

## Control and Cybernetics

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### On the occasion of Professor Tadeusz Kaczorek's 80th birthday

In 2012 the control community in Poland celebrated the 80th birthday of Professor Tadeusz Kaczorek, one of the most prominent scientists in control and systems theory. He is a well known and internationally recognized scientist, a member of numerous national and international scientific organizations. He is also a member of editorial boards of many international journals and book series. In recognition of the merit of his leadership in research he has been very often invited to present plenary lectures at the most important conferences in the field of control and systems, and also has given numerous talks and presentations at many universities across Europe, in the USA, Japan, and numerous other countries.

Professor Kaczorek has published over twenty monographs and almost a thousand articles and conference papers, most of them in the internationally recognized journals and publishing houses. Main scientific achievements attributed to Professor Kaczorek belong to the area of applications of matrix analysis in circuit theory, linear multidimensional systems, singular two-dimensional systems and continuous-discrete systems, positive one- and two-dimensional systems, fractional systems and positive fractional systems.

The editors of this special issue of *Control & Cybernetics* have been honoured to collaborate with Professor Tadeusz Kaczorek for almost 20 years while organizing annual editions of the International Conference on Methods and Models in Automation and Robotics. Together with other scientists from several Polish and foreign universities and research centres we have decided to take the opportunity of the birthday of Tadeusz Kaczorek to pay tribute to his outstanding contribution to the development of control and systems theory by preparing this special issue *In Honour of Professor Tadeusz Kaczorek on His 80th Birthday*.

The twelve papers appearing in this issue range from classical control problems such as optimal decoupling (V. Kučera) and controllability (J. Klamka, J. Klamka and A. Świerniak), through various problems for complicated systems such as iterative learning of 2-D systems (B. Cichy et al.), stability of continuous-time positive switched systems (E. Fornasini and M.E. Valcher), stabilization of non-linear fluid-structure interactions (I. Lasiecka and Y. Lu), modelling of non-linear chemical reaction systems (J. Němcová and J. van Schuppen), price-based coordinability of hierarchical systems (M.P. Karpowicz and K. Malinowski), designing filters for non-linear discrete-time stochastic systems (M. Witczak et al.), fuzzy dynamic programming (J. Kacprzyk), to analysis of perturbed

infinite-dimensional Sylvester equations (Z. Emirsajłow) and shape topological differentiability of energy functionals (J. Sokołowski and A. Żochowski). We are proud that that most of the subjects overlap with Professor Kaczorek's research interests, some of them to a truly significant degree.

On behalf of the authors contributing to this issue we wish Professor Tadeusz Kaczorek on his 80th birthday all the best, many happy years to come and even more scientific successes.

*Zbigniew Emirsajłow and Jan Sokołowski  
Szczecin and Nancy/Warszawa*