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## Preface

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**Biographical notes:** Huajiang Ouyang received a BEng in Engineering Mechanics in 1982, an MEng in Solid Mechanics in 1985 and a PhD in Structural Engineering in 1989, all from Dalian University of Technology (DUT), China. His academic career started in 1985 as an Assistant Lecturer. He became a Lecturer in 1989 and an Associate Professor in 1991 at DUT. He became a Reader in Engineering in the Department of Engineering, University of Liverpool, UK, in 2006. His research areas are structural dynamics and control, applied mechanics and numerical analysis. He has published over 100 conference and journal papers.

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Brake squeal has been with us for as long as frictional brakes have been used. Friction not only dissipates heat but also generates unwanted vibration and noise. Serious studies of brake noise can be traced to the 1930s and sophisticated finite element models of brakes first appeared during the 1980s. Despite the tremendous advancement of experimental techniques, instrumentation technology, computational mechanics and computing science in recent years, brake noise (brake squeal in particular) continues to present a huge challenge to engineers and researchers alike. People are invariably fascinated by the complexity and multi-disciplinary nature of brake squeal and often become amazed by the very commonplace object of the brake. A large amount of research work has been done and is still continuing all over the world on the cause of brake squeal, its modelling and analysis, and its mitigation and even prevention. I personally think it is time to collect the latest works in a single volume to present a comprehensive and updated treatment of this topic. This is the reason for this special issue.

When the idea of compiling this special issue was conceived, the Editor-in-Chief of IJVD, Dr. Mohammed Dorgham was very enthusiastic about it and has been so since, and Mr. Richard Sharp as Journal Manager of IJVD has been very supportive. Both Richard and Guntoor Jyothi have helped facilitate the fast publication of this issue. To them, I am very grateful.

This special issue contains 12 selected papers from well-known experts in 12 institutions. The papers cover theoretical, numerical and experimental aspects of brake squeal. They have all undergone rigorous peer-reviews: at least two reviews on each paper, and some papers have been reviewed two or even three times. Although there are different focuses, I believe every paper is of high quality and truly reflects the state-of-the-art. I do not want to elaborate on any individual papers here. It is for the

reader to find out by reading these papers. Finally, I wish to express my sincere gratitude to all contributing authors and referees for their support to me, and the professionalism and enthusiasm shown to me during the production of this special issue, without which, this special issue would not have been published.