Program of RECI 2024

November 6 – 8, 2024
Žilina, Slovakia

IEEE ESRA SRDA iit

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AESYRI CeBMI educational centre

Preview

Previous ***International Workshops on Reliability Engineering and Computational Intelligence*** (RECI 2020 and RECI 2022) demonstrated a strong synergy between Reliability Engineering and Computational Intelligence but scientific differences remain. The third RECI workshop attempts to address further integration by (a) presenting papers on RECI topics, (b) panel discussions about future RECI research, and (c) a curriculum discussion for an international RECI curriculum. Since reliability engineering and computational intelligence include a wide range of scientific and engineering areas, the workshop will be divided into four parts:

- Main Conference
- Stream on Applications of RECI in Healthcare
- Stream on Environmental Risk Assessment
- Stream for PhD Students and Young Researchers (ACeSYRI)

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 in big data analytics, uncertain information evaluation, reasoning, prediction, modeling, 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, etc.

The main conference of the workshop is organized in accordance with the activities of projects "*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 workshop RECI 2024 continues the ideas and achievements of the Reliability and Safety workshop, which was supported by the project "*Exchange Reliability and Safety Experience in the V4 region*" (Visegrad fund, reg.no. 22230200) and by the project "*New Methods Development for Reliability Analysis of Complex Systems*" (Project reg.no. APVV-18-0027 supported by the Slovak Research and Development Agency).

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).

Stream on Reliability Engineering and Computational Intelligence in Healthcare. The aim of the stream is discussion on relevant topics and trends in 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, etc.

The stream is organized in accordance with activities of the project "*University-Industry Educational Centre in Advanced Biomedical and Medical Informatics*" (reg.no. 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 "*Development of Methods of Healthcare System Risk and Reliability Evaluation under Coronavirus Outbreak*" (reg.no. APVV PP-COVID-20-0013), 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, ArcGIS Application in Environmental Risk Assessment, Cartography and maps development, Risk Assessment in Environment, etc.

The stream is organized in accordance with the 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.

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

The organization of all workshops is supported by *IEEE Chapter of Reliability Society of the Czechoslovakia Section*, *the European Safety and Reliability Association* (*ESRA*), *the Slovak Research and Development Agency*, and the *Institute of Information Technologies*

Website of RECI 2024: **https://reci.fri.uniza.sk**

RECI 2024 – Time Schedule with Links for Connection

Start of workshop is 09:00 CET (UTC+1). All times in the program are specified in CET.

The workshop takes place online via MS Teams.

	Wednesday, November 6, 2024	**Thursday, November 7, 2024**	**Friday, November 8, 2024**
08:30 – 09:00	Testing of connection		
09:00 – 09:30	Open	Prof. Gregory Levitin	Prof. Nikolaos Limnios
09:30 – 10:00	Prof. Emanuele Borgonovo		
10:00 – 10:30		Section RECI-4	Section RECI-7 Section HEALTH-3
10:30 – 11:00	Section RECI-1		
11:00 – 11:15	**Coffee/tea**		
11:15 – 12:30	Section RECI-2 Section HEALTH-1	Section RECI-5 Section HEALTH-2	Section RECI-8 Section HEALTH-4
12:30 – 13:15	**Lunch**		**Lunch**
13:15 – 14:00		**Lunch**	
14:00 – 15:00	Prof. Stefan Bracke		Section RECI-9 Section HEALTH-5
15:00 – 15:15	**Coffee/tea**	Prof. Paul Barach	**Coffee/tea**
15:15 – 16:00	Section RECI-3 Section EWALD-1		Section RECI-10 Section EWALD-3
16:00 – 16:15		**Coffee/tea**	
16:15 – 17:30		Section RECI-6 Section EWALD-2	
17:30 – 18:00			

Detailed Schedule

Wednesday, November 6, 2024

09:00 – 09:30 Opening of the Workshop RECI Moderator: Prof. Elena Zaitseva
Assistant: Dr. Peter Sedlacek
Click here to join.

The Workshop Opening	Dr. Miroslav Kvassay
Welcome words of the Workshop General Chair	Prof. Luca Podofillini
Welcome words of the Dean of FRI, UNIZA	Prof. Emil Krsak
Welcome words from Steering Committee	Prof. Coen van Gulijk
Welcome words from EWALD	Prof. Elena Zaitseva

09:30 – 10:30 The First Plenary Section Moderator: Prof. Elena Zaitseva
Assistant: Dr. Peter Sedlacek
Click here to join.

