

Preface

The MUSME 2014, IFToMM-FelbIM–International Symposium on Multibody Systems and Mechatronics is the fifth event of a series that was started in 2002 as a conference activity mainly for promoting these topics in South American community. The first event was held at Universidad Panamericana de la Ciudad de México, Mexico in May 2002, the second was held at Federal University of Uberlandia, Brazil in March 2005, the third was hosted at Universidad Nacional de San Juan, Argentina, in April 2008, and the fourth was celebrated at Universidad Politecnica de Valencia, Spain, in October 2011. This year the MUSME event has come to SUNEI (Sistema de Universidades Estatales de Oaxaca) at UMAP Campus Huatulco, Oaxaca, under the auspices of Instituto Politecnico Nacional (IPN) and Universidad Autonoma de Queretaro, Mexico.

The MUSME aim was decided at the funding meeting in 2002 as: a conference stimulating integration between Mechatronics and Multibody Systems Dynamics disciplines; a forum for facilitating contacts among research people and students; and a match conference for communities from IFToMM (International Federation for the Promotion of Mechanism and Machine Science) and FelbIM (Federación Iberoamericana de Ingeniería Mecánica). In addition, since the beginning it has been considered preferable to have the MUSME Symposium in a location within South America, but without neglecting the possibility to bring MUSME in other parts of the world, since it is supported both by IFToMM and FelbIM.

The aim of the MUSME Symposium is to bring together researchers, industry professionals, and students from a broad ranges of disciplines referring to Mechatronics and Multibody Systems, in an intimate, collegial, and stimulating environment. Again, in the 2014 MUSME event we received a significant attention to the initiative, as can be seen by the fact that this Proceedings volume contains contributions by authors from all over the world.

The Proceedings volume of the MUSME Symposium is published within the Springer series on MMS (Mechanism and Machine Science) and contains 53 papers that have been selected from 63 submitted papers after peer review for oral

presentation. The accepted papers cover several aspects of the wide field of Multibody Systems and Mechatronics. Special attention has been given to organizing student sessions with good works from young researchers, who are still in the formation process.

This is the first time that the Proceedings is published by Springer whereas the previous proceedings were published as CD proceedings that nevertheless are available at the hosting institutions.

We would like to express grateful thanks to the members of the International Scientific Committee for MUSME Symposium for cooperating enthusiastically for the success of the MUSME 2014 event:

Prof. Marco Ceccarelli (Chair), Italy
Prof. Mario Acevedo, Mexico
Prof. Jorge A.C. Ambrósio, Portugal
Prof. Alberto Cardona, Argentina
Prof. Osvaldo H. Penisi, Argentina
Prof. João Carlos M. Carvalho, Brazil
Prof. Javier Cuadrado, Spain
Mario Fernandez Fernandez, Chile
Prof. Manfred Husty, Austria
Prof. Tatu Leinonen, Finland
Prof. Vicente Mata, Spain
Prof. Carlos Munares, Perú
Prof. Pietro Fanghella, Italy

We thank the authors who have contributed with interesting papers in several subjects, covering many fields of Multibody Systems and Mechatronics and, additionally, for their cooperation in revising papers in a short time in agreement with the reviewers' comments. We are grateful to the reviewers for the time and effort they spent in evaluating the papers with a very tight schedule that has permitted the publication of this Proceedings volume in time for the symposium event.

We thank Rector Modesto Seara Vazquez for accepting to host the MUSME 2014 event at SUNEI. We thank our colleagues for their help at the LARM Laboratory of Robotics and Mechatronics of University of Cassino and at the ESIME Ticoman del Instituto Politecnico Nacional. We thank the Director of ESIME Ticoman, Javier Roch Soto. We thank COFAA-IPN for its economic support for some activities of the MUSME event.

We also thank the auspices of IFToMM (International Federation for the Promotion of Mechanism and Machine Science) and FeIbIM (Federación Iberoamericana de Ingeniería Mecánica).

We thank the publisher and Editorial staff of Springer for accepting and helping the publication of this Proceedings volume, since the early step in 2012.

We are grateful to our families since without their patience and comprehension it would not have been possible for us to organize MUSME 2014, IFToMM-FeI-bIM–International Symposium on Multibody Systems and Mechatronics and this Proceedings volume.

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