Dear readers,

The current issues of “Series on Biomechanics” for 2013-vol.28, No.3-4 include papers in the field of biomechanics, presented at the 12th National Congress on Theoretical and Applied Mechanics (12th NCTAM), which was held in Varna, Bulgaria, 23rd-26th September 2013. The congress was devoted to the 100th anniversary of the birth of Academician Georgi Brankov - founder of the organized research in biomechanics in Bulgaria. The meeting was organized by the Institute of Mechanics to BAS in cooperation with the National Committee of Theoretical and Applied Mechanics. Co-organizers and sponsors of the meeting were the Bulgarian Scientific and Technical Union of Civil Engineering, Technical University of Varna, University of Architecture, Civil Engineering and Geodesy, Higher School of Civil Engineering (VSU) “Lyuben Karavelov”, University of Chemical Technology and Metallurgy, Technical University of Sofia, "Angel Kanchev" University of Ruse, Chemical Products LTD, Europian Polytechnical University and Professor Jordan Brankov. The Congress was scheduled in several scientific sessions including five plenary lectures, oral and poster presentations. More than 60 participants from Brazil, Bulgaria, France, Germany, Greece, Italy, Russia, Turkey, USA presented their recent achievements in the field of fluid mechanics, biomechanics, mechanics of multibody systems, mathematical modelling and numerical simulations, physico-chemical mechanics and solid mechanics. A joint event to the 12th NCTAM was the International Workshop on “Characterisation, Mechanics and Performance of innovative polymer nanomaterials for food packaging application”, under the COST FA0904 "Eco-sustainable food packaging based on polymer nanomaterials” MS03 FP7-BYNanoERA: Institutional Development of Applied Nanoelectromagnetics, organized by Prof. Rumiana Kotsilkova.

More than 60 participants from nine countries gathered in the beautiful St. Constantine and Elena resort near Varna for the 12th NCTAM
The session on Biomechanics at the 12th NCTAM included 15 reports and two poster presentations. The papers of the current issues are focused on the following thematic areas: mechanics of biological tissues and systems: theoretical and experimental studies and modelling; molecular and cellular biomechanics: analyses of biomolecules and cells: simulation of primary immune response of tumor cells growth and a study on the complex behavior of a miRNA model; rheology of blood and blood flow in patients with type 2 diabetes mellitus; rehabilitation biomechanics: musculoskeletal mechanics, prosthetics and orthotics; modeling and simulation: 3D numerical analysis of blood flow and common carotid artery hemodynamics in the carotid artery bifurcation without stenoses and numerical analysis of protein drugs release from lipid implants; applications of biomechanics in mechatronics and biotechnology.

On behalf the Editorial Board of the “Series on Biomechanics”

Prof. N. Antonova, PhD