

	THURSDAY, OCTOBER 1 - MORNING SESSIONS
9:00 - 9:20	Opening
9:20 - 10:20	Invited talk: András Lőrincz. Human Machine Intelligent Interaction: Has time arrived? Chair: Erzsébet Csuhaj-Varjú
10:20 - 10:40	Break
	Session A (Mathematics) – Chair: Andrei Marcus
10:40-12:00	<ol style="list-style-type: none"> 1. Istvan Farago and Rahele Mosleh. Positivity Preserving Numerical Method for an Extended Ross Model for Malaria Propagation 2. Bálint Takács, Róbert Horváth and István Faragó. Numerical methods for space-dependent SIR models with constant delay 3. Ágnes Backhausz and Edit Bognár. Epidemic spread on random graphs with multiple type nodes 4. Boroka Oltean-Peter. Comparing epidemiological models with the help of visualization dashboards
12:00 - 14: 00	Lunch break
	Session B (Computer Science) – Chair: Horia F. Pop
10:40 -12:00	<ol style="list-style-type: none"> 1. Viktor Varga. Label Propagation with Graph Neural Networks in Interactive Video Segmentation Annotation 2. Marton Veges. Scale-free Loss for Absolute Pose Estimation 3. László Kopácsi. A Self-Supervised Method for Bodypart Segmentation and Keypoint Detection of Rat Images 4. Áron Fóthi. Train multi object tracker on similar instances
12:00 - 14: 00	Lunch break
	Session C (Computer Science) – Chair: Erzsébet Csuhaj-Varjú
10:40 -11:40	<ol style="list-style-type: none"> 1. Napsugár Fanni Gáti and Attila Kiss. Sound classification with transfer learning

	<ol style="list-style-type: none"> 2. Róbert Szabó, Dániel Katona, Márton Csillag, Adrián Csiszárík and Dániel Varga. Visualizing Transfer Learning 3. Ádám Révész and Norbert Pataki. A Language and Its Compiler for Programming Serverless Applications
12:00 - 14: 00	Lunch break
	THURSDAY, OCTOBER 1 - AFTERNOON SESSIONS
	Session A (Mathematics) – Chair: Anna Soos
14:00 - 15:20	<ol style="list-style-type: none"> 1. Anita Windisch and Péter L. Simon. The dynamics of the Hopfield model for homogeneous weight matrix 2. László Németh and András Zempléni. A new bootstrap resampling scheme for INAR processes with trend 3. Istvan Fazekas and Attila Barta. Theoretical and simulation results for a 2-type network evolution model 4. Istvan Fazekas and Michael Suja. Asymptotic results for contaminated runs of heads
15:20 - 15:50	Break
	Session A (Mathematics) – Chair: Péter Ligeti
15:50 – 16:50	<ol style="list-style-type: none"> 1. Nikolai Ryzhkov and Ildikó László. Stability of triangularisation of polynomial matrices 2. Szabolcs Levente Fancsali and János Szenthe. About spatially homogeneous space-time models 3. Sandor Szabo. Scheduling with time restriction and clique search
	Session B (Computer Science) – Chair: Bálint Molnár
14:00 - 15:20	<ol style="list-style-type: none"> 1. Zsombor Rigmányi, Zsolt Kovács and David Iclanzan. Optimal Scale for the Classification of Immunohistochemically Stained Colorectal Carcinoma Samples 2. Tamás Pál, Bálint Molnár and Ádám Tarcsi. Lightweight, length invariant models and dimensionality reduction in respiratory disease detection

