

Preface

The scientific conference ‘Computing in Science and Technology’, which took place from 11-14 June 2018 in Muczne (Bieszczady Mountains), is the continuation of a series of conferences organized alternately by the Department of Computer Engineering at the University of Rzeszow and the Department of Applied Informatics at the SGGW in Warsaw since 2010. This year the conference was held under the patronage of the Ministry of Science and Higher Education and the Marshal of the Subcarpathian Voivodship. The meeting strategy was focused on the interdisciplinary integration not only of different scientific environments, but also industrial production centers. The innovative nature of the subject matter allowed for the inclusion in the research processes of representatives of industrial company teams, thanks to whom it will be possible to implement the technological assumptions in correlation with academic research at universities.

The main topics of the conference were: IT, artificial intelligence, discrete production processes, electrical engineering, data mining, automation of industrial processes, digital image processing, and applied computer science. The meeting was attended by dozens of participants, including representatives of various universities from Poland and abroad, and companies from Subcarpathia (the University of Rzeszow, Warsaw University of Life Sciences, AGH University of Science and Technology, Rzeszow University of Technology, University of Information Technology and Management in Rzeszow, West Pomeranian University of Technology in Szczecin, Mugla Sitki Kocman University of Turkey, State Higher School of Technology and Economics in Jaroslaw, University of Applied Sciences in Nysa). The dedicated discussion panel "Symbiosis of Science and Industry", taking place during the conference, was devoted to the exchange of ideas between the scientific team and representatives of companies with whom research topics for the implementation of grants implemented by the National Center for Research and Development and the Subcarpathian Innovation Center may be undertaken. The current edition was attended by such companies and organizations as: Elektromontaż S.A. Rzeszów (various types of electrical installations), FANUM Skorupski-Wójcik Sp. J. (multi-axis CNC machining centers), Asseco Poland S.A. (modern IT solutions), Telecommunications Cooperative OST Tyczyn (ICT services), Elektronika journal, the Office of Technical Inspection, the Polish Information Processing Society, the Association of Polish Electrical Engineers

The scientific deliberations were carried out in a number of thematically organised plenary sessions, in which participants of many scientific centers delivered their presentations. The conference achieved a measurable effect in the form of in-depth discussions on such research topics as intelligent ALMM system - implementation assumptions for the knowledge base, automatic identification of drill status during drilling using LSTM neural networks, adaptive selection of the amplification factor in state estimation, forecasting one day ahead of energy generation in photovoltaic systems, synchronization of robot control in distributed control systems, backward fractional propagation algorithm, modeling and analysis of priority queuing systems, optimization of G-codes, improving the dynamics of CNC machines, power problem in electric circuits with deformed waveforms, load balancing in networks with link-state routing protocols, virtual machine migration strategies in cluster systems. One should mention the accompanying interest of both students and the media as well as the post-conference publications provided by the organizers in the materials of the Elektronika journal and the materials indexed in the Web of Science.

Thanking all participants of the conference for their active participation, we hope that the next edition will allow the further expression of scientific values in the relationship between science and industry, and all speakers will return to their universities with unforgettable artistic and creative impressions.

We would like to thank all authors, reviewers, and participants of the conference for their excellent contributions to the success of the conference.

The website of the conference is <http://sti.ur.edu.pl/>.

Editors

Tadeusz Kwater, Boguslaw Twarog,

Zbigniew Gomolka, Jacek Bartman