

Call for Papers

The AIAA Structures Technical Committee and Multidisciplinary Design Optimization Technical Committee are sponsoring a special session on

Structural Optimization Application for Aircraft and Spacecraft

at

AIAA SciTech 2024

January 8-12, 2024

Hyatt Regency Orlando

Orlando, Florida

Structural optimization plays a critical role in aircraft and spacecraft design throughout a life cycle. It revolutionizes design, analysis and manufacturing of structural components and assemblies resulting in lighter and stronger multifunctional structures that not only meet challenging requirement in aeronautics and astronautics, but also reduce cost and shorten the development timeline. Tremendous opportunities exist in industry to leverage optimization methods, tools and processes for structural improvement for new and existing aircraft configurations, innovative component designs, aging fleet part replacements, extreme environment adaptation, etc. The AIAA Structures Technical Committee and Multidisciplinary Design Optimization Technical Committee seek papers of development and application on structural optimization at the component level as well as vehicle level.

Potential topics could include, but not limited to the following:

- Topology Optimization and Application
- Topography Optimization and Application
- Lattice Structure Design and Application
- Size Optimization and Application
- Shape Optimization and Application
- Design of Experiments and Application
- Machining Learning/Artificial Intelligence and Application
- Manufacturing of Optimized Structures
- Test or Certification of Optimized Structures
- Parametric Study at Vehicle Level

Extended abstracts of no less than 1,000 words are due **May 25, 2024**

Final manuscript due **December 4, 2024**

Detailed abstract preparation instructions and policies can be found at

<https://www.aiaa-scitech.org/CallForPapers/>

Make sure to select the “Special Sessions” option during submission

Please notify us if you are planning to submit an abstract. For more information contact one of the following organizers:

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Dr. Vladimir Balabanov

The Boeing Company

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Call for Papers

The AIAA Multidisciplinary Design Optimization Technical Committee is sponsoring a special session on

High-Fidelity Aeroelastic Design Optimization Applications and Benchmarks

at

AIAA SciTech 2024

January 8-12, 2024

Hyatt Regency Orlando

Orlando, Florida

Simulation and design tools for high-fidelity multidisciplinary aeroelastic analysis and optimization have been developed by engineers in industry and academia. These tools offer the potential to enable design optimization of complex aircraft configurations, but can require significant resources to develop and maintain. Recent progress using open-source frameworks for multidisciplinary optimization has lowered the barrier for broader use and development of these tools. However, there are often gaps between the aeroelastic optimization problems solved by engineers in academia and those problems that are most relevant for industry practitioners. To foster greater collaboration and communication between academic engineers and industry practitioners, the AIAA Multidisciplinary Design Optimization Technical Committee seek papers that

- Demonstrate the solution of aeroelastic optimization on benchmark problems such as the undeformed Common Research Model
- Apply novel solution strategies, methods or algorithms to solve high-fidelity aeroelastic or multiphysics optimization problems
- Propose new aeroelastic or high-fidelity multiphysics benchmark problems of interest to engineers in industry or academia

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