

# Preface

This volume contains the papers presented at the 20th DGLR/STAB-Symposium held in Braunschweig, Germany (November 8–9, 2016), organized by the Institute of Fluid Mechanics of the Technische Universität Braunschweig. STAB is the German Aerospace Aerodynamics Association (Deutsche Strömungsmechanische Arbeitsgemeinschaft) founded towards the end of the 1970s, whereas DGLR is the German Society for Aeronautics and Astronautics (Deutsche Gesellschaft für Luft- und Raumfahrt - Lilienthal Oberth e.V.).

The mission of STAB is to foster aerodynamics research and its appreciation in Germany. This is accomplished by creating vivid forums for scientific discussions and by disseminating most recent research results, thereby enhancing scientific progress and avoiding unnecessary duplication in research work. Particularly today, this is more crucial than ever. Thanks to the experience and methodologies gained in the past, it is now easier to obtain new knowledge for solving today's and tomorrow's problems. STAB unites German scientists and engineers from universities, research establishments and the industry, involved in research and project work in the field of numerical and experimental fluid mechanics and aerodynamics for aerospace, ground transportation and other applications. This is a solid basis for numerous common research activities sponsored by different funding agencies.

Since 1986, the symposium has taken place at different locations in Germany every two years. In between, STAB workshops have been held regularly at the DLR in Göttingen. The various symposia locations across Germany represent focal points in Germany's Aerospace Fluid Mechanics Community. The STAB symposia and workshops provide excellent forums where new research activities can be presented, often resulting in new jointly organized research and technology projects.

It is the eleventh time that the contributions to the symposium are published after being subjected to a peer review. The present contributions highlight the current key area of integrated research and development based on the fruitful collaboration of industry, research establishments and universities. The research areas include

airplane and ground vehicle aerodynamics, multidisciplinary optimization and new configurations, turbulence research and modelling, laminar flow control and transition, rotorcraft aerodynamics, aeroelasticity and structural dynamics, numerical and experimental simulation including test techniques, aeroacoustics as well as biomedical and convective flows.

From some 77 lectures presented at the symposium, 67 are included in this book.

The review board, partly identical with the programme committee, consisted of:

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Nevertheless, the authors are responsible for the contents of their contributions.

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