Dear Colleague,

This fall, AIAA will bring together two of its premier events in one location. The 12th AIAA Aviation Technology, Integration, and Operations (ATIO) Conference and 14th AIAA/ISSMO Multidisciplinary Analysis and Optimization (MAO) Conference will co-locate to explore the issues of synthesis and integration. In today’s technologically advanced society, we rely on the seamless integration of technology, complex systems, and products to enhance and enrich our daily lives. Development of these innovative and practical systems and products is the result of multidisciplinary synthesis – the combination of different theories, ideas, and entities brought together to produce novel technology.

The theme of “Diversity, Design, and Details – Facing the Challenge of Synthesis and Integration” will be explored through the integration of these two separate, yet synergistic, technical communities. Practicing engineers, researchers, and policymakers will interact to discuss ideas, share research, and converse about the preeminent issues in design, optimization, and synthesis as applied in aviation technology and operations. A series of joint sessions are planned to promote collaboration between the communities, and disseminate information to a broader audience.

The second annual New Horizons in Aviation Forum will also be held in conjunction with these events and will offer excellent networking opportunities as well as a place to discuss grand challenges facing innovation throughout the aviation enterprise today. Join us in discussions of the complexity of the business models that drive acquisition and operational decision making and affect engineering and technology development. Confirmed speakers include:

- Mark Anderson, Director of Platform Performance Technology for Boeing Research and Technology
- Dr. Woodrow Whitlow, Associate Administrator for Mission Support, NASA HQ

We look forward to seeing you in Indianapolis in September!

Sincerely,

Brad Belcher

Welcome

Christopher Mattson
James Chrissis
Kapil Sheth
Peter Hollingsworth
Brad Belcher
Peter Hollingsworth
Kapil Sheth
James Chrissis
Christopher Mattson

www.facebook.com/AIAAfan
www.linkedin.com/company/aiaa
#aiaaaviation
www.flickr.com/photos/aiaaevents

www.youtube.com/wwwaiaaorg
Why Attend?
- Expand your knowledge, as practicing engineers, researchers, and policymakers interact to explore ideas, share research, and discuss the preeminent issues in design, optimization, and synthesis.
- Network, discuss challenges, and share ideas during technical sessions, luncheons, networking breaks, and social activities.
- Participate in the second annual New Horizons in Aviation Forum with high-level speakers and panelists.
- Stay at the top of your game with AIAA’s continuing education programs.

What to Expect?

Networking
- Monday Off-Site Event – Indianapolis Artsgarden
- Tuesday Awards Luncheon
- Networking Coffee Breaks Every Day
- New Horizons in Aviation Forum
- MAO Student Paper Competition (see website for details)

Continuing Education
- Two-Day Short Course: Optimal Design in Multidisciplinary Systems (see website for details)

Who Should Attend?
- Aviation professionals
- Government/military professionals
- Engineers, researchers, and operators
- Engineering managers and executives
- Media representatives

IMPORTANT DATES

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Early-Bird Registration Deadline</td>
<td>20 August 2012</td>
</tr>
<tr>
<td>Standard Registration Deadline</td>
<td>15 September 2012</td>
</tr>
<tr>
<td>Final Manuscript Deadline</td>
<td>28 August 2012</td>
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New Horizons in Aviation Forum

Innovation in Aviation Over the Acquisition Lifecycle

The New Horizons in Aviation Forum in offers a great networking opportunity as well as a place to discuss the grand challenges facing innovation throughout the aviation enterprise today. These challenges might be summarized under one banner: Aviation Lifecycle.

**Chair**: Vicki Crisp, NASA Langley Research Center  
**NHAF Liaison**: Dave Maroney, MITRE Corporation

**Monday, 17 September**
Getting Innovation Off the Ground  
Speaker: Mark Anderson, Boeing Research and Technology

**Tuesday, 18 September**
Getting Innovation Done  
Speaker: Woodrow Whitlow, NASA HQ  
Panel Moderator: Juan Alonso, Stanford Engineering

**Wednesday, 19 September**
Getting Innovation to Create the Future  
Panel Moderator: David Hinton, NASA LaRC

See the AIAA website for more details:  
www.aiaa.org/atio2012 or www.aiaa.org/mao2012

Networking Events

**INDIANAPOLIS ARTSGARDEN**  
17 September 2012  
1830–2030 hrs  
Enjoy a reception with live music in the Indianapolis Artsgarden, formed of painted steel, limestone and tinted glass. The Artsgarden is a seven-story-tall, glass-enclosed structure offering a spectacular view of the city.

