

The International Workshop on Reliability and Safety Technologies (RaST 2019)

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Representatives of Institute of Information Technologies, VSB - Technical University of Ostrava, Gdansk University of Technology, University of Debrecen, and University of Žilina organized the International Workshop on Reliability and Safety Technologies (RaST 2019) from 25 to 27 June 2019 in Žilina, Slovakia. The organization of the RaST workshop was supported by International Visegrad Fund in the frame of the CERaST (Center of Excellence in Reliability and Safety Technologies) project. The University of Žilina was selected for organization of the workshop because the city of Žilina is near the geographic center of the V4 region.

The goal of the RaST workshop was to bring together researchers and teachers from academy as well as developers and specialists from industry working in all areas of Reliability and Safety Technologies. Important participants were young researchers and PhD students who obtained invitations to participate in this event. The workshop focused on various problems of Reliability and Safety, such as Human Factor and Human Reliability, Mathematical Methods in Reliability and Safety, Safety and Risk Assessment, System and Structural Reliability, Software Reliability and Testing, Quantitative Risk Assessment, Uncertainty Analysis. All presented works were reviewed by at least two external independent experts. The organizational team would like to thank all of them for their contribution to the improvement of quality of the accepted presentations and papers. We expect that the presented papers will be indexed in well-known scientific repositories, such as Scopus and Web of Science.

The approved papers were organized into three plenary and eight working sections. More than 40 presenters created a very creative and productive atmosphere for more than 90 participants of the plenary and working sessions and during the breaks.



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In the plenary sessions, distinguished invited speakers gave a review of the future perspectives in their research areas including safety management, reliability, information technologies, and medical informatics. In particular, the following invited lectures were delivered by the speakers:

- Digital re-engineering for safety management – prof. Coen van Gulijk from University of Huddersfield, UK;
- Reliability of Smart Grids – prof. Marko Čepin from University of Ljubljana, Slovenia;
- Opportunities and Challenges of the Reliability of AI Systems – prof. Min Xie from City University of Hong Kong, Hong Kong;
- Artificial intelligence meets clinical imaging for personalized medicine in oncology – prof. Paolo Soda from Campus Bio-Medico University in Roma, Italy.



In close cooperation with ESRA and IEEE Czechoslovakia Section Reliability Society, a competition for the best papers of young researchers in the fields of Reliability and Safety Technologies was organized. The selection of the best papers was based on reviews and evaluation of sections' chairs after presentations. The following papers were awarded with diplomas:

- Reliability Analysis of Finite-Source Retrial Queues with Outgoing Calls Using Simulation – Ādám Tóth, János Sztrik, Attila Kuki and Tamás Bérczes;
- Battery Degradation Impact on the Electric Bus Fleet Scheduling – Maroš Janovec and Michal Koháni;
- On Robust Markov Analysis for Reliability Assessment of Complex Systems using Imprecise Markov Chains – Daniel Krpelík, Frank Coolen, and Louis Aslett;
- Selection of Energy Storage Units by Genetic Algorithm for Mitigating Voltage Deviations– Agata Szultka, Seweryn Szultka and Stanislaw Czapp;
- Analyze train data set with use of linear regression and cloud systems – Tomas Kello and Emil Kršák;
- Importance Analysis of MSS based on Incompletely Specified Data by MDD – Peter Sedlacek, Jan Rabcan and Jozef Kostolny.



The vice-chairman of ESRA and head of the program committee of the RaST Workshop, prof. Radim Briš from VSB - Technical University of Ostrava, and the chair of IEEE Czechoslovakia Section Reliability Society, prof. Elena Zaitseva from University of Žilina, awarded authors of the selected papers with special diplomas during the conference dinner.

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The organizing committee prepared also several cultural and social events that were held in a pleasant atmosphere. Participants of the workshop visited famous Slovak medieval town Banská Štiavnica. The city is now an important center of recreation and tourism located in the center of Slovakia, which benefits from its rich historical heritage. The dominant of the city is the Old Castle from the Middle Ages considered as a “stone chronicle of the town”.

We are going to make the next RaST workshop in 2021. Our organizational team will be glad to deepen cooperation with IEEE Czechoslovakia Section Reliability Society, International Vysegrad Fund and ESRA. New ESRA members are welcome to become a part of the program committee. We will be glad to obtain your propositions about cooperation and new ideas for the CERaST project implementation by e-mail to idt@fri.uniza.sk or vitaly.levashenko@fri.uniza.sk. All your suggestions are very important to us.



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