09:30 – 10:30	**Prof. Emanuele Borgonovo**, Bocconi University, Italy **Reliability Importance Measures: from Local to Global**

10:30 – 11:00 Section RECI-1

Moderator: Prof. Elena Zaitseva

Assistant: Dr. Peter Sedlacek

Click here to join.

1. *D. Harkema and C. van Gulijk*. 2050 Futures in AI: Two Horizons
2. *Luca Podofillini, R. Kelk, V. N. Dang, and E. Panos.* Bayesian Networks as Surrogate Models: An Application to Energy Systems Analysis

11:15 – 12:30 Section RECI-2 Moderator: Dr. Nicolae Brînzei Assistant: Dr. Peter Sedlacek Click here to join.	**11:15 – 12:30 Section HEALTH-1** Moderator: Dr. Miroslav Kvassay Assistant: Dr. Michal Mrena Click here to join.
1. *V. Fettsov, N. Brînzei and I. Utepbergenov.* Modelling Reliability of Multi-Purpose Synthesis System in Presence of Common-Cause Failures 2. *A. Dovbysh and V. Alieksieiev.* Code Performance Evaluation with Modern AI Models and Fine Tuning 3. *Attila Fazekas, Gyorgy Kovacs and Mohammed Aad Khudhair.* Reducing the Impact of the Reproducibility Crisis on the Ranking of Binary Classifiers through the Examination of Performance Scores' Consistency 4. *Weicheng Wang*. An Asymmetrical Graph Siamese Network for One-Class Anomaly Detection of Engine Equipment with Multi-Source Fusion 5. *Valentin Smurygin and Adilkhan Symagulov.* Using UAVs and Deep Neural Networks to Count the Number of Cars on City Roads	1. *Iulia Moglan and Svetlana Capcelea.* New Biotechnological Directions in Diagnostics and Treatment of Ischemic Cardiomyopathy 2. *M.Bowdler, C. van Gulijk.* AI, Algorithmic Management and Teachers' Occupational Safety and Health 3. *Dominika Papanova, Aurel Kubacka.* The Classification of ECG signals 4. *Yehor Zheliazkov, Iuliia Yamnenko and Larysa Globa.* Investigating the Relationship between Lighting, Human Circadian Rhythms and Physiological Parameters 5. *Nicoleta Pojoga, Ludmila Sidorenko and Ludmila Rotaru.* New Biotechnological Directions in Treatment of Cystic Fibrosis

14:00 – 15:00 The Second Plenary Section	Moderator: Prof. Coen van Gulijk Assistant: Dr. Peter Sedlacek Click here to join.
14:00 – 15:00	**Prof. Stefan Bracke**, University of Wuppertal, Germany **Electromobility Transformation: Challenges for Reliability Engineering**

15:15 – 17:30 Section RECI-3 Moderator: Prof. Coen van Gulijk Assistant: Dr. Patrik Rusnak Click here to join.	**15:15 – 17:30 Section EWALD-1** Moderator: Dr. Jan Rabcan Assistant: Dr. Michal Mrena Click here to join.
1. *P. Singh, C. van Gulijk and N. Sunderland.* Application of a Bowtie Digital Twin: How a Mechanical Seal Looks Different from a Data Perspective 2. *Armanzhan Kuanaev and Alexey Beloussov.* Comparison of Open APIs for the Data Collection on environment Indicator: A Case Study on Air Quality in Almaty, Kazakhstan 3. *Nouri Qarahasanlou, A. Barabadi, and J. Barabady.* Implementing 3MU Identification in Chaotic Environments 4. *B. Sydor, S. Liaskovska and O. Duran.* Synthetic Data Generation for Enhancing Specialized Object Detection Models 5. O. Dmytriyeva, V. Huskova and A. Khalyhov. Parallel Numerical Simulators for Surrogate Modeling of Random Fields 6. *T. Hovorushchenko, O. Pavlova, V. Alekseiko and Andrii Kuzmin.* Machine Learning Analysis of Potential Mobile APPS Threats on the Basis of Permissions 7. *V. Holdovanskyi, V. Alieksieiev.* Data Potential and Feasibility Study with Grid mean Algorithm 8. *Maryna Kolisnyk, Axel Jantsch and Iryna Piskachova.* A Reinforcement Learning Algorithm based on Markovian Model for Server Reliability Assessment in IIOT System	1. *Fatima-Ezzahra Aallem, Azzouz Kchikach, Mohammed Jaffal and Younes Jnaoui.* Geophysical Methods of Soil Fertility Mapping for Precision Agriculture Applications in Morocco 2. *Iryna Piestova.* Methodological Foundations of Multispectral Aerospace Images Informativeness Increasing 3. *A.Charbaoui, A.Kchikach and M.Jaffal.* Forward Seismic Modeling and High-Resolution Seismic Imaging of the Phosphatic Series in the Gantour Basin (Morocco) 4. *Anna Kozlova and Artem Andreiev.* Eo-Based Early Warning System for Enhancing Responses to Land Degradation: Challenges and Solutions 5. *M.Abidare, L. Daoudi and N. Ben Daoud.* Siltation of Recent Large Dams in the Marrakesh-Safi Region, Morocco: Analysis of Factors Influencing Sediment Yield using the RUSLE Model and GIS. 6. *Sergey Stankevich, Iryna Piestova, Mykola Lubskyi and Artur Lysenko.* Functional Block Configuration of EWS for Land Degradation Mapping/Prediction 7. *O. Azimov and O. Tomchenko.* Monitoring Changes in Agricultural Landscapes within the Areas of Municipal Solid Waste Dumps using Remote Sensing and GIS Technologies 8. *Achraf Chakri, Nour Eddine Laftouhi, Hassan Ibouh and Mounsif Ibnoussina.* Assessment of Land Degradation and Urbanization in ARID Environments through SDG 11.3.1 and 15.3.1 Indicators