**AWARDS LUNCHEON**  
18 September 2012  
1200–1400 hrs  
Awards scheduled to be presented include the Aircraft Design Award, the Hap Arnold Award for Excellence in Aeronautical Program Management, the Multidisciplinary Design Optimization Award, the best paper certificate of merit, and the overall winner of the MDO Student Paper Competition, which is sponsored by Rolls-Royce and by Optimization and Advanced Analytics, Information Analytics, Caterpillar, Inc.

**ROLLS-ROYCE HERITAGE TRUST MUSEUM TOURS**  
18–19 September 2012  
Tour details will be available on the conference website.

**Tuesday**  
First Tour 1430–1545 hrs  
Second Tour 1645–1800 hrs

**Wednesday**  
First Tour 1345–1500 hrs  
Second Tour 1600–1715 hrs
### Event at a Glance

<table>
<thead>
<tr>
<th>Saturday 15 September 2012</th>
<th>Sunday 16 September 2012</th>
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<tr>
<td><strong>0700 hrs</strong></td>
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<td><strong>Speakers’ Briefing</strong></td>
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### Technical Sessions

**JOINT SPECIAL SESSIONS**
- Aircraft Performance Methods
- Air Transportation and Operations Optimization
- Propulsion System Design and Optimization
- Subsonic Aircraft Design and Optimization
- Supersonic Aircraft Design and Optimization
- UAV Design and Optimization
- Wing Design and Optimization

**TECHNICAL SESSIONS – ATIO**
- ADS-B From Concept to Operational Use
- Air Transportation Systems/Air Traffic Management Operations
- Aircraft Design and Design Methodologies
- Industry Identified Issues in the NAS Research Under Development
- Systems and Systems Integration
- Transformational Flight
- Unmanned Air Systems: Technology, Design, Integration & Operations

**TECHNICAL SESSIONS – MAO**
- Applications of MA&O
- Enabling Technologies for MA&O
- Multidisciplinary Design Optimization Methodologies
- Optimization Methods and Algorithms
- Uncertainty and Reliability Methods in MA&O

Check the conference websites for the most up-to-date schedule and details:
- www.aiaa.org/atio2012
- www.aiaa.org/mao2012
## Registration

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**Pricing Subject to Change**

*10% discount off AIAA member rate for 10 or more persons from the same organization who register and pay at the same time with a single form of payment. Includes sessions and all catered events. A complete typed list of registrants, along with completed individual registration forms and a single payment, must be received by the preregistration deadline of 15 September 2012.*

Cancellations must be received in writing no later than 3 September 2012. There is a $100 cancellation fee. Registrants who cancel beyond this date or fail to attend will forfeit the entire fee. For questions, please contact Chris Brown, AIAA conference registrar, at 703.264.7504 or chrisb@aiaa.org.
Meeting Site Information
As you land in Indianapolis, the first thing you’ll notice is the airport. As the first new international airport in America designed and built after 9/11, Indianapolis International Airport was rated #1 (on everything from security to baggage claim) by travelers in a J.D. Power & Associates poll.

With many attractions including the Indianapolis Zoo (located in the nation’s only urban cultural state park) ranked among the nation’s top 10 zoos by TripAdvisor, and the Indianapolis Museum of Art – one of the country’s 10 largest and oldest general art museums, which won the 2009 National Medal for Museum and Library Services (the nation’s highest honor for museums and libraries) – there is something for everyone to enjoy!

