Data Recorder Archives** Y. Chati, H. Balakrishnan, Massachusetts Institute of Technology, Cambridge, MA	1700 hrs AIAA-2013-4415 **Methodology for Sizing and Performance Assessment of Hybrid Energy Aircraft** C. Pornet, C. Gologan, P. Vratny, A. Isikveren, M. Hornung, Bauhaus Luftfahrt e.V., Munich, Germany	1730 hrs AIAA-2013-4416 **Effect of Solidity on the Generation of Entropy in a Low Reynolds Number Compressor Cascade** S. Hayashibara, Embry-Riddle Aeronautical University, Prescott, AZ; R. Myose, F. Kok, Wichita State University, Wichita, KS	

Wednesday, 14 August 2013				
118-ATIO-61	**Systems Engineering**			**Park**
Chaired by: D. SOBAN, Queen's University Belfast				
1600 hrs AIAA-2013-4417 **Applying Systems Engineering Management Tools for Assessment of Complex Product Development of Modern General Aviation Piston Airplanes** V. Sundararajan, Aerospace India, Research Triangle Park, NC	1630 hrs AIAA-2013-4418 **Systems Engineering Design - An Educational Imperitive for Future Aerospace Development** A. Chaput, University of Texas, Austin, Austin, TX			

Wednesday, 14 August 2013				
119-ATIO-62	**Transformational Flight: Autonomy and Airspace**			**Palisades Room**
Chaired by: L. UNRAU, Cessna Aircraft Company				
1600 hrs AIAA-2013-4419 **Control of Future Air Traffic Systems via Complexity Bound Management** N. Alexandrov, NASA Langley Research Center, Hampton, VA	1630 hrs Oral Presentation (Invited) **Automated Airspace Management for Mixed-Use Airspace** B. Sawhill, University of California, Santa Cruz, Santa Cruz, CA; J. Herriot, B. Holmes, K. Seehart, NextGen AeroSciences, LLC, Williamsburg, VA	1700 hrs AIAA-2013-4420 **Personal plane automated operations strategy** C. Le Tallec, ONERA, Palaiseau, France; A. Joulia, J. Gabard, ONERA, Toulouse, France; M. Harel, Intergam Communications, Tel Aviv, Israel		

Wednesday, 14 August 2013				
120-ATIO-63	**Unmanned Air System Design**			**Encino**
Chaired by: P. HOLLINGSWORTH, The University of Manchester and P. HOLLINGSWORTH, The University of Manchester				
1600 hrs AIAA-2013-4421 **Improving Performance of Flying Wing Mini-UAV with Propeller Thrust Involved Trimming the Pitching Moment** G. Wang, Y. Hu, C. Wu, Northwestern Polytechnical University, Xi'an, China	1630 hrs AIAA-2013-4422 **Submersible Unmanned Aerial Vehicle Concept Design Study** X. Yang, T. Wang, J. Liang, G. Yao, W. Zhao, Beihang University, Beijing, China	1700 hrs AIAA-2013-4423 **Conceptual Design Study of a Hand Launch UAV** N. Reddy, R. Pant, Indian Institute of Technology Bombay, Mumbai, India		

Wednesday, 14 August 2013				
121-ATIO-64	**Wakes**			**Pacific Room**
Chaired by: D. DELAURENTIS, Purdue University				
1600 hrs AIAA-2013-4424 **Analysis of Excess Wake Vortex Separation on Arrival Delay** K. Witzberger, J. Robinson III, NASA Ames Research Center, Moffett Field, CA	1630 hrs AIAA-2013-4425 **Dynamic Wake Vortex Separation according to Weather Conditions** N. Matayoshi, Japan Aerospace Exploration Agency (JAXA), Mitaka, Japan	1700 hrs AIAA-2013-4426 **A new concept for Wake Vortex hazard mitigation using on-board measurement equipment** T. Feuerle, M. Steen, P. Hecker, Technical University of Braunschweig, Braunschweig, Germany		

Wednesday, 14 August 2013		
122-CASE-14 **1600 - 1800 hrs**	**CASE: Wrap Up**	**Santa Monica**

Wednesday, 14 August 2013		
123-PNL-16 **1600 - 1800 hrs**	**Shaping the Discussion; Policy Development Panel**	**Beverly Hills**

Moderator: Richard Aboulafia, Vice President, Analysis, The Teal Group

Panelists:

Gina Marie Lindsey
Executive Director, Los Angeles World Airports

Paul Steele
Corporate Secretary and Senior Vice-President, Member & External Relations, International Air Transport Association
Executive Director, Air Transport Action Group

