EDITORIAL OF THE SPECIAL ISSUE
NEW TRENDS IN ADVANCED ROBOTICS

DOINA PISLA, MANFRED HUSTY

This special issue of ROMANIAN JOURNAL OF TECHNICAL SCIENCES – APPLIED MECHANICS, was put together as an initiative of the Technical Committee *Computational Kinematics* which is part of IFToMM, a worldwide organization for the promotion of mechanism and machine science.

Computational Kinematics is that branch of kinematics which involves intensive computations not only of numerical type but also of symbolic nature (Angeles, 1996). Within Computational Kinematics one tries to answer fundamental questions arising in the analysis and synthesis of kinematic chains. Kinematic chains are constituent elements of serial or parallel robots, wired robots, humanoid robots, walking and jumping machines or rolling and autonomous robots.

This special issue features the whole spectrum of Advanced Robotics from deep theoretical discussions of kinematic fundamentals to the application of robotics in different fields such as surgery and advanced manufacturing. It ranges from the introduction of new representations of Euclidean displacements, the discussion of theoretical aspects of parallel robots, questions of human gait analysis to control issues of telemanipulators and compliant mechanisms.

We would like to express grateful thanks to the authors who have contributed excellent papers on different subjects, covering many fields of Advanced Robotics.

We are also grateful to the reviewers for the time and effort they spent evaluating the papers.

We believe that this issue will be a valuable contribution to the field of Advanced Robotics and a source for further development and scientific discussion within this still growing branch of mechanical engineering.

Cluj-Napoca, March 2013

Guest Editors:

Prof. Dr. Ing. Doina Pisla
Technical University of Cluj-Napoca
Faculty of Machine Building
Vice-Dean
Memorandumului 28, RO-400114 Cluj-Napoca, ROMANIA
Tel: +40-264-401613, Fax: +40-264-401765
E-mail: Doina.Pisla@mep.utcluj.ro

Univ. Prof. Dr. Manfred HUSTY
University Innsbruck
Inst.f. Basic Sciences in Engineering
Unit Geometry and CAD
Technikerstr.13, 6020 Innsbruck, AUSTRIA
Tel: +43 512 507 61200,
Fax: +43 512 507 61299
http://geometrie.uibk.ac.at/husty/

Rom. J. Techn. Sci. – Appl. Mechanics, Vol. 58, N^{os} 1–2, P. 3–4, Bucharest, 2013