Hotel Reservations
AIAA has made arrangements for a block of rooms at the:

**Hyatt Regency Indianapolis**
One South Capitol Avenue
Indianapolis, Indiana 46204
Phone: +1.317.632.1234

We have negotiated special event rates of $149 for single or double occupancy. Book your rooms early! Rooms will be held until 24 August 2012 or until the block is full. You must mention AIAA when you make your reservations to be included in this block. To make reservations by phone, please call 1.888.421.1442, or visit the conference website for a direct link to make reservations.

There are a small number of federal government per-diem rooms available. Please select “government block” under guest type on the reservations website. Federal ID is required upon check-in.

Airport/Transportation
Indianapolis International Airport (IND) is 13 miles from the hotel.

**Shared Ride Service** – Approximate cost is $16 each way. Reservations suggested. On demand service available at Ground Transportation Center across from baggage claim.

**Yellow/Checker Cab Co.** – Approximate cost is $35 each way for airport transportation.

**Limo Service** – Approximate cost is $45 (one way, dependent upon company and number of passengers).

**Public Transportation** – IndyGo Green Line:
Cost is $7 per person each way.
Buses run 0500–2100 hrs, approximately every 20 minutes.
Bus stops in front of Hyatt Regency Indianapolis on Washington Street.
12th AIAA Aviation Technology, Integration, and Operations (ATIO) Conference

**Technical Program Chairs**
Peter Hollingsworth  
University of Manchester
Kapil Sheth  
NASA Ames Research Center

**Theme Chair**
Danielle Soban  
Queen’s University Belfast

**ATIO Technical Program Committee**

<table>
<thead>
<tr>
<th>Aircraft Design Technical Committee</th>
<th>Dennis Carter</th>
<th>Air Force Research Laboratory</th>
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<tr>
<td></td>
<td>William Crossley</td>
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<td>Gil Crouse</td>
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<tr>
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<th>Brian Baxley</th>
<th>NASA Langley Research Center</th>
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<tr>
<td>Parimal Kopardekar</td>
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<tr>
<td>Rick Shay</td>
<td>Double Black Aviation Technology</td>
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**Special Thanks to Our 2012 Sponsor**

![Rolls-Royce](image)

**14th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference**

**General Chair**
James Chrissis  
Air Force Institute of Technology

**Technical Program Chair**
Christopher Mattson  
Brigham Young University

**International Organizing Committee**

**International Chair (ISSMO)**
Vassili Toropov  
University of Leeds

**International Chair (Asia)**
Masao Arakawa  
Kagawa University

**International Chair (South America)**
Silvana Maria Bastos Afonso da Silva  
Federal University of Pernambuco

**Student Paper Competition Chair**
H. Alicia Kim  
University of Bath

**MDO Technical Committee Representative**
Timothy Takahashi  
Arizona State University

**New Horizons In Aviation Forum**
Chair: Vicki Crisp  
NASA Langley Research Center

**NHAF Liaison**: Dave Maroney  
MITRE Corporation

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**Special Thanks to the 2012 Organizing Committee Members**

**Air Transportation Systems Technical Committee**
Dave Maroney  
MITRE Corporation
Joseph Post  
Federal Aviation Administration
Vince Schultz  
NASA Langley Research Center
Kapil Sheth  
NASA Ames Research Center

**Economics Technical Committee**
Richard Curran  
Delft University of Technology

**General Aviation Technical Committee**
Mark Moore  
NASA Langley Research Center

**Technical Activities Committee**
Satish Mohleji  
MITRE CAASD

**Value Driven Design Program Committee**
Paul Colphey  
University of Alabama in Huntsville

**Sponsorship Opportunities**
For information regarding sponsorship opportunities, please contact:
John Gattasse  
Managing Director, Corporate Sales and Market Development  
Phone: 703.264.7514  
Email: johng@aiaa.org

**MARK YOUR CALENDARS!**

AIAA is creating a new annual event, AVIATION, that will become the yearly forum to share knowledge, build networks, and evolve the vision inspiring the future of global aviation. This unique gathering will blend AIAA’s traditional technical sessions with broad-view, high-level discussions, and demonstrate the value of the technological innovations that drive the aviation community forward.

For more information, please visit [www.aiaa.org/aviation2013](http://www.aiaa.org/aviation2013)