Preface

The present book gathers up-to-date contributions in the field of mechanisms, mechanical transmissions, robotics and mechatronics. The topics developed within this volume are as follows: analysis and synthesis of mechanisms, dynamics of mechanisms and machines, mechanical transmissions, biomechanics, precision mechanics, mechatronics, micromechanisms and microactuators, computational and experimental methods, CAD in mechanism and machine design, mechanical design of robot architecture, parallel robots, mobile robots, micro- and nanorobots, sensors and actuators in robotics, intelligent control systems, biomedical engineering, teleoperation, haptics and virtual reality.

The results reported in the papers were discussed at MTM & Robotics 2016—The Joint International Conference of the XII International Conference on Mechanisms and Mechanical Transmissions (MTM) and the XXIII International Conference on Robotics (Robotics), held in Aachen, Germany, on 26 October–27 October 2016. All 58 submitted contributions were carefully reviewed and selected for the presentation and publication by independent reviewers and the members of the International Scientific Committee. As a result of the two-stage review process, 49 contributions were selected for the presentation at the conference and publication in this book.

The previous editions of the two conferences were held in Romania, beginning in 1972, every four years until 2012, when the joint international conference was organized outside Romania for the first time at Institute Pascal, Clermont-Ferrand, France.

MTM & Robotics 2016 was organized by the Department of Mechanism Theory and Dynamics of Machines at RWTH Aachen University and the Department of Mechatronics at University Politehnica Timisoara, with the support of IFToMM Germany, the Romanian Association for Theory of Machines and Mechanisms (ARoTMM) and the Robotics Society of Romania (RSR).

We are grateful to the authors for their contributions and to the reviewers for their recommendations as improvement guidance for the selected papers. Special thanks go to our Keynote speakers, Prof. Gosselin (University Laval), Prof. Schmitt (RWTH Aachen University), Dr. Nefzi (Carl Zeiss AG) and Dr. Harmeling
(Karl Mayer GmbH), for their valuable and inspiring contributions to the scientific programme. We would like to express thanks to the International Federation for the Promotion of Mechanism and Machine Science (IFToMM) and to the Robotics Society of Romania (RSR). We also thank to the members of the Organizing Committee of MTM & Robotics 2016 and to Springer Publishers for their excellent technical and editorial support.

Aachen, Germany
Timișoara, Romania
Aachen, Germany
Timișoara, Romania
Timișoara, Romania
June 2016

Burkhard Corves
Erwin-Christian Lovasz
Mathias Hüsing
Inocentiu Maniu
Corina Gruescu
New Advances in Mechanisms, Mechanical Transmissions and Robotics
Proceedings of The Joint International Conference of the XII International Conference on Mechanisms and Mechanical Transmissions (MTM) and the XXIII International Conference on Robotics (Robotics '16)
Corves, B.; Lovasz, E.-C.; Hüsing, M.; Maniu, I.; Gruescu, C. (Eds.)
2017, XVII, 497 p. 275 illus., Hardcover
ISBN: 978-3-319-45449-8