Special Issue on Smart Devices for Structural Control

Preface

As a cutting-edge technology to protect primary structural systems against undesirable vibrations, structural control research has raised considerable interests in the past decades, leading to a great variety of development on structural control techniques and strategies. This special issue on "*Smart Devices for Structural Control*" is resulted from a special session that was organized for the 7th World Conference on Structural Control and Monitoring (7WCSCM) on 22-25 July 2018 in Qingdao, China. This special session provided an international forum for exchanging innovative ideas, identifying future perspectives and challenges, and promoting future collaborations in this promising area.

The special session contained a total of 41 papers presented in 5 separate sessions. Among them, 11 papers have been finally selected for the publication in this special issue. All the papers, subjected to the formal rigorous peer-review process of the journal, have been revised and extended from their original forms. These papers report the most recent progress in a variety of smart control devices and technologies, including semi-active magnetorheological elastomer base isolators, shape memory alloy (SMA) control devices, passive eddy current and electromagnetic dampers, a 3D pendulum tuned mass damper (TMD), SMA-TMD systems, SMA-cable-based bridge bearings, negative-stiffness vehicle suspensions, passive inertial mass dampers, semi-active impact dampers, semi-active vibration damping using the prestress-accumulation release approach, and hybrid interstory-interbuilding actuation schemes. The topics of the selected papers cover a wide spectrum from the novel designs of passive, semi-active and hybrid damping devices, new control strategies and experimental validations, to various engineering applications and state-of-the-art reviews.

As guest editors of this special issue, we are grateful to all the authors for their valuable contributions and to all the reviewers for providing high-quality and timely reviews. We would also like to thank Prof. Fabio Casciati, one of the Editors-in-Chief of *Smart Structures and Systems*, for his guidance and support in the development of this special issue.

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