

CALL FOR PAPERS
The 34th AIAA/AAS Space Flight Mechanics Meeting
Hyatt Regency Orlando, Orlando, Florida
ABSTRACT DEADLINE: May 25, 2023

The 34th Space Flight Mechanics Meeting will be held January 8-12, 2024 at the Hyatt Regency Orlando in Orlando, Florida in conjunction with the 2024 AIAA Science and Technology Forum and Exposition (2024 AIAA SciTech Forum). The meeting is co-sponsored by the Astrodynamics Technical Committee of the American Institute of Aeronautics and Astronautics (AIAA) and by the Space Flight Mechanics Committee of the American Astronautical Society (AAS).

We greatly appreciate the wide distribution of this announcement to other colleagues that may be interested, and we look forward to your participation. Manuscripts are solicited on topics related to space flight mechanics and astrodynamics, including, but not limited to:

- Dynamical Systems Theory for Space Flight
- Machine Learning and Artificial Intelligence for Space Flight
- Earth Orbital and Planetary Mission Studies
- Trajectory Maneuver Design and Optimization
- Interplanetary Mission Design
- Asteroid and Small Body Missions
- Orbital Dynamics and Debris
- Orbit Determination and Estimation
- Space Situational Awareness (*joint track with GNC*)
- Cislunar Astrodynamics, Missions, and Operations
- Attitude Dynamics, Determination, and Control
- Satellite Constellations, Formations, and Relative Motion
- Satellite Rendezvous and Proximity Operations
- In-Space Assembly, Manufacturing, and Space Robotics
- Special Session: Space Maneuver and Logistics

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 that report on ongoing missions, are also of interest. Contributions from industry, government, and academia are all encouraged. Papers are also encouraged that include multidisciplinary efforts, as well as international collaborations. Complete manuscripts are required before the conference. English is the working language for the conference. Additional and up-to-date information can be found at the conference website <https://www.aiaa.org/scitech/>. This website also links to the abstract and manuscript submission process, which can be accessed via the *Presentations & Papers* link.

SPACE SITUATIONAL AWARENESS JOINT TRACK WITH GNC

This joint track, co-hosted by the GNC and Astrodynamics Technical Committees, invites papers on Space Situational Awareness (SSA). Papers that address topics such as machine learning techniques for SSA; uncertainty quantification approaches; novel estimation techniques and multitarget tracking for SSA; novel sensing, detection, and resource allocation architectures and techniques; and conjunction analysis and threat mitigation methods are encouraged. **Submission to the joint track requires adherence to the GNC requirement of a full draft manuscript, which must include sufficient detail to allow informed evaluation by the assigned reviewers.** Extended abstracts will be returned without review. Full draft manuscripts must conform with all GNC submission requirements and be formatted in accordance with the AIAA SciTech manuscript template.

MANUSCRIPT SELECTION PROCESS

The extended abstracts will be reviewed by a team of reviewers appointed by the program committee. Instructions about preparing the extended abstract to enhance the chances of acceptance are provided in the information for the authors. Author notifications will be sent by August 25, 2023.

INFORMATION FOR AUTHORS

Extended abstracts received by the deadline of May 25, 2023 will be reviewed and considered for acceptance by the conference organizing committee. 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 submittal system using the link available via the official website <https://www.aiaa.org/scitech/>. Unless submitting to the SSA Joint Track with GN&C (in which case authors must submit a full draft manuscript, as explained above) 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) that is to be directly typed into the text box provided on the web page and avoids the use of special symbols or characters, such as Greek letters.

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.

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 AIAA SciTech manuscript format. 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.

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

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