

## CALL FOR PAPERS

# We cordially invite you to contribute to the 3<sup>rd</sup> International Workshop on Reliability Engineering and Computational Intelligence (RECI)

On 6 – 8 November 2024 in Zilina, Slovakia

<https://reci.fri.uniza.sk/>

Excellent papers for the 1<sup>st</sup> and 2<sup>nd</sup> RECI workshop demonstrated strong synergy between Reliability Engineering and Computational Intelligence but scientific differences remain. The 3<sup>rd</sup> RECI workshop attempts to address further integration by presenting papers on RECI topics and panel discussions about future RECI research.

### Main Conference

The main conference focuses on all areas of synergy between two scientific domains that are reliability engineering and computational intelligence. Reliability engineering is an established domain that has a very good practical and scientific background for the analysis of the reliability of systems. Computational intelligence is relatively new in reliability engineering, but it has been an equally well-established branch of research with many groups over the world attempting to develop useful computational intelligence tools in different fields. Today, the continuous drive for digitalization causes reliability engineering and computational intelligence to merge. Combining the fields paves the way to progress on big data analytics, uncertain information evaluation, reasoning, prediction, modelling, optimization, decision making, and of course, more reliable systems. Topics of interest include but are not limited to:

- ❑ Accident and Incident Analysis
- ❑ Computational Intelligence for Risk Estimation
- ❑ Data Mining and Knowledge Discovery
- ❑ Digital Technologies for Reliability Engineering
- ❑ Hardware and Software Solutions
- ❑ Human Reliability Analysis
- ❑ Mathematical and Computational Methods for Risk Analysis
- ❑ Methods Based on Artificial Intelligence
- ❑ Risk and Hazard Analysis
- ❑ Software Solutions for Testing Fault-Tolerant Systems
- ❑ Software Reliability
- ❑ Trends in Reliability Engineering and Computational Intelligence

The main conference is organized in accordance with the activities of project *Development of a New Approach for Reliability Analysis and Risk Assessment Based on Artificial Intelligence* (Project APVV-23-0033 supported by the Slovak Research and Development Agency).

The main conference continues ideas and achievements of the [Reliability and Safety workshop](#), which was supported by project *Exchange Reliability and Safety Experience in the V4 region* (Visegrad Fund, reg.no. 22230200).

### Stream on Reliability Engineering and Computational Intelligence in Healthcare

The aim of the stream is discussion on relevant topics and trends of reliability engineering, data mining, and machine learning in healthcare, medicine, and biotechnologies. The possible areas include but are not limited to:

- ❑ Biomedical Engineering
- ❑ Biomedical Informatics
- ❑ Computer-Aided Diagnosis
- ❑ Education in eHealth and Telemedicine
- ❑ Electronic Health Records and Medical Databases
- ❑ Innovative eHealth, Precision Medicine, Applications and Products
- ❑ Legal, Social, Ethical and Financial Aspects
- ❑ Medical Image Analysis and Biomedical Visualization
- ❑ Telemedicine, Telehealth and Remote Monitoring

The stream is organized in accordance with activities of the project *University-Industry Educational Centre in Advanced Biomedical and Medical Informatics (CeBMI)* (612462-EPP-1-2019-1-SK-EPPKA2-KA supported by the European Union's Erasmus+ programme). The workshop is also a post-project activity of APVV PP-COVID-20-0013 project *Development of Methods of Healthcare System Risk and Reliability Evaluation under Coronavirus Outbreak*, which was supported by the Slovak Research and Development Agency in years 2020 and 2021.

### Stream on Environmental Risk Assessment

The stream focuses on applications of reliability analysis, machine learning and remote sensing in environmental risk assessment. Topics of the stream include:

- ❑ Environmental Threats and Environmental Hazards
- ❑ Geoprocessing and Geographic Information Systems
- ❑ Land Degradation
- ❑ Mathematical and Computational Methods for Risk Assessment
- ❑ Mathematical Models of Environment
- ❑ Remote Sensing
- ❑ Use of Unmanned Aerial Vehicles in Environmental Risk Assessment

The stream is organized in accordance with activities of the project *Earth Observation for Early Warning of Land Degradation at the European Frontier (EWALD)* (Horizon Europe, ID 101086250).

### Stream for PhD Students and Young Researchers

The stream covers all topics of the RECI Workshop and provides an opportunity for students, PhD students and young researchers to present their results based on the submitted abstracts. All presentations presented at the Workshop will be included in a Book of abstracts, which will be available on the Workshop's webpage.

The stream is organized in accordance with the activities of project *Advanced Centre for PhD Students and Young Researchers in Informatics (ACeSYRI)* (Project EACEA.CBHE no.: 610166-EPP-1-2019-1-SK-EPPKA2-CBHE-JP supported by the European Union's Erasmus+ programme).

The HEALTH-2 section of the workshop is organized in line with the activities of the project 'Biomedical Signal Classification Using Fuzzy Classifiers' (EU NextGenerationEU: Recovery and Resilience Plan for Slovakia, project No. 09I03-03-V04-00416).

### Participation

The workshop RECI 2024 will be a hybrid event: we facilitate contributions in-person and online from University of Zilina. Online participation will be without any fee.

### Publication

The abstracts of the presentations will be published in the book of abstracts, which will be available on the website of the workshop. Also, authors of all presentations will be able to publish their own research as papers in the [CERES journal](#).

Authors of the selected presentations will be invited to prepare contributions to the book "Reliability Engineering and Computational Intelligence" (working title), which will be published by Springer in a series of Studies in Computational Intelligence. The selected contributions from previous workshops were published after reviewing by the program committee in books [Reliability Engineering and Computational Intelligence](#) (RECI 2020) and [Reliability Engineering and Computational Intelligence for Complex Systems](#) (RECI 2022).

### Important Dates

<b>Abstract submission (extended)</b>	<b>25 October 2024</b>
Notification of acceptance of abstracts	30 October 2024
Registration	5 November 2024
Workshop dates	6 – 8 November 2024
Notification of acceptance for publication	6 December 2024
Camera ready format submission	31 January 2025

**WE ARE LOOKING FORWARD TO YOUR EXCELLENT CONTRIBUTIONS!**

### Questions

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### Organized by



Faculty of Management Science and Informatics, University of Žilina



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Safety and Healthy living

### In cooperation with



Chapter of IEEE Reliability Society of the Czechoslovakia Section  
IEEE Student Branch of University of Thessaly – Lamia



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Earth Observation for Early Warning  
of Land Degradation at European Frontier



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