Thursday, November 7, 2024

09:00 – 10:00 The Third Plenary Section	Moderator: Prof. Luca Podofillini Assistant: Dr. Peter Sedlacek Click here to join.
09:00 – 10:00	**Prof. Gregory Levitin**, Southwest Jiaotong University, China **Defending Complex Systems Against Intentional Attacks and Natural Impacts**

10:00 – 11:00 Section RECI-4

Moderator: Prof. Stefan Bracke

Assistant: Dr. Peter Sedlacek

Click here to join.

1. *J. Pietruschka, M. Inoue, G. Ioannou and S. Bracke*. Reliability and Maintainability of Technical Systems: Modularisation Versus Overall System. Case Study Electric Vehicles
2. *Sultan Albalwy, Frank Coolen and Jonathan Cumming.* Robust Bayesian Method for Step-Stress Accelerated Life Testing Data
3. *Manuel Lombardi and Riccardo Patriarca*. Evaluating Ground Impact Severity in Suborbital Vehicle Explosion Scenarios
4. *Martin Lukac and Kanat Alimanov.* Empirical Hardness of the AES Cipher

11:15 – 13:15 Section RECI-5 Moderator: Dr. Martin Lukac Assistant: Dr. Peter Sedlacek Click here to join.	**11:15 – 13:15 Section HEALTH-2** Moderator: Dr. Jan Rabcan Assistant: Dr. Patrik Rusnak Click here to join.
1. *Stanislav Skorobohatko, Herman Fesenko, Vyacheslav Kharchenko and Bogdan Volochiy*, Availability Models of a Recoverable Wireless Sensor Network for Forest Fire Monitoring System 2. *V. Korshenko, D. Uzlov, and V. Strukov.* Concept and Analysis of Segmentation Algorithms in Modern Intelligent Computer Vision Systems 3. *Andrii Bidochko.* LLMAgentNet: A Collaborative Network of Autonomous AI Agents for Complex Task Execution 4. *Elvira Rustenova, and Aizhan Ibyzhanova.* Digitalization of Urban Systems: Kazakhstan's Experience in Creating Smart Cities 5. *Vladimir Albrecht and Ravil Mukhamediyev.* Identification of Thematic Groups of Publication Corpora using Top2Vec 6. *Igor Melnyk, Andriy Luntovskyy, Alina Pochynok, Mykhailo Skrypka and Mykola Surzikov.* Advanced Tools for Visualization and Animation in the Simulation and Computational Intelligence 7. *Vladyslav Shchehlov, Vyacheslav Kharchenko, Olga Morozova, Bogdan Volochiy.* Verification of Markov Model-Based Availability Assessment of Intelligent Diagnostic Systems Using Two Methodologies and Tools 8. *V. Alieksieiev and O. Sydorenko.* Flight Safety Calculations in a Computer Aided Flight Planning System	1. *Dana Bivol, Ludmila Rotaru and Elena Babara*. Technologies for Breast Cancer Diagnosis 2. *Alexei Dragos, Ludmila Rotaru and Ludmila Sidorenko.* Advances in Gene Therapy for Duchenne Muscular Dystrophy: Promising Strategies and Future Directions 3. *Y. Kubegenov, A. Kubegenova, G. Kamalova, and Y. Kadyrkhanov.* Optimization of Parameters for Modeling the Joint Spread of Tuberculosis and HIV Using an Integrated Approach 4. *Cristina Popa, Valentina Stratan, Valeri Ţuţuianu, Mihail Novac, Victor Sîtnic, Veronica Balan, Mariana Sprincean and Andrian Clipca*. Recent Progress for Determination of Association of Some Periodontal Microorganisms with PD-L1 and PD-1 Protein Expression 5. *Elena Chesov, Stela Racoviță and Valeriu Crudu.* Biotechnological Progress in Determining Genotypic Diversity and Mutation Profiles of Multidrug-Resistant Mycobacterium Tuberculosis 6. *A. Khovrat, V. Kobziev, D. Uzlov and S. Yakovlev.* Two-layer Model of Fake Information Classification Using Artificial Intelligence in Socially Oriented Systems 7. *Vladimir Redzhepov and Dmitry Pertsau.* Wearable Devices in Cardiovascular Medicine 8. *S. Naumenko, I. Rozlomii and A. Yarmilko*. Application of Artificial Intelligence to Enhance the Reliability of Lightweight Cryptographic Systems in Precision Medicine

