

# Mechanisms, Transmissions and Applications

# MECHANISMS AND MACHINE SCIENCE

Volume 3

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Editors

# Mechanisms, Transmissions and Applications

 Springer

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# Preface

The first Workshop on Mechanisms, Transmissions and Applications - MeTrApp-2011 is organized by the Mechatronics Department at the Mechanical Engineering Faculty, “Politehnica” University of Timisoara, under the patronage of the IFToMM Technical Committees Linkages and Mechanical Controls (old Mechanical Transmission) and Micromachines.

The workshop aims to bring together researchers and students who develop their work in disciplines associated with Mechanisms Science in a friendly, colleague-like and collaboration environment. MeTrApp-2011 offers a great opportunity for scientists all over the world to present their achievements, exchange innovative ideas and create solid international links. The scientific event is meant to gather the novelty and originality in Mechanisms Science and its application and to depict the trend of this important and creative field.

The topics proposed for the Workshop are Mechanisms and Machine Design, Mechanical Transmissions, Mechatronic and Biomechanic Applications, Computational and experimental methods, History of Mechanisms and Mechanisms Science and Teaching Methods.

MeTrApp-2011 received 29 papers which were carefully reviewed by at least two prestigious reviewers chosen from the international academic or scientific communities. A number of 26 papers were accepted for publication and presentation during the workshop.

We would like to express grateful thanks to IFToMM International Federation for the Promotion of Mechanism and Machine Science, to the Romanian IFToMM National Committee ARoTMM and the members of the International Scientific Committee of MeTrApp-2011.

We appreciate the effort of the reviewers gathered in the International Scientific Committee of MeTrApp-2011. They spent time for a serious work of evaluation and improvement guidance, meant to assure a high quality of all papers.

We thank to the authors who contributed valuable papers on different subjects, covering a wide scientific area of the Mechanisms and Machine Science.

We thank to the “Politehnica” University of Timisoara, Mechanical Engineering Faculty and Mechatronics Department for hosting the scientific event and supporting all associated activities. The First Workshop on Mechanisms, Transmissions and Applications became a real event due to an enthusiastic and hard-working

organizing team: Dan Perju, Inocentiu Maniu, Iosif Carabas, Valer Dolga, Corina Gruescu, Valeria Vacarescu, Mesaroş-Anghel Voicu, Nicolae Mircea Dehelean, Dan Margineanu, Steliana Vatau and Valentine Ciupe.

Last, but not least we are grateful to the staff at Springer Publishers for their excellent technical and editorial support. Special thanks go to Mrs. Nathalie Jacobs, Senior Publishing Editor.

Timișoara, Romania  
Aachen, Germany  
July 2011

Erwin-Christian Lovasz  
Burkhard Corves



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