Aviation 2016 Call for Papers Supplemental Information

Regarding Special Sessions Sponsored By the

Applied Aerodynamics Technical Committee (APATC)

1. Special Session: Low Boom Activities
Low Boom discussion group will be organizing multiple sessions on low boom activities. Papers in these sessions will focus on low boom activities in industry, academia, and government.

Contact Kenrick Waithe (kenrick.waithe@gulfstream.com) for details

2. Special Session: Historically Significant/Influential Papers in Applied Aerodynamics
In this APATC sponsored invited session we are seeking to highlight AIAA publications that have had a seminal and profound influence in the applied aerodynamics community. The papers being considered have been presented at past AIAA conferences and articles published in the various AIAA Journals (e.g., AIAA Journal, Journal of Aircraft, Journal of Spacecraft and Rockets, etc.).

Organizers for this invited session are Jeremy Pinier (jeremy.t.pinier@nasa.gov), Richard Wahls (richard.a.wahls@nasa.gov) and Brian McGrath (brian.mcgrath@jhuapl.edu).

Soliciting papers showing how CFD was applied to address aerodynamic problems that arise in development programs, fielded aircraft, and in modifications to existing aircraft.

Contact Mark S. Jurkovich (mark.jurkovich@us.af.mil) for details.

4. Special Session: Aerodynamic-Structural Modeling, Optimization, and Test Techniques for Flexible Wing Technology
This special session is aimed to address multidiscipline analysis, design, optimization (MDAO) and experimental methods for performance adaptive aeroelastic wing technology.

The aircraft industry has been responding to the need for energy-efficient aircraft by redesigning airframes to be aerodynamically efficient, employing light-weight materials for aircraft structures and incorporating more energy-efficient aircraft engines. Reducing airframe operational empty weight (OEW) using advanced composite materials is one of the major
considerations for improving energy efficiency. Modern light-weight materials can provide less structural rigidity while maintaining sufficient load-carrying capacity.

Active wing shaping control of wing aeroelasticity using advanced novel control effectors can be designed to achieve drag reduction during cruise and enhanced lift performance during take-off and landing. Concepts such as variable camber continuous trailing edge flap, adaptive trailing edge, etc… are being developed as enabling technologies for performance adaptive aeroelastic wing.

The proposed session is organized along the MDAO theme “Aerodynamic-Structural Modeling, Optimization, and Test Techniques for Flexible Wing Technology” with the purpose to disseminate research results and foster technical interchange with the diverse aircraft research communities in the technical areas of aerodynamics, aeroelasticity, aeroservoelasticity, and ground test for flexible wings and active wing shaping control. The thematic organization is intended to provide a MDAO focus on this research area. Papers are sought in these technical areas that address all related aspects of flexible wing technology.

Contact Nhan Nguyen (nhan.t.nguyen@nasa.gov) for details.