

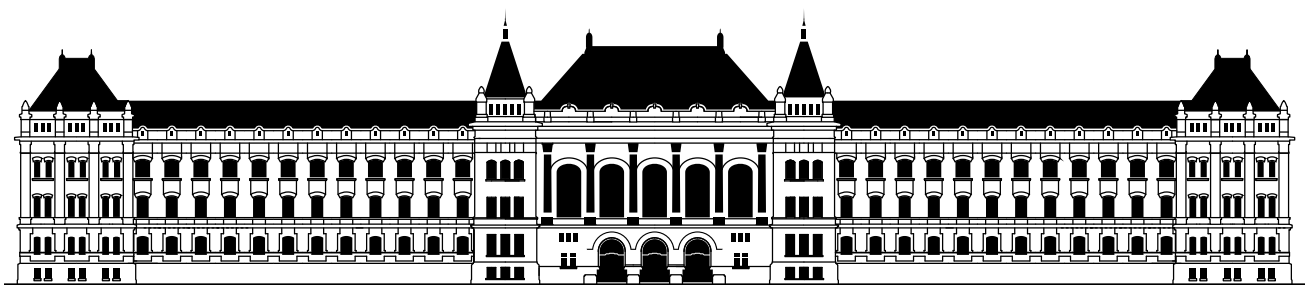
PROCEEDINGS OF THE 26TH MINISYMPOSIUM

OF THE

**DEPARTMENT OF MEASUREMENT AND INFORMATION SYSTEMS
BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
(MINISY@DMIS 2019)**

JANUARY 24, 2019

**BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
BUILDING I**



**BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
DEPARTMENT OF MEASUREMENT AND INFORMATION SYSTEMS**

© 2019 Department of Measurement and Information Systems,
Budapest University of Technology and Economics.
For personal use only – unauthorized copying is prohibited.

Head of the Department: Tamás Dabóczy

Conference chairman:
Béla Pataki

Organizers:
Rebeka Farkas
Ákos Hajdu
Attila Klenik

Homepage of the Conference:
<http://minisy.mit.bme.hu/>

Sponsored by:

Schnell László Foundation

FOREWORD

This proceedings is a collection of the papers of the 26th Minisymposium taking place at the Department of Measurement and Information Systems of the Budapest University of Technology and Economics. At the beginning the main purpose of these symposia was to give an opportunity to the PhD students of our department to present a summary of their research results in the preceding year. As an interesting additional benefit, the students also got experience in organizing scientific events. Beyond the original goal, it turned out that the proceedings of our symposia give an interesting overview of the research in our department. A few years ago the scope of the Minisymposium had been widened; some of the best BSc/MSc students involved in research also participate.

The lectures reflect an important part of the scientific fields and work of our department. Traditionally the symposium was focused on measurement and instrumentation. The area has slowly changed and widened during the last few years. New areas mainly connected to embedded information systems, dependability and security, artificial intelligence, and cyber-physical systems are now in our scope of interest as well. The papers cover both theoretical and practical aspects..

The proceedings will not be published in printed form, it has turned out that nowadays the web publication of symposium lectures is enough. This new form has some advantages, but it has some challenges as well. We hope that the advantages will dominate.

During this twenty-six-year period there have been shorter or longer cooperation projects, research visits and internships between our department and some universities, research institutes, organizations and firms. Some of our research benefited substantially from these connections/collaborations. In the last year the cooperation was especially fruitful with the Software Competence Center Hagenberg (SCCH), Austria; University of Zagreb, Croatia; SRI International, New York, USA.

We hope that similarly to the previous years, this Minisymposium will also be useful for the lecturers, for the audience and for all who read the proceedings.

Budapest, January, 2019

Béla Pataki
Chairman of the
Minisymposium

PAPERS OF THE MINISYMPOSIUM

Author	Title	Page
Bajkai, Viktória Dorina and Hajdu, Ákos	Software Model Checking with a Combination of Explicit Values and Predicates	4
Bruncsics, Bence and Antal, Péter	Network-based Analysis of Genetics in Multimorbidities	*
Burján, Dezső and Gönczy, László	Data Quality and Usability Requirement Analysis with Visualization Techniques and Domain-specific Constraints	8
Dobos-Kovács, Mihály and Vörös, András	Model Checking and Test Generation: Towards a Combined Approach to Software Verification	12
Farkas, Rebeka and Bergmann, Gábor	Adaptive Step Size Control for the Simulation of Cyber-Physical Systems	*
Földvári, András and Pataricza, András	Design for Dependability of Cyber-Physical Systems	16
Hajdu, Ákos and Micskei, Zoltán	Efficient Strategies for CEGAR-based Model Checking	*
Klenik, Attila and Pataricza, András	Towards the Simulation-based Performance Analysis of Hyperledger Fabric	*
Marussy, Kristóf and Majzik, István	Architecture-based Dependability Analysis of Reconfigurable and Adaptive Systems	*
Nagy, Péter and Jobbágy, Ákos	Increasing the Accuracy of Measuring Heart Rate Variability and Pulse Wave Transit Time	20
Szántó, Tamás and Micskei, Zoltán	Measuring Quality of Datasets Using Prediction Explanation	24
Varga, Balázs and Orosz, György	Analysis of Distributed Multi-Channel Active Noise Cancelling Algorithms	28

The research reports indicated by * are not published in this volume. To gain access, please contact the organizers or the authors.