Tyler Duvall
Associate Principal, McKinsey & Company

Fariba Alamdari
Vice President, Market and Aviation Policy

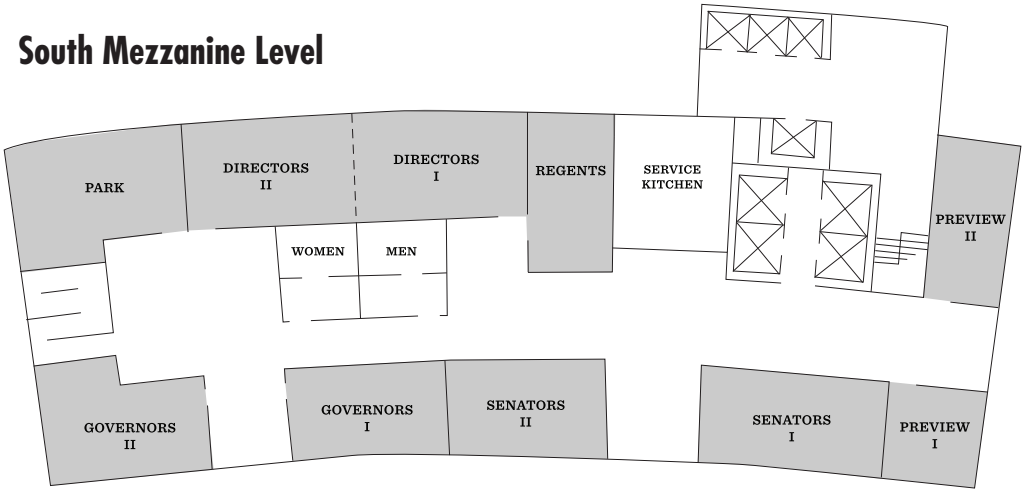
Wednesday, 14 August 2013		
124-RCPT-1 **1800 - 1900 hrs**	**Closing Reception**	**Green Circle Lawn**

Author/Session Chair Index

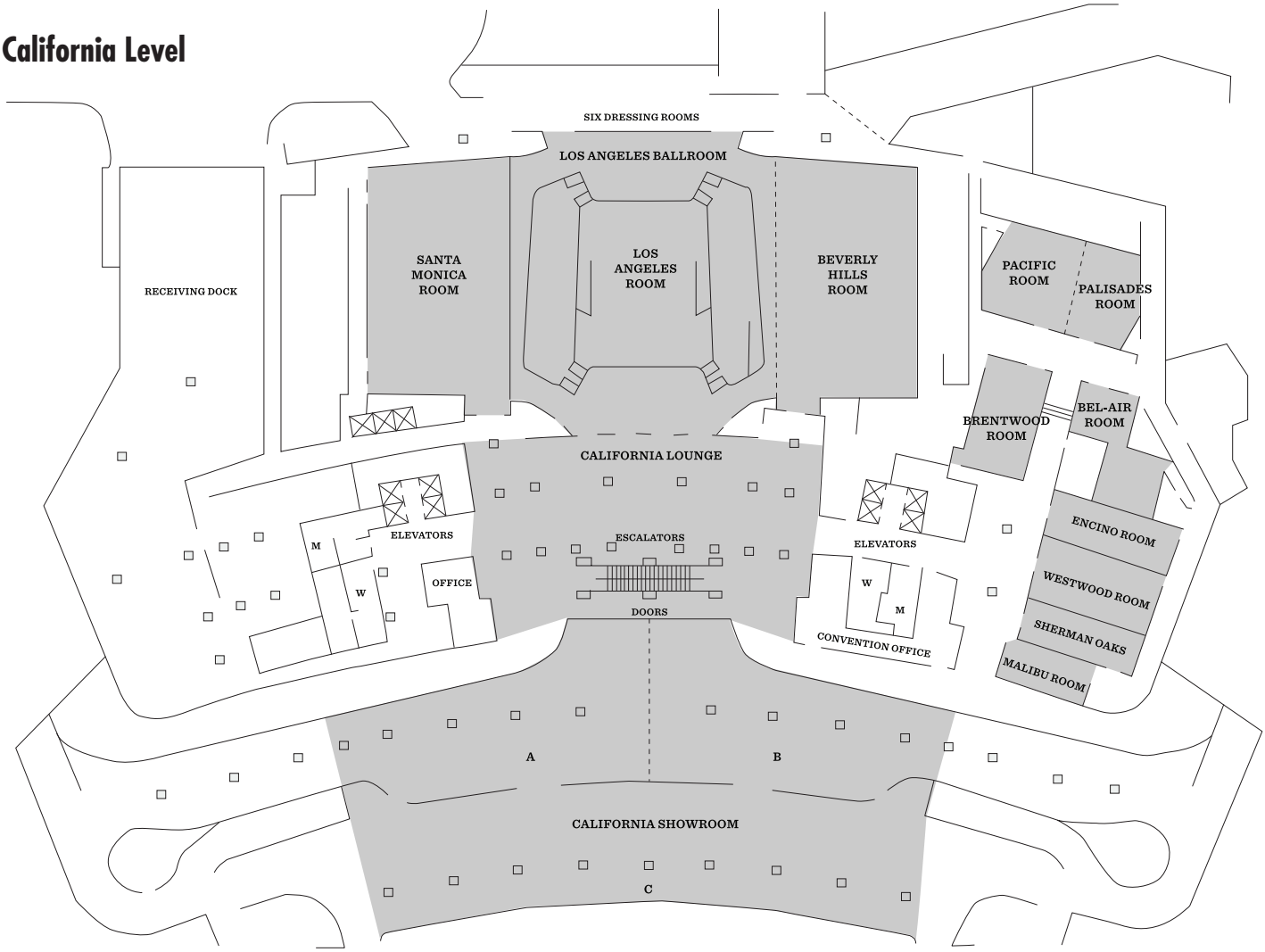
Venue Map

Hyatt Regency Century Plaza

South Mezzanine Level



California Level

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