	<ol style="list-style-type: none"> 3. Csaba Pinter and Ábel Fóthi. Community structures of autism genes on functional interaction graphs support the omnigenic background of complex neurodevelopmental disorders 4. Yash Paul and Sandor Fridli. Sleep states detection using Halfwave and Franklin transformation
15:20 - 15:50	Break
	Session B (Computer Science) – Chair: Bálint Molnár
15:50 - 17:10	<ol style="list-style-type: none"> 1. Ádám Fodor. Enhancing Apparent Personality Trait Analysis with Cross-Modal Embeddings 2. Zsolt Németh and Gergely Nagy. Color image analysis and recognition using orthogonal quaternion Zernike moments 3. Mirtill Boglárka Naghi and David Iclanzan. Operator splittings Computational Evolutionary Perception 4. Katalin Bene and László Szabó. Lloyd's clustering method is not 1-separability detecting
	Session C (Computer Science) - Chair: Tamás Kozsik
14:00 - 15:20	<ol style="list-style-type: none"> 1. Zsigmond Máriás and Bálint Molnár. Representation of Product Catalog in a Multifaceted Demand Structure by Hypergraphs 2. Manuela Petrescu. Digitalization process of public services. Romania's example 3. Mohammed B. M. Kamel, Peter Ligeti and Christoph Reich. Region-Based Distributed Hash Table for Fog Computing Infrastructure 4. Adrienn Koncz and Attila Gludovátz. Indirect electricity consumption calculation in the product manufacturing
15:20 - 15:50	Break
	Session C (Computer Science) - Chair: András Benczúr
15:50 - 17:10	<ol style="list-style-type: none"> 1. Khawla Bouafia, Maxim Kumundzhiev and Bálint Molnár. Application of models and hypergraph on dynamic aspect of business process performance analysis 2. Chuangtao Ma and Bálint Molnár. Semantic Consistency behind Ontology Learning and Schema Mapping for Heterogeneous Data Integration

	3. Meriem Kherbouche and Balint Molnar. Modelling to Program in the case of Workflow Systems -Theoretical background and literature review-
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	FRIDAY, OCTOBER 2 - MORNING SESSIONS
9:00 - 10:00	Invited talk: István Faragó : Operator splittings and their applications Chair: Zsolt Páles
10:00 - 10:20	Break
	Session A (Mathematics) – Chair: Péter Burcsi
10:20 – 11:40	<ol style="list-style-type: none"> 1. Livia Boda. Investigation of some operator splitting methods 2. Oana-Maria Parva and Daniel-Valer Breaz. Univalence properties of an integral operator 3. Madalina Moga. Some properties of the fixed point equation with Meir-Keeler operator 4. Mihai-Radu Trusca. Local fixed point theorems and open mapping principles for generalized contractions
	Session B (Computer Science) – Chair: Bálint Molnár
10:20 - 11:40	<ol style="list-style-type: none"> 1. Daniel Lesko and Mate Tejfel. Random program generation via lambda-terms 2. Gereltsetseg Altangerel and Máté Tejfel. Some optimization possibilities in data plane programming 3. Dániel Lukács, Gergely Pongracz and Máté Tejfel. Extracting deep control flow graphs from P4 syntax trees
	Session C (Computer Science) – Chair: László Szabó
10:20 – 11:40	<ol style="list-style-type: none"> 1. Richárd Szalay, Ábel Sinkovics and Zoltan Porkolab. In-situ Enhancement of Type Safety using Fictive Types

	<ol style="list-style-type: none"> 2. Ambrus Kaposi and Norbert Luksa. A calculus of single substitutions for simple type theory 3. Péter Bereczky and Dániel Horpácsi. A Survey on Comparing Various Formal Semantics Definition Styles 4. Smiljana Knezev, Gordana Rakic, Zoran Budimac, Melinda Toth and Istvan Bozo. Evaluation of a Recursion Aware Complexity Metric
11:40 - 14: 00	Lunch break
	FRIDAY, OCTOBER 2 – AFTERNOON SESSIONS
14:00 - 15:00	<p>Invited talk:</p> <p>Szilárd K. András: Ulam-Hyers stability of some second order differential equations defining special functions</p> <p>Chair: Adrian Petrusel</p>
	Session A (Mathematics) - Chair: Adrian Petrusel
15:00 - 15:40	<ol style="list-style-type: none"> 1. Zsolt Páles. Existence and uniqueness theorems for ordinary differential equations with mixed initial and boundary value conditions 2. Gábor Maros. Quadratures for the solution of fractional differential equations
15:40 - 16:00	Break
	Session A (Mathematics) - Chair: Ágnes Fülöp
16:00 - 18:00	<ol style="list-style-type: none"> 1. Béla János Szekeres and Ferenc Izsák. Fractional operators in relativistic quantum mechanics: the square-root Klein–Gordon equation 2. Teshome Bayleyegn and Agnes Havasi. Multiple Richardson Extrapolation and its Combination with the Implicit Euler Method 3. Ioan Papuc. On a Dirichlet problem for the Darcy-Forchheimer-Brinkman system with application to lid-driven porous cavity flow with internal square block 4. Robert Vajda and Heinz-Joachim Rack. Explicit solution, for $n=7$, to a Markov-type extremal problem initiated by Schur 5. Eduard Stefan Grigoriuc. On some subclasses of holomorphic functions whose derivative has positive real part

