

# Applied Aerodynamics

## Call for Papers: Additional Details

### Special Sessions

*Sponsored by the Applied Aerodynamics Technical Committee*

#### Commercial Supersonic Activities

There is continuing and renewed interest in addressing the technical barriers to commercial supersonic vehicles. These topics include sonic boom, airport noise, high-altitude emissions, airframe performance, propulsion performance, flexible structures, and operations. Research in computational prediction, experimental measurement, design, certification, and uncertainty quantification of these disciplines related to supersonic vehicles is requested.

**Session Contact:** [Alaa Elmiligui](#), NASA Langley Research Center

#### Separated Juncture Flow

With the release of the [NASA Juncture Flow Model](#) experimental data, there has been renewed interest in assessing/improving the ability of CFD to compute separation in junction regions. This session solicits papers that focus on separated juncture flow computations or experiments, including those that make use of the NASA Juncture Flow Model experimental data. Of particular interest on the CFD side are papers describing advanced numerical methods or algorithms, parametric studies, new or innovative models, grid adaptation, turbulence-resolving simulations, and verification/validation as it applies to separated juncture flows.

**Session Contact:** [Chris Rumsey](#), NASA Langley Research Center

#### Aircraft-Ship Dynamic Interface Virtual Environment

State-of-the-art high fidelity M&S toolset & complementary flight / sim process to provide timely, reduced cost, & fully expanded ship-helo launch & recovery envelopes (LRE), while maintaining safe certification procedure. Reliably predict LREs with focus toward operating to a range of ship classes.

**Session Contact:** [Jim Pritchard](#), NAVAIR, Aeromechanics Division

## Topics in Applied Aerodynamics Education: K-12, University, and Career

Invited presentations are being solicited on the topic of Applied Aerodynamics education at the high school, undergraduate, graduate, and professional continuing development level. Example topics could include particularly successful or innovative approaches to instruction, pedagogical / sociological / psychological aspects affecting good instruction, proposed curricular reform, addressing demographic achievement and career retention gaps in aerodynamics, career retrospectives / lessons learned from an instructor point of view on good teaching, formal and informal on-the-job mentoring and skills transfer, or thoughtful anticipation and proposed solutions of future issues in Applied Aerodynamics education.

**Session Contact:** [Nalin A. Ratnayake](#), NASA Langley Research Center

## Aerodynamics and Performance of Integrated Propellers

*Jointly Sponsored by Applied Aerodynamics Technical Committee, Aircraft Design Technical Committee, Structural Dynamics Technical Committee, and the International Scientific and Technical Soaring Organization*

This Special Session focuses on the prediction of wing-integrated propeller effects on the aerodynamics and performance of the overall system. Numerical simulations of powered wind tunnel tests with a wingtip-mounted propeller configuration are conducted and correlated to the obtained test data. Numerical models may be of any fidelity level. Although the primarily researched, generic configuration is a wingtip-mounted propeller on a high-aspect-ratio wing representative of the X-57 Maxwell, papers/presentations on similar configurations are also welcome. Presentations with and without paper are both welcome.

**Session Contacts:** [Juergen Rauleder](#), Technical University of Munich, and [Rick Hooker](#), Lockheed Martin Aeronautics

## Aircraft Drag Decomposition - Theory & Application

*Jointly Sponsored by Applied Aerodynamics Technical Committee and Fluid Dynamics Technical Committee*

**Session Contact:** [Sven Schmitz](#), Pennsylvania State University

## Joint Experimental-Computational Efforts in High-Speed FSI

*Jointly Sponsored by Applied Aerodynamics Technical Committee and Fluid Dynamics Technical Committee*

**Session Contact:** [Katya Casper](#), Sandia National Laboratories

## Hypersonic Lessons Learned and Current Activities

**Session Contact:** [Martiqua Post](#), United States Air Force Academy