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Anthony D. Lucey · Lixi Huang ·
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Fluid-Structure-Sound Interactions and Control

Proceedings of the 5th Symposium
on Fluid-Structure-Sound Interactions
and Control

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Preface

The present volume is a selection of peer-reviewed extended contributions after the 5th Symposium on Flow-Structure-Sound Interactions and Control (FSSIC) held from 27 to 30 August 2019 at the Minoa Palace Resort in Chania, Crete Island, Greece, www.smartwing.org/FSSIC2019. The symposium was attended by 125 participants amongst most renowned scientists in the field worldwide and comported three keynote and eight plenary lectures.

The present volume largely focuses on advances in the theory, experiments, and numerical simulations of turbulence in the contexts of flow-induced vibration, noise and their control. This includes important practical areas of interaction, such as the aerodynamics of road and space vehicles, marine and civil engineering and nuclear reactors and biomedical science. One of the special features of this book is that it integrates acoustics with the study of flow-induced vibration, which is not common practice but is scientifically very helpful in understanding, simulating and controlling fluid–structure–sound interaction systems. This offers a broader view of the discipline from which readers will benefit greatly.

Turbulence clearly has a significant impact on many such problems. On the other hand, new possibilities are emerging with the advent of various new science and technologies such as signal processing, flow visualisation and diagnostics, new functional materials, sensors and actuators, machine learning and artificial intelligence. These have enhanced interdisciplinary research activities, and it is in this context that the 5th Symposium on Fluid-Structure-Sound Interactions and Control (FSSIC) was organised. The meeting provided a forum for academics, scientists and engineers working in all related branches to exchange and share the latest progress, ideas and advances—having brought them together from both East and West to chart the frontiers of FSSIC. A general outcome was that the participants learned much from one another, and this meeting brought new research ideas and new interdisciplinary concepts in FSSIC field.

The editors acknowledge the contribution of Dr. Abderahmane Marouf for the creation and maintenance of the FSSIC2019 symposium website as well as for the full papers final editing in the present volume. They acknowledge the contribution of Drs. Jan Vos and Dominique Charbonnier for the symposium logistics and express

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