

Preface

The present book presents advanced contributions in the domain of robotics, mechatronics, mechanisms and mechanical transmissions. The next subjects are covered: serial and parallel robots, intelligent control systems, mobile robots, intelligent control systems and the related applications in planar and spatial mechanisms and mechanical transmissions, mechanical design, sensors and actuators, kinematics, dynamics analysis and synthesis of mechanisms, biomechanics, teleoperation, haptics, virtual reality, precision mechanics.

The results related in this book should interest researchers, scientists, industrial experts, teachers and students in the area of engineering related to robot and mechatronic systems design, modelling, dynamics and control.

The authors discussed their results at *ICAMaT & ROBOTICS & POLCOM 2014 – The Joint International Conference of “The 7th International Conference of Advanced Manufacturing Technologies (ICAMaT 2014), The 6th International Conference on Robotics (Robotics 2014) and International Conference of Technology for Polymeric and Composites Products (POLCOM 2014)* held in Bucharest, Romania, on October 23-24, 2014. The contributions had been strictly reviewed and selected by independent reviewers, members of the International Scientific Committee of this joint conference.

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The first scientific event in the field of Robotics in Romania was held at the University POLITEHNICA of Bucharest (UPB), in 1981, by Professor Chrisitan PELECUDI, head of the Mechanisms and Robots research and design team MERO (MEchanisms RObots) and was named "National Symposium of Robotics ". Since the first edition was held in Romania various scientific events dedicated to Robotics under the name of National Seminars (first fifteen, since 1981) and National or International Conferences (last five editions). This is the 22nd edition of these scientific events, the first three (1981, 1982, and 1983) being held at the Polytechnic University of Bucharest.

The organization of this joint conference in Bucharest at Faculty of Engineering and Management of Technological Systems in 2014 is part of a series of scientific and cultural events celebrating the 60 years of The Department of Machine Building Technology, the General Chair of the Joint Conference being the Dean of the faculty, Prof. PhD. Eng. Cristian Doicin.

We are thankful to the authors for their valuable contributions and to the reviewers for their timely reviews and recommendations as improvement guidance for selected papers. Our special thanks go to IFToMM - International Federation for the Promotion of Mechanism and Machine Science (Technical Committee for Computational Kinematics – Chair Prof. Doina Pisla and Technical Committee for Linkages and Mechanical Controls – Prof. Erwin-Christian Lovasz) as well as to the conference sponsors. We thanks also the members of Organizing Committee and to the colleagues of The Department of Machine Building Technology for the consistent and substantial effort of organizing this joint conference and the publisher Trans Tech Publications, who ensure the way to timely publication of this book with their exquisite technical and editorial support.

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The 6th International Conference on Robotics

(ROBOTICS 2014)

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