

**CALL FOR PAPERS**  
**The 2024 AAS/AIAA Astrodynamics Specialist Conference**  
**Omni Interlocken Resort, Denver, Colorado**  
**ABSTRACT DEADLINE: April 12, 2024**

The 2024 AAS/AIAA Astrodynamics Specialist Conference (ASC-2024) will be held August 11 - 15, 2024 at the Omni Interlocken Resort in Denver, Colorado. ASC-2024 conference is organized by the American Astronautical Society (AAS) Space Flight Mechanics Committee and co-sponsored by the American Institute of Aeronautics and Astronautics (AIAA) Astrodynamics Technical Committee. Manuscripts are solicited on topics related to space-flight mechanics and astrodynamics, including but not necessarily limited to:

- Asteroid and interplanetary mission design
- Cislunar astrodynamics
- Atmospheric re-entry guidance and control
- Attitude dynamics, determination and control
- Attitude-sensor and payload-sensor calibration
- Dynamical systems theory applied to space flight problems
- Earth orbital and planetary mission studies
- Machine learning and artificial intelligence applied to space flight, space autonomy
- Orbital dynamics, perturbations, and stability
- Orbit determination and estimation
- Orbital debris and space environment
- Rendezvous, relative motion, proximity operations
- In-space assembly, manufacturing, and space robotics
- Satellite constellations and formations
- Spacecraft guidance, navigation and control (GNC)
- Space Domain Awareness (SDA) and space-surveillance
- Trajectory / mission / maneuver design and optimization

Manuscripts will be accepted based on the quality of the extended abstract, the originality of the work and/or ideas, and the anticipated interest in the proposed subject. Submissions that are based on experimental results or current data, or report on ongoing missions, are also of interest. Complete manuscripts are required before the conference. English is the working language for the conference.

### **SPECIAL SESSIONS**

Proposals are being considered for suitable special sessions, such as a session theme and topical panel discussions. A proposal for a panel discussion should include the session title, a brief description of the discussion topic(s), and a list of the speakers and their qualifications. For a themed session a proposal should include the session title, a brief description, and a list of prospective speakers and paper titles. Prospective special session organizers should submit their proposals to the Technical Chairs by March 22, 2024.

## MANUSCRIPT SELECTION PROCESS

The extended abstracts will be reviewed by a team of reviewers appointed by the program committee. The conference chairs will inform the authors of the acceptance of their papers within 3-5 weeks. Instructions about preparing the extended abstract to enhance the chances of acceptance are provided in the information for the authors. Acceptance notifications, depending on the author's preferred presentation format and the available program modalities (oral presentation vs. poster presentation) will be sent to the authors by May 10, 2024.

## BREAKWELL STUDENT PAPER AWARD

The AAS Space Flight Mechanics Committee announces the John V. Breakwell Student Paper Award. This award provides travel expenses for up to four (4) U.S. and Canadian students presenting at the conference. Students will receive monetary support (up to \$1000) to attend the conference depending upon the conference format. The award applications have the same due date as the extended abstracts. Students wishing to apply for this award are strongly advised to submit their completed manuscript by the abstract deadline. Details and applications may be found on the conference website.

## INFORMATION FOR AUTHORS

The extended abstracts submitted by the deadline of **April 12, 2024** will be reviewed and considered for acceptance by the conference organizing committee. The organizers may extend the submission deadline by a week or so, however, the authors are requested to prepare and submit their submissions by the deadline posted above. The conference planning schedule does not allow delays. Notification of acceptance will be sent via email by May 10, 2024. Detailed author instructions will be sent by email after acceptance. By submitting an abstract, the author affirms that the manuscript's majority content has not been previously presented or published elsewhere.

Authors may access the web-based abstract submittal system using the link available via the official website <http://www.space-flight.org>. During the online submission process, authors are expected to provide:

1. A paper title, as well as the name, affiliation, postal address, telephone number, and email address of the corresponding author and each co-author
2. An extended abstract in the Portable Document File (PDF) format of at least 500 words that includes the title and authors; provides a clear and concise statement of the problem to be addressed; the proposed solution method; the results expected or obtained; and an explanation of its significance to astrodynamics and/or space-flight mechanics, with pertinent references and supporting tables and figures as necessary. The authors are requested to provide sufficient detail in the extended abstract to aid the reviewers in making an accurate assessment of the potential of the contributions, the originality of the work and/or ideas, and the anticipated interest in the proposed subject.
3. A condensed abstract (100 words) to be included in the conference program. This is directly typed into the text box provided on the web page and avoids the use of special symbols or characters, such as Greek letters.

4. A preference on whether the authors would like to present their work as an oral presentation, poster presentation or in either format.

Foreign contributors requiring an official letter of acceptance for a visa application should contact the Technical Chairs by email at their earliest opportunity following paper acceptance.

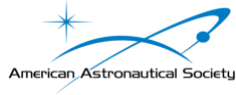
**Innovative Presentation Formats.** The conference organizers are in active discussions with the venue administration to organize interactive presentation formats. A poster presentation format is being planned, which allows interactive exposition of ideas. A student paper competition is also being planned. More details on the poster presentation and the student paper competitions will be made available on the conference website. Author inputs about their preference about presentation modality will be requested at the time of the abstract submission. If multiple presentation formats are employed by the conference, the paper may be accepted to be presented in either of the formats (oral presentation or poster presentation). The organizers cannot guarantee that all submissions will be accepted in the format preferable to the respective authors. Submissions to the poster presentation and student paper competition will be accompanied with a conference paper publication.

**Technology Transfer Notice.** Technology transfer guidelines substantially extend the time required to review abstracts and manuscripts by private enterprises and government agencies. To preclude late submissions and withdrawals, it is the responsibility of the author(s) to determine the extent of necessary approvals prior to submitting an abstract.

**No-Paper/No-Presentation Policy.** A complete manuscript must be electronically uploaded to the website prior to the conference in PDF format. The manuscript shall be no more than twenty (20) pages in length and conform to the AAS manuscript format. MS Word and LaTeX templates for the AAS manuscript format will be made available on the conference website. If a complete manuscript is not received on time, then its presentation at the conference shall be forfeited. If a presentation is not made by an author at the conference, then the manuscript shall be omitted from the published proceedings.

**Notice to the Authors Regarding Conference Proceeding.** Papers accepted to the AAS/AIAA Astrodynamics Specialists Conference will be invited for publication in the Springer Link Conference Proceedings. Authors are encouraged to submit their work to *The Journal of the Astronautical Sciences* (JASS) for archival publication. JASS expects to publish a special topics section directly tied with the 2024 AAS/AIAA Astrodynamics Specialist Conference. Articles published in the JASS present significant new results, important insights, or state of the art surveys in all areas of astrodynamics, celestial mechanics, atmospheric flight mechanics, navigation and guidance, and space related sciences. Manuscripts will undergo a peer review process as outlined on <https://link.springer.com/journal/40295>.

We greatly appreciate the wide distribution of this announcement to other colleagues that may be interested, and we look forward to your participation.



Questions concerning the submission of manuscripts should be addressed to the technical chairs:

**AAS Technical Chair**

Dr. Powtawche Valerino  
NASA Marshall Space Flight Center  
powtawche.n.valerino(AT)nasa.gov

**AIAA Technical Chair**

Dr. Piyush M. Mehta  
West Virginia University  
piyush.mehta(AT)mail.wvu.edu

All other questions should be directed to the General Chairs:

**AAS General Chair**

Dr. John A. Christian  
Georgia Institute of Technology  
John.a.christian(AT)gatech.edu

**AIAA General Chair**

Dr. Alinda Mashiku  
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