15:00 – 16:00 The Fourth Plenary Section	Moderator: Dr. Miroslav Kvassay Assistant: Dr. Michal Mrena Click here to join.
15:00 – 16:00	**Prof. Paul Barach**, Thomas Jefferson University, USA **From High Reliability to Resiliency Engineering – The Future of Patient Safety**

16:15 – 18:00 Section RECI-6

Moderator: Dr. Michal Kvet

Assistant: Dr. Miroslav Kvassay

Click here to join.

1. *Marek Durana and Miroslav Kvassay.* Testing Stability of Virtual Machines with Various Strategies of Resource Provisioning
2. *Maksim Buren.* Use of ROS2 in Conjunction with YOLOv8 Image Recognition System for Mobile Robot Control System
3. *Tadeáš Kmecik and Peter Girovský.* Overview of AI Applications in Electromechanical Systems
4. *Li Zhiyuan, Zhu Shuaiyu and Sergey Ablameyko.* Damage Detection in Road Images by YOLOv9 and Transfer Learning
5. *Miroslav Potočár and Michal Kvet.* synTEXT4JSON: Framework for Generating Synthetic Data for Template-Filling Task
6. *Liana Burko and Timur Zhuk.* Comparison of Python and Octave as Tools for Developing Intelligent Systems
7. *Dmitry Pertsau and Mikhail Tatur.* The Study of Hardware Resources Usage on Examples of Convolutional Neural Network Implementation

16:15 – 18:00 Section EWALD-2

Moderator: Dr. Darya Filatova

Assistant: Dr. Patrik Rusnak

Click here to join.

1. *Mykhailo Popov, Oleksandr Zaitsev and Serhii Stefantsev.* A Method to Aggregate Interval-Valued Expert Estimates Taking into Account Their Reliability
2. *Darya Filatova and Charles El-Nouty.* Environmental Sustainability and Supply Chain Management: Streamline KPI Monitoring Data Ecosystem
3. *Safaa Zahir, Lahcen Daoudi and Nathalie Fagel.* Adaptability of Sludge from Industrial Aggregate Processing as a Ceramic Raw Material: A Case Study of the Marrakech Region, Morocco
4. *Nouhaila Elbakhouch, Tarik Amraoui, Hassan Ibouh and Ahmed Touil.* Lithological Mapping Using Multispectral Data and Machine Learning Algorithms: A Case Study from Tighardine Area (Western High Atlas, Morocco)
5. *Ayoub El Aallaoui, Mustapha El Ghorfi, Abdelatif El Ghali, Yassine Taha, Mostafa Benzaazoua and Rachid Hakkou.* Advanced 3D Geo-Environmental Characterization and Modeling for Early Detection and Prevention of Acid Mine Drainage in Coal Mine Waste Rock.
6. *Iryna Piestova, Mykola Lubskyi, Tetiana Orlenko, Anna Khyzhniak, Stanislav* Golubov. Earth Observation Data Warehouse for Land Degradation Mapping/Prediction
7. *L. Ait Dhmane, M.E.M. Saidi, J. Moustadraf, A. Rafik and A. Hadri.* Spatiotemporal Characterization and Hydrological Impact of Drought Patterns in Northwestern Morocco

