

## Abstract Submittal Procedures

Abstract submissions will be accepted electronically through the AIAA website at [www.aiaa.org/daytona2013](http://www.aiaa.org/daytona2013). Once you have entered the conference website, click "Submit A Paper" and follow the instructions listed. Abstracts must be a minimum of 350 words, with key figures and references as necessary. The deadline for receipt of abstracts via electronic submittal is **5 September 2012, 2359 hrs Eastern Time Zone, USA**.

The electronic submission process is as follows.

1. Access the AIAA website at [www.aiaa.org/daytona2013](http://www.aiaa.org/daytona2013).
2. On the right-hand side, click the "Submit Paper" button.
3. You will be prompted to log in. If you do not have an AIAA account you will be asked to create one.
4. After completing your login, you will be in the ScholarOne Abstracts submission site.
5. Click the Submission tab at the top of the page to begin your submission. Select the appropriate conference to submit to on the following page.
6. Once you have selected the appropriate conference, you will be provided with general information on the conference's abstract submission requirements and policies. To begin the submission, click the "Create a New Submission" link on the left side. Please Note: If you have previously visited the site and begun a draft submission, click the "View Submissions" link on the left-hand side to resume your submission.

### Special Notes:

Submitted abstracts and submission metadata may be revised, but only before the abstract submission deadline. To do so, return to the submission site, click Submission > View Submissions and then select 'Return to Draft.' Once in draft status, click the edit button to open the submission and make the necessary changes. Authors then must resubmit at Step 6 for the submission to be eligible for consideration.

Authors having trouble submitting abstracts electronically should contact ScholarOne Technical Support at [ts.acsupport@thomson.com](mailto:ts.acsupport@thomson.com), or at 434.964.4100 or (toll-free, U.S. only) 888.503.1050. Questions pertaining to the abstract or technical topics, or general inquiries concerning the program format or policies of the conference, should be directed to the appropriate Technical Program Chair or Co-Chair.

Authors will be notified of paper acceptance or rejection on or about **8 November 2012**. Instructions for preparation of final manuscripts will be provided for accepted papers.

### Final Manuscript Guidelines

Detailed instructions and guidelines for submitting papers will be made available to authors of accepted papers. Authors must submit their final manuscripts via the conference website no later than **5 March 2013**.

### "No Paper, No Podium" and "No Podium, No Paper" Policies

If a written paper is not submitted by the final manuscript deadline, authors will not be permitted to present the paper at the conference. 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. If a paper is not presented at the conference, it will be withdrawn from the conference proceedings. These policies are intended to eliminate no-shows and to improve the quality of the conference for attendees.

AIAA will not consider for presentation or publication any paper that has been or will be presented or published elsewhere. Authors will be required to sign a statement to this effect.

Please note: AIAA policy precludes an abstract or paper from being submitted multiple times to the same conference. Also, once a paper has been published, by AIAA or another organization, AIAA will not republish the paper. Papers being submitted to the Student Paper Competition being held in conjunction with this conference may not be submitted to the general sessions. Author(s) must choose to submit to the Student Paper Competition OR to the conference. If your paper is selected for competition it will be published along with the conference proceedings.

### WARNING—Technology Transfer Considerations

Prospective authors are reminded that technology transfer guidelines have considerably extended the time required for review of abstracts and completed papers by U.S. government agencies. Internal (company) plus external (government) reviews can consume 16 weeks or more. Government review if required is the responsibility of the author. Authors should determine the extent of approval necessary early in the paper preparation process to preclude paper withdrawals and late submissions. The conference technical committee will assume that all abstracts papers and presentations are appropriately cleared.

### 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.

## Travel and Accommodations

### Meeting Site

Daytona Beach, Florida, is famous for its beaches and motorsports, but the area also offers an abundance of shopping, nightlife, cultural events, and sporting activities, making it the perfect family vacation spot. The beaches in the Daytona Beach area are always open and free to pedestrians! Cars are allowed on the beach in designated areas from sunrise to sunset depending on tidal conditions. Major Central Florida attractions located within driving distance from Daytona Beach include Walt Disney World (74 miles), Sea World (66 miles), and NASA Kennedy Space Center (51 miles). For more information, visit [www.daytonabeachvb.org](http://www.daytonabeachvb.org).

