



Preface

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Multibody System Dynamics is a rapidly growing and developing field of Mechanics. It has been experiencing significant increase in a variety of applications in the development of complex state of the art systems. Multibody system dynamics in general addresses computational mechanics, solid mechanics, nonlinear dynamics and control. Major developments have been taking place in several thematic areas such as Theoretical modelling, formalisms and computational methods; Flexible multibody systems; Contact and impact problems; Mechatronics, robotics and control; Multidisciplinary approaches; Efficient computational methods and real-time applications; Experiments and numerical verifications; Optimization, sensitivity analysis and parameter identification; Dynamics of machines; Vehicle dynamics and aerospace applications; Biomechanics; and various other topics.

The Ecomas Thematic Conference on Multibody Dynamics is a biannual conference series; it was established in 2003 with its inaugural edition in Lisbon, Portugal. The following editions of the series took place in Madrid (2005), Milan (2007), Warsaw (2009), Brussels (2011), Zagreb (2013), Barcelona (2015), Prague (2017), Duisburg (2019), and Budapest (2021 online). The conference series serves as a prime opportunity for researchers and professionals worldwide to exchange ideas in multibody dynamics concerning theoretical aspects, computational approaches, and in applied research such as vehicle dynamics, robotics, mechatronics, and biomechanics. The conference provides an excellent platform for sharing novel ideas within the continuously growing multibody community. This is, therefore, a privileged ground for the dissemination of new developments in multibody dynamics.

This thematic issue is dedicated to the 10th ECOMAS Thematic Conference on Multibody Dynamics. The conference took place December 12–15, 2021 online. The conference was originally scheduled to take place as a regular in-person event in Budapest, Hungary. However, the circumstances of the Covid-19 pandemic forced it to be an online event. The conference covered all areas of multibody dynamics and included 145 contributed presentations from 27 countries.

We were invited to organize a Thematic Issue of Multibody System Dynamics from the excellent, mature contributions presented at the conference to reflect the new developments

This article appeared in the wrong Issue. The preface is part of the Special Issue on 10th ECCOMAS Multibody Dynamics (Volume 57 Issue 3-4) that was published in April 2023. Accidentally, it was not included in the correct Issue.

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in the different areas that contribute to Multibody Dynamics. We invited authors to submit full manuscripts to the journal describing the novel contributions representative of the advances in the field. These manuscripts underwent the rigorous peer review process that is a hallmark of this journal. Among the manuscripts accepted, we selected 10 contributions for inclusion in the thematic issue. These give a representative cross section of the novel developments in the topics presented at the conference. Several other papers submitted to the thematic issue, and accepted after peer-reviewing, are being published in regular issues of the journal. We hope you enjoy reading all papers that resulted from the excellent research contributions presented at 10th Ecomas Thematic Conference on Multibody Dynamics.

Declarations

Competing Interests The authors declare no competing interests.

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