Friday, November 8, 2024

09:00 – 10:00 The Fifth Plenary Section	Moderator: Prof. Frank Coolen Assistant: Dr. Michal Mrena Click here to join.
09:00 – 10:00	**Prof. Nikolaos Limnios**, Université de Technologie de Compiègne, France **Some Dynamical Systems for Reliability Modelling and Estimation**

10:00 – 11:00 Section RECI-7 Moderator: Prof. Vyacheslav Kharchenko Assistant: Dr. Michal Mrena Click here to join.	**10:00 – 11:00 Section HEALTH-3** Moderator: Prof. Raquel Faubel Assistant: Dr. Patrik Rusnak Click here to join.
1. *Kirill Yakunin and Dias Kussain.* UAV Flight Planning for Solving Monitoring Problems 2. *Luidmila Gorodeckaya and Ravil I. Mukhamediev.* Solid Waste Detection During Monitoring of Urban Agglomerations using UAVs. 3. *Duzbay Nurdaulet.* Research of Automated Control System of Gravity Enrichment Method of Chrome ORE 4. *Kaldybek Makhambetov, Viktor Pokusov, Baurzhan Belgibaev*, Stages of Planning and Modeling the Bread Baking Process in the Context of Creating a Digital Twin	1. *Mihaela Ababii, Svetlana Hadjiu, Ludmila Sidorenko, Elena Halabudenco, Stela Racoviță, and Mariana Sprincean.* Genetic Aspects of Hereditary Thrombophilia in Pregnancy 2. *Raquel Faubel, Aarón Sújar.* Integration of eHealth Competences into Health Students' Curriculum 3. *T. A. Kabulov, S. V. Kezik, and O. V. Nedzvedz.* Automatic Analysis of DNA Comets Using CNN 4. *A. A. Nedzvedz and M. A. Nedzvedz.* Analysis of a fragment of the image to identify the effect of stress caused by heavy metals on the pigmentation of leaves of cereal plants

11:15 – 12:30 Section RECI-8 Moderator: Prof. Viacheslav Kovtun Assistant: Dr. Michal Mrena Click here to join.	**11:15 – 12:30 Section HEALTH-4** Moderator: Dr. Jozef Kostolny Assistant: Dr. Patrik Rusnak Click here to join.
1. *J.W. van Middelaar and Esta de Goede.* Advanced Learning from Information in the Chemical Industry 2. *Y. Pastukh, S. Liaskovska and A. Augousti.* Estimating Electric Motor Temperatures with Machine Learning Models 3. *A. Didenko, A. Oliinyk and S. Subbotin.* Lightweight Convolutional Transformer for Fault Diagnosis on Vibration Signal in Time-Frequency Domain 4. *O. Kolchyn, S. Potiyenko, and V. Volkov.* Improving the Reliability of Automatically Generated Test Suites 5. *V. Gorbachuk, D. Nikolenko, V. Godliuk and D. Rybachok.* Sensitivity of Goal Function in R-Facility Interdiction Covering Problem and Systemic Risk	1. *Abdul Raheem Fauzi, Ludmila Rotaru and Ludmila Sidorenko.* Recent Biotechnologies to Assess Genetic Factors in Atherosclerosis 2. *Di Zhao, Yi Tang, Dmitry Pertsau, Dziana Kupryianava, and Alevtina Gourinovitch.* Medical Image Segmentation with Graph Reasoning 3. *M. Senceacovici and L. Rotaru.* CRISPR: A New, Versatile Biotechnology 4. *Iulia Zama, Mariana Sprincean and Ludmila Sidorenko*. Biotechnological Transplantation of Hematopoietic Stem Cells with Mutation of the CCR5 Gene as a Way of Treating HIV Infection 5. *Daria Zalesskaya, Svetlana Sidorenko and Ludmila Sidorenko.* New Bioengineering Technologies in the Diagnosis and Treatment of Multiple Sclerosis