### Hotel Information

This event will be held at the Hilton Daytona Beach Oceanfront Resort, 100 N. Atlantic Ave., Daytona Beach, Florida 32118, Phone: +1.386.254.8200. Room rates are \$129 per night. Cabana rooms are available for \$229 per night. There is complimentary Internet access in all rooms. When making your reservation, please identify yourself as being with the PIA/AIAA conference. These rooms will be held for AIAA until 22 February 2013 or until the block is full. After 22 February 2013, any unused rooms will be released to the general public. You are encouraged to book your hotel room early. Government Employees—There are a limited number of sleeping rooms available at the government per diem rate. Government I.D. is required upon check-in.

### Airport Information

Daytona Beach is within driving distance of three airports:

- Daytona Beach International Airport (DAB) – 5 miles/10 minutes from the hotel
- Orlando International Airport (MCO) – 70 miles/70 minutes from the hotel
- Jacksonville International Airport (JAX) – 95 miles/90 minutes from the hotel



## Special thanks to the 2013 Organizing Committee

**22nd AIAA Aerodynamic  
Decelerator Systems  
Technology Conference and  
Seminar**

**General Chair**

**Ben Tutt**  
HDT Airborne Systems  
ben.tutt@hdtglobal.com

**Technical Program  
Co-Chairs**

**Oleg Yakimenko**  
Naval Postgraduate School  
oayakime@nps.edu

**Aaron Morris**

Booz Allen Hamilton  
aaron.l.morris@nasa.gov

**Administrative Chair**

**Ignatius Kapp**  
Performance Designs, Inc.  
kappie@performancedesigns.com

**Seminar Chair**

**Glen Brown**  
HDT Engineering Services, Inc.  
glen.brown@hdtglobal.com

**AIAA Balloon Systems  
Conference**

**General Chair**

**Debbie Fairbrother**  
NASA Goddard Space Flight  
Center – Wallops Flight Facility  
debora.a.fairbrother@nasa.gov

**Technical Program Chair**

**Mike Fortenberry**  
Southwest Research Institute  
mfortenberry@swri.edu

**20th AIAA Lighter-Than-Air  
Systems Technology Conference**

**General Chair**

**Brandon T. Buerge**  
Wichita Analytical Group, LLC  
bbuerge@WichitaAnalyticalGroup.com

**Technical Program Chair**

**Mark E. Beyer**  
Wichita Analytical Group, LLC  
mbeyer@WichitaAnalyticalGroup.com



*The World's Forum for Aerospace Leadership*

AIAA is the world's largest technical society dedicated to the global aerospace profession. With more than 35,000 individual members worldwide, and 90 corporate members, AIAA brings together industry, academia, and government to advance engineering and science in aviation, space, and defense.

**American Institute of  
Aeronautics and Astronautics**  
1801 Alexander Bell Drive, Suite 500  
Reston, VA 20191-4344  
703.264.7500 or 800.639.AIAA (2422)  
Fax: 703.264.7657  
custserv@aiaa.org  
www.aiaa.org





**22nd AIAA Aerodynamic Decelerator Systems  
Technology Conference and Seminar**

**AIAA Balloon Systems Conference**

**20th AIAA Lighter-Than-Air  
Systems Technology Conference**



**25–28 March 2013  
Hilton Daytona Beach  
Oceanfront Resort  
Daytona Beach,  
Florida**



**1st Announcement/Call for Papers**  
**Abstract Deadline: 5 September 2012**  
**[www.aiaa.org/daytona2013](http://www.aiaa.org/daytona2013)**

  
*The World's Forum for Aerospace Leadership*

# Synopsis

AIAA is pleased to announce the co-located 22nd AIAA Aerodynamic Decelerator Systems Technology Conference and Seminar, AIAA Balloon Systems Conference, and 20th AIAA Lighter-Than-Air Systems Technology Conference, to be held 25–28 March 2013 at Hilton Daytona Beach Oceanfront Resort in Daytona Beach, Florida. This event provides an unrivaled opportunity to gather the world's leading parachute and flexible structure scientists, engineers, researchers, and managers from all over the globe for technical interchange and technology advancement.