	6. Alexandru Orzan and Nicolae Popovici . On a special class of fractional type set-valued functions
	Session B (Computer Science) – Chair: Florin Craciun
15:00 – 15:40	<ol style="list-style-type: none"> 1. Gregory Morse and Tamás Kozsik. Fully Dynamic Strong Connectivity and Reachability in Digraphs 2. Ádám Kiss and Attila Kiss. The Compressed Program Dependence Graph
15:40 – 16:00	Break
	Session B (Computer Science) – Chair: Ágnes Backhausz
16:00 – 18:00	<ol style="list-style-type: none"> 1. Dávid Fonyó and Péter Burcsi. Automated defense against side-channel attacks 2. Péter Burcsi and Gábor Nagy. Applications of numeration systems for preserving privacy 3. Yuping Yan and Peter Ligeti. Anonymization Techniques in Social Networks 4. Sabina Surdu. Machine Learning-Powered Data Exploration Using SQL Queries - the Negation Query in a New Light 5. Jianhao Li and Viktória Zsók. Distributed Storage Pattern 6. Anna Reale, Benedek Kovacs, Melinda Toth and Zoltan Horvath. Services for an Edge-native application
	Session C (Computer Science) – Chair: László Szabó
15:00 – 15:40	<ol style="list-style-type: none"> 1. Dániel Kolozsvári and Norbert Pataki. A Static Analysis Approach for Modern Iterator Development 2. Anett Fekete and Zoltan Porkolab. Identifying Vulnerable Software Modules with Static Analysis and Version Control
15:40 - 16:00	Break
	Session C (Computer Science) – Chair: Erzsébet Csuha-Varjú

16:00 -18:00	<ol style="list-style-type: none"> 1. Gábor Horváth and Norbert Pataki. Synthesizing Same-Language Summaries for Symbolic Execution 2. Bence Babati and Norbert Pataki. The Role of Implementation-specific Static Analysis 3. Hristina Gulabovska and Zoltan Porkolab. Status of Static Analysis Tools for Detecting Python Security Vulnerabilities 4. Ábel Kocsis, Zoltán Gera and Melinda Tóth. Diagnosing vulnerabilities with static analysis 5. Tamás Balla, Gabor Kusper, Csaba Biró and Tibor Tajti. BaW 2.0 - A Problem Specific SAT Solver for Balatondoglár Models Generated from Digraphs
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	SATURDAY, OCTOBER 3 - MORNING SESSIONS
9:00 - 10:00	<p>Invited talk:</p> <p>Dan Mircea Suci: Automatic Person Identification based on Physical Activity Patterns Recognition</p> <p>(joint work with Danut Ilisei)</p> <p>Chair: Anna Soos</p>
10:00 - 10:20	Break
	Session A (Mathematics) – Chair: Gábor Farkas
10:20 – 12:00	<ol style="list-style-type: none"> 1. Virgilius-Aurelian Minuță. Group graded Morita equivalences induced by wreath products 2. Septimiu Crivei. Relatively divisible and relatively flat objects in exact categories 3. Simona-Maria Radu. Transfer of (dual) CS-Rickart properties via functors between abelian categories 4. Iulia Chiru. Regular elements and generalized inverses in (matrix) rings of residue classes 5. Tiberiu Coconet. Frobenius induction for algebras
	Session B (Mathematics) – Chair: Attila Kovács
10:20 - 11:40	

