

## FOREWORD

It is our great pleasure and privilege to introduce this special issue to our collaborators, colleagues and the interested readers of the journal. The selected topics are in full coherence with the general aims of the journal.

The present special issue is a collection of 12 invited papers written by recognized experts of the fields. The papers contribute to diverse facets of artificial intelligence and informatics, intelligent engineering and information technology.

Intelligent engineering systems try to replicate fundamental abilities of humans and nature in order to achieve sufficient progress in solving complex problems. In an ideal case multi-disciplinary applications of different modern engineering disciplines can result in synergistic effects. Information technology and computer modeling are the underlying tools that play a major role at any stages of developing intelligent systems.

A wide area of natural applications consists of the control of dynamic systems, including robots. Loosely speaking, the control can be understood as driving a process to attain a desired goal. The intelligent control can be seen as an extension of this concept, to include autonomous human-like interactions of a machine with the environment.

The subjects that are dealt with in this issue belong to a wide range. This includes power generation portfolio optimization by externality minimization, robust control algorithms for blood glucose control, theoretical analysis of modal choice in Hungary, collaboration in virtual reality of intelligent agents, qualifying and segmentation of historical process data using optimal experiment design techniques for supporting parameter estimation, parallel scene splitting and assigning for fast ray tracing, architecture for distributed data collection for management of crisis situations using trusted agent execution, time analysis of time basic nets using strong time semantics, mathematical description of tunnel systems for the purpose of design the predictive algorithm, an importance of camera – subject distance and angle in musculoskeletal applications of medical thermography, internet protocol in the service of streaming, and VLAB at the institute of computer systems and networks FIIT STU.

The editors are grateful to the authors for their excellent work. We would like to acknowledge the valuable assistance of the reviewers. Thanks are also due to Katarína Kubišová for her editorial assistance and sincere effort in bringing out the volume nicely in time.

We do hope that readers will find this issue intellectually stimulating and professionally rewarding, and will benefit from the content.

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