Event participants will:

- **Present** recent advances before a knowledgeable international audience
- **Educate** industry customers and providers on their latest research and product developments
- **Extract lessons learned** from past system applications and programs to result in increased technical success, cost savings, and schedule savings for current or ensuing projects or programs
- **Network** to engage new contacts and refresh old ones
- **Recognize** significant achievements from within the community

The co-location of these related AIAA events provides attendees with a unique opportunity to expand their knowledge of technological advances of these interrelated disciplines and explore areas of common technical expertise.

## Seminar

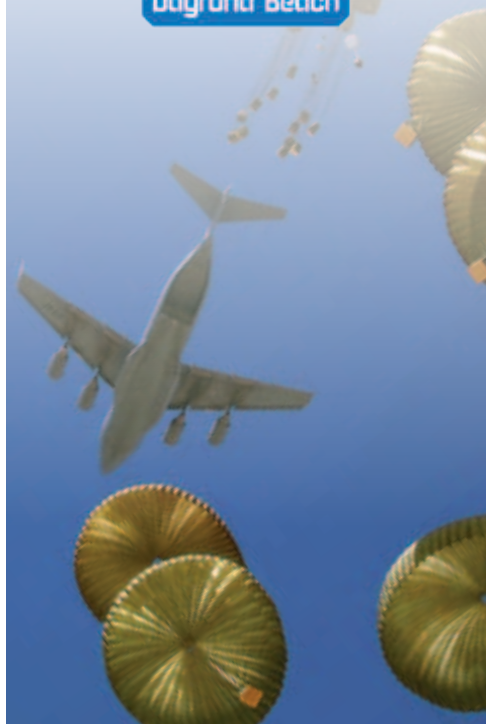
On Monday, 25 March 2013, the ADS Technical Committee will host a one-day seminar on Entry, Descent, and Landing (EDL). Engineers presently involved in EDL research, development, and flight missions will present this seminar. The objective of this seminar is to introduce the attendees to the challenges associated with EDL, the technologies used to address these challenges, and the nomenclature typically used to discuss EDL. Topics will include trajectories, hypersonic aerodynamics and aerothermodynamics, rigid and deployable aerodynamic decelerators, supersonic retropropulsion, and landing systems. The seminar will conclude with a case study of a flight mission that utilized EDL.

## Important Dates

Abstract Deadline	<b>5 September 2012</b>
Author Notification	<b>8 November 2012</b>
Final Manuscript Deadline	<b>5 March 2013</b>

## Co-located with the PIA Meeting and Symposium!

The 2013 AIAA event will be held in conjunction with the Parachute Industry Association (PIA) Meeting and Symposium! PIA's primary areas of interest are the manufacture of parachute systems and materials, along with the more hands-on aspects of rigging, maintenance, and operation. The AIAA and PIA events will complement each other by providing a broader perspective of the field of aerodynamic decelerators. Joint activities will offer interaction between the groups and increase the value to all participants! For more information on PIA, please visit [www.pia.com](http://www.pia.com).



# Technical Topics

(Complete descriptions of submittable topic areas are available on the conference website)

## 22nd AIAA Aerodynamic Decelerator Systems Technology Conference

The AIAA Aerodynamic Decelerator Systems Technology Conference provides the world's leading scientists, engineers, researchers, and managers, as well as promising students within the field of parachute and aerodynamic decelerator systems an opportunity to present recent advances before a knowledgeable international audience. Topics include, but are not limited to, the following:

- **Modeling and Simulation**
- **System Applications and Operations**
- **Testing**
- **Materials and Manufacturing**
- **Design and Development**
- **Other**

## Best Student Paper Competition

The AIAA Aerodynamic Decelerator System Technical Committee (ADS TC) is sponsoring a Best Student Paper Competition at this year's conference. Papers are sought from students on all research topics related to aerodynamic decelerators. Draft

manuscripts are required to include a brief assessment of prior work by others, an explanation of the paper's main contributions, and appropriate figures. It must include sufficient detail to allow an informed evaluation of the paper. Up to five finalists will be selected to make presentations at the conference.