14:00 – 15:00 Section RECI-9 Moderator: Prof. Andriy Luntovskyy Assistant: Dr. Peter Sedlacek Click here to join.	**14:00 – 15:00 Section HEALTH-5** Moderator: Prof. Ivan Izonin Assistant: Dr. Patrik Rusnak Click here to join.
1. *Igor Melnyk, Andriy Luntovskyy, Alina Pochynok, Mykhailo Skrypko, Serhii Tuhai and Oleksandr Kovalenko.* Using Intelligent Approaches in Algorithms of Interpolation and Extrapolation of Short-Focus Electron Beams Boundary Trajectories by Root-Polynomial Functions 2. *D. Symonov, B. Zaika and Y. Symonov.* Exploring Social Dynamics and Stability Using Cellular Automata 3. *A. Holovko and V. Alieksieiev.* Fine-Tuning LLM for Code Style Analysis: An Approach Augmented with DFA 4. *H. Rakytyanska and B. Prus.* Modeling and Optimization of Software Reliability using Fuzzy-Algorithmic Approach.	1. *Alexandra Sochirca, Svetlana Sidorenko, Liliana Badan and Ludmila Sidorenko.* Biotechnologies Improving the Diagnostic Establishment of Molecular Mechanisms Involved into Synaptic Dysfunction of Dopaminergic Neurons in Parkinson's Disease 2. *Anand Muraleedharan, Ludmila Rotaru and Ludmila Sidorenko.* Biotechnological Development of Targeted Treatments based on a Tumor's Specific Genetic Mutations in PARP Inhibitors 3. *Kuzhipurayidathil Vijayakumar Anaswara and Ludmila Sidorenko.* From Genome to Treatment: The Encode Project's Impact on Precision Medicine and Technological Innovations 4. *Dmytro Chumachenko.* Simulation-based Approaches to Managing Infectious Disease Risks in Conflict Zones: Opportunities and Limitations

15:15 – 17:30 Section RECI-10 Moderator: Prof. Stanislaw Czapp Assistant: Dr. Peter Sedlacek Click here to join.	**15:15 – 17:30 Section EWALD-3** Moderator: Prof. Tetiana Hovorushchenko Assistant: Dr. Patrik Rusnak Click here to join.
1. *Q.T. La, Z. Vintr, D. Vališ, Z. Kohl and L. Žák.* A Development of Fuzzy Inference System for Modeling the Degradation of Light Emitting Diode 2. *Michal Kvet.* Synchronization of the Time Zones in the Temporal Database Environment Making Transparent Reliable Solution 3. *S. Kolbin, V. Liauchuk and A. Liauchuk,* Testing Software for Error-Correcting Data Coding at the Processor Level 4. *Michal Mrena and Miroslav Kvassay.* Experimental Overview of Techniques Used for the Management of Intermediate Results in Calculations with Decision Diagrams 5. *Q. Tran, K. Huynh, A. Grall and Y. Langeron.* On the Use of Offline Reinforcement Learning Methods in Condition-based Maintenance 6. *T. Kim.* Modeling and Control of a Mobile Robot with Differential Drive Based on a Digital Twin Complete 7. *T. Kisel and B. Nikulshin.* University Selection System, Problems and Solutions 8. *Y.C. Yin and F.P.A. Coolen.* Quantifying System Reliability based on Accelerated Life Test Data for Components	1. *Sergey Stankevich, Sergiy Shklyar, Artur Lysenko and Artem Andreiev.* An Approach to Radar and Optical Imagery Super-Resolution 2. *Najat Ben Daoud and Lahcen Daoudi.* The Use of RUSLE Model and CHIRPS Satellite Precipitation Product for Estimating Soil Loss by Water in a Scarsly Gauged Semi-Arid Area: Case of Central Morocco 3. *Patrik Rusnak, Hassan Ibouh and Daoud Mezzane,* GIS Software, Different Software Solutions and Their Usage 4. *A. Edoudi, S. Cherif, F. Elwahidi, B. Sadiq and H. Ibouh.* Co-seismic Ground Deformation and Associated Hazards from the 2023 Mw 6.8 Al Haouz Earthquake, Morocco: Analysis of Seismological Data, DInSAR and Geomorphological Surveys 5. *Mariame Rachdane, Mohamed Elmehdi Saidi, El Mahdi El Khalki, Abdessamad Hadri, Sara Boughdadi and Yves Tramblay.* Sub-Daily Flood Dynamics in Semi-Arid and Arid Basins: A Case Study of Southern Morocco 6. *Soukaina Oudchaira, Abdelhafid El Alaoui El Fels, Ali Rhoujjati, Lahoucine Hanich and Moulay Lâarabi EL Hachimi*. Sediment Pollution by Heavy Metals from Mining Activities: Ecological Risks, Contributors, and Future Research Directions 7. *Peter Sedlacek, Mohamed Aboufirass and Patrik Rusnak.* Implementation of Land Degradation Prediction Algorithm in ArcGIS Environment