	<ol style="list-style-type: none"> 1. Levente Simon and Anna Soós. Coupled fixed point theorem and fractals on mixed patterns 2. László Tóth. Another generalization of Euler's arithmetic function and of Menon's identity 3. János Uray. A family of barely expansive polynomials 4. Dávid Bóka and Péter Burcsi. Canonical expansion of integers for families of roofline polynomials
	Session C (Computer Science) – Chair: Zoltán Porkoláb
10:20 – 11:40	<ol style="list-style-type: none"> 1. Attila Kántor, Attila Kiss and László Grad-Gyenge. Semantic Encoder Tasks for the Hungarian Language 2. Attila Péter Boros, Péter Lehotay-Kéry and Attila Kiss. Performance impact of network encryption on log processing with Spark 3. Melinda Kiss, Adrián Csiszárík, Ákos Matszangosz, Balázs Maga and Dániel Varga. Global Sinkhorn Autoencoder - Optimal transport on the latent representation of the full dataset 4. Hayder Fatlawi and Attila Kiss. Efficiency Improvement of Adaptive Random Forest using Principle Component Analysis for Mining Data Stream
11:40 - 14: 00	Lunch break
	SATURDAY, OCTOBER 3 - AFTERNOON SESSIONS
	Session A (Mathematics) – Chair: Sándor Fridli
14:00 – 15:00	<ol style="list-style-type: none"> 1. Tamas Dozsa and Ferenc Schipp. Blaschke-products and Hyperbolic Geometry 2. Zsuzsanna Nagy-Csiha and Margit Pap. A representation of quaternionic Blaschke group 3. Levente Lócsi. Real-time web-based visualization of the Radon transform
15:00 - 15:50	Break
	Session A (Mathematics) – Chair: Ágnes Fülöp
15:50 - 17:10	<ol style="list-style-type: none"> 1. Gábor Román. Primality Proofs with Elliptic Curves: Probabilistic Factorization

	<ol style="list-style-type: none"> 2. Izabella Ingrid Farkas and Attila Kovács. (2,3)-simultaneous number systems over the Eisenstein lattice 3. Péter Burcsi, Gábor Nagy and Attila Réti. Remarks on the quantum complexity of some numeration related problems 4. Viktoria Toth and Robin Kiss. Real-life applications of pseudorandom generators
	Session B (Computer Science) – Chair: Norbert Pataki
14:00 - 15:00	<ol style="list-style-type: none"> 1. István Donkó, Ambrus Kaposi and Melinda Tóth. Formalizing a relational model of concurrent programs in a dependently typed environment 2. Gergely Nagy and Zoltan Porkolab. Correctness of a High-level RCU implementation 3. Balázs Varga, István Bozó and Melinda Tóth. Refactoring concurrent Erlang applications for distribution
15:00 - 15:30	Break
	Session B (Computer Science) – Chair: Norbert Pataki
15:30 - 16:30	<ol style="list-style-type: none"> 1. Zsófia Erdei, Melinda Tóth and István Bozó. Graph-based duplicated code detection with RefactorErl 2. Brigitta Baranyai, Melinda Tóth and István Bozó. Supporting Secure Coding with RefactorErl 3. Mátyás Komáromi, Melinda Tóth and István Bozó. Gview: Visualising software dependencies in order to support code comprehension
	Session C (Computer Science) – Chair: Florin Craciun
14:00 - 15:20	<ol style="list-style-type: none"> 1. Tamas Lukovszki and Peter Vadasz. Randomized dispersion of mobile robots – theory and experiments 2. Dániel Balázs Rátai, Zoltán Horváth, Zoltán Porkoláb and Melinda Tóth. Cell-oriented Programming 3. Endre Fülöp, Norbert Pataki and Csaba Rotter. Modeling Resource Allocations in Cloud Deployment with P Colonies
15:20 - 15:50	Break

	Session C (Computer Science) – Chair: Tamás Kozsik
15:50 - 17:10	<ol style="list-style-type: none"> 1. Réka Kovács, Gábor Horváth and Zoltan Porkolab. Detecting lifetime errors of <code>std::string_view</code> objects in C++ 2. Attila Gyen and Norbert Pataki. Discovering Shared Variables for Comprehension of Multithreaded C++ Programs 3. Richárd Szalay and Zoltán Porkoláb. Applying Modules for Modern C++ Libraries 4. András Béleczki and Bálint Molnár. Defining vertex types and metric for graph-based Information System models
17:10	Closing