# Call for Papers

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

## Structural Optimization Application for Air and Space

**AIAA SciTech 2025**
January 6-10, 2025
Orlando, FL

The AIAA Structures Technical Committee and Multidisciplinary Design Optimization Technical Committee solicits papers with recent research and application on Structural Optimization at the component level as well as vehicle level. 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 machine learning, data science, design of experiments, 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.

Potential paper topics for this special session include but are not limited to **development and application** of the following technologies at **aircraft and spacecraft component and vehicle level**:

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

The committee welcomes submissions from government, industry, academic, and small businesses. All abstracts are peer-reviewed.

Extended abstracts of no less than 1,000 words are due **May 23, 2024**
Final manuscript due **December 2, 2024**

Detailed deadline information, abstract preparation instructions, and policies can be found at:
https://www.aiaa.org/SciTech/call-for-content/call-for-papers

**Make sure to select the "Structural Optimization Application for Aircraft and Spacecraft" topic option under "Structures" or "Multidisciplinary Design Optimization" technical discipline when prompted during submission.**

For more information, contact one of the following organizers:


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|---|---|---|
| Zhenning Hu | The Boeing Company | zhenning.hu@boeing.com |
| Vladimir Balabanov | The Boeing Company | vladimir.balabanov@boeing.com |

# Call for Papers

The AIAA Structures Technical Committee and Multidisciplinary Design Optimization Technical Discipline are sponsoring a Joint Session on

## Integrated Computational Materials Engineering (ICME)

**AIAA SciTech 2025**
January 6-10, 2025
Orlando, FL

This session will focus on technology advances in **Integrated Computational Materials Engineering (ICME)** and its applications in air and space structures.

Topics of interest include but are not limited to:

- Multiscale modeling and simulation techniques
- Material characterization and property prediction
- Integrated process modeling and optimization
- Design methodologies enabled by ICME
- Data-driven approaches and machine learning in ICME
- Validation and verification of ICME models
- Applications of ICME in air and space structures

The committee welcomes submissions from government, industry, academic, and small businesses. All abstracts are peer-reviewed.

Extended abstracts of no less than 1,000 words are due **May 23, 2024**
Author notification of paper acceptance on or about **August 26, 2024**
Final manuscript due **December 2, 2024**

Detailed deadline information, abstract preparation instructions, and policies can be found at:
https://www.aiaa.org/SciTech/call-for-content/call-for-papers

**Make sure to select the "Integrated Computational Materials Engineering (ICME)" topic option under "Structures" or "Multidiscipline Design Optimization" technical discipline when prompted during submission.**

For more information, contact one of the following organizers:


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