

## Advances in CFD methods for Aeroelastics

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State-of-the-art RANS methodologies are now a mature and trusted tool for aerodynamic design and analysis of aerospace systems, over a significant range of the flight envelope. Despite the availability of such capability, further advances are necessary to enable CFD level aerodynamics for routine, multidisciplinary, analysis of aircraft loads and dynamic aeroelastic phenomena. The former presents a significant challenge due to the large number of load cases considered during the development of a new vehicle – these can easily exceed  $10^5$  different load cases; the latter require the capability of solving transient problems, often leading to limit-cycle oscillations when nonlinearities are present in the system.

This symposium offers a platform for researchers developing numerical methods that facilitate the adoption of CFD in loads & aeroelastics, to communicate the latest advancements in the field. Applications of interest include, among others, fixed-wing aircraft, rotorcraft, wind/marine turbine applications. New methodologies for model-order reduction, efficient nonlinear structural and/or aerodynamics models, and robust fluid-structural coupling, all of which expand the use and/or accuracy of CFD in the prediction of loads and aeroelastics, are of particular interest.