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Appendix
Invitation by Editor-in-Chief of Facta Universitatis
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HONOURING THE OUTSTANDING CONTRIBUTIONS BY MIOMIR K. VUKOBRATOVIĆ AND DRAGOSLAV D. ŠILJAK ACADEMICIANS OF THE SERBIAN ACADEMY OF SCIENCES AND ARTS

Indeed I find it both rather easy and rather difficult to describe and evaluate the contributions to Science and Engineering that have been vested by these two outstanding scientists, engineers, and educators to whom this special issue is dedicated to. For the contributions of each one of them are considerable many and multifaceted at the same time, which may well be inferred form the two articles this appendix is consisted of. This note of mine points out to only two according to my personal views, one of each respectively, of the relevant broad and yet fundamental, lasting, and widely propagated contributions.

I begin with the case of Academician Vukobratović and all the robotics of his. Indeed such outstanding and ever lasting contributions can be pointed out as an extraordinary school Professor Vukobratović has developed that widely known as Belgrade School of Robotics. It encompasses a list of branches of the Science and Engineering of robotic systems ranging from exoscelletal ones to humanoid robots and from industrial manipulators to autonomous multi-functional robots. This school is represented by his collected works as well as monographs on almost all to date known issues and problems of active and robotic systems starting from the fundamental discovery of zero-moment point of walking robots (and humans too) to specifically tailored developments of mathematical modeling representations of robot dynamics and control synthesis designs for both strategic and tactical level to the delicate manipulation robot controls for dynamic contact and interaction with the proximity environment. Furthermore, Belgrade School of Robotics has contributed scientific background and engineering design and implementation of a walking exoscelletal system decades before Honda's celebrated and worldwide known Assimo.

In the case of Academician Šiljak, I do believe such outstanding and ever lasting contributions can be pointed out as an extraordinary school in Systems and Control Science Professor Šiljak has developed entailing a large list of interdisciplinary and multidisciplinary applications to various fields of Science and Engineering. This school is represented by his collected works as well as monographs on massive dynamic systems, similarity and/or symmetry interconnected or complexity composite, and their decentralized decision and control. At the same time I should emphasize these works of his have multiple impacts on a number of followers of his ideas world-wide. Moreover, we find in these works considerably many points that go far beyond Systems and Control Science in several respects, and in particular with respect to decentralized decision and control. Therefore his school in systems and control science has found applications to all sciences where dynamics has to be accounted for, to biology and ecology, and to economy and

social systems as well. Furthermore, it should be also noted, his theory of large-scale systems and their decentralized control in its own turn has made novel contribution to applied mathematics too.

In both cases, one may easily argue along the following lines. For one these fundamental contributions, respectively, are deeply rooted in sound mathematical analysis yet fully compatible with the basic natural sciences. For two, both of the underlying theoretical systems and control backgrounds employ model structures in compliance with not only feasible but also efficient, appropriate, computing architectures. For three, to the best of our awareness, both of the underlying theoretical systems and control backgrounds can compatibly accommodate the mathematically analytical and the machine intelligence science of systems and control thus giving rise to a unique synergy of both.

Finally, here I would like to express my deep appreciation to both honourable Editors-in-Chief, of the journal *Dynamic Continuous, Discrete and Impulsive Systems* (DCDIS) and of the monograph "Advances in Nonlinear Sciences II – Sciences and Applications" (ANSANS), respectively, for permitting to re-publish the respective articles demonstrating best some of the outstanding contributions by Dragoslav D. Šiljak and Miomir K. Vukobratović, respectively. My most sincere thanks are due to Professor Zoran Gajic at Rutgers University, US, and Professor Masao Ikeda at Osaka University, JP, for their consent to make use of their entire article in DCDIS 2004 on "An Overview of the Collected Works of Professor Dragoslav Šiljak", which were instrumental for the permission to republish.

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