Finalists will present their papers during technical sessions at the conference, and all finalists will be recognized at the conference awards dinner. All finalists will receive a \$1,250 award (to offset travel expenses and conference registration) and a complimentary ticket to the awards dinner after attending and presenting their paper. An overall best paper and presentation will be selected from the finalists, and the overall winner will be presented with an additional \$1,250 prize. All prizes are provided by the ADS TC.

To be eligible for the competition, the student must be the primary author of the paper and the work must have been performed while the author was a student. The student author must also: 1) be an enrolled student in January 2013; 2) be a member of AIAA; 3) present the paper at the

conference; and 4) along with the final paper, include a cover letter from his/her advisor stating that the student did the majority or a significant amount of the research in question.

Students should submit their abstract by **5 September 2012** according to the regular conference rules and indicate "Technical Paper Eligible for Student Paper Competition" at the time of electronic submittal. All student authors will be notified of their status on or about 8 November 2012. An electronic copy of the final paper must be submitted for scoring to the competition chair, Nathan Slegers, at [slegers@mae.uah.edu](mailto:slegers@mae.uah.edu), by **5 February 2013**. The final paper must be submitted electronically by **5 March 2013** according to the regular conference rules. Note that the deadline for submittal to the competition chair is earlier than the conference final manuscript deadline. Scoring for the award will be equally based on written paper content and oral presentation at the conference.

Questions about the ADS Best Student Paper Competition should be referred to the chair, Nathan Slegers, University of Alabama in Huntsville, at [slegers@mae.uah.edu](mailto:slegers@mae.uah.edu).



## **AIAA Balloon Systems Conference**

The AIAA Balloon Systems Conference provides a forum for the world's leading experts, scientists, and engineers in free flight balloon systems technologies to present recent advances in the field. Technical papers are being solicited in all areas consistent with the stated purpose of the conference and that touch on any aspect of ballooning. Papers on design, analysis, projects, programs, systems, software, operations, materials, and other related topics are encouraged. Topics may range from basic research and development to applied and advanced technologies. Topics include, but are not limited to, the following:

- **Modeling and Simulation**
- **Materials and Manufacturing**
- **Flight Operations**
- **Balloon System Applications**
- **Near Space/High Altitude Opportunities**

## **20th AIAA Lighter-Than-Air Systems Technology Conference**

Interest in the potential of lighter-than-air (LTA) systems to meet modern requirements continues to grow as fuel prices and the cost of conventional aircraft transportation infrastructures increase. An added incentive to airship and aerostat development comes from the worldwide concern over the negative environmental effects of jet aircraft on the global climate. LTA systems have become the subject of renewed interest due to their unique qualities of low energy (propulsion) needs and significant static lift, which hold potential for commercial as well as intelligence, surveillance, and reconnaissance (ISR) missions. New hybrid LTA systems that incorporate a substantial degree of dynamic lift also offer great promise for providing additional air transportation services, and access to remote regions. At the same time, major advances are being made in the development of key enabling technologies essential to the creation

and operation of long endurance, unmanned LTA systems. These topics and more will be explored by industry experts at the 20th AIAA Lighter-Than-Air Systems Technology Conference. The conference is seeking papers that best reflect the latest advances in LTA designs, systems development, and operations. Topics of greatest interest include, but are not limited to, the following:

- **Current and Planned LTA Projects, Systems, Initiatives, and Technologies**
  - **Missions and Concept of Operations (CONOPS) Analysis**
  - **Markets and Market Analysis**
  - **Flight Operations and Ground Handling**
  - **Analytical Studies and Modeling and Simulation**
  - **Systems Engineering and Optimization**
  - **Regulations and Standards**
  - **Manufacturing and Material Considerations and Methods**
- 