

Sapientia Hungarian University of Transylvania

7th International Conference on Mathematics and Informatics

September 2–4, 2019

Târgu Mureș/Marosvásárhely, Romania

Program

September 2, 8.00–13.00

- 8.30–12.00 Registration
8.00–9.00 Breakfast
9.30–9.50 Opening ceremony (room C06)

Plenary session (room C06)

Chairman: Csaba Farkas

- 10.00–11.00 **Miklós Pintér:** Objective ambiguity
11.00–11.30 Coffee break

Section AM (room C06) -----

Chairman: Csaba Farkas

- 11.30–12.00 **Lillian Oluoch:** Gaussian Regression Analysis of Drilling Protocols for Dental Implantation Surgery
12.00–12.30 **István Fazekas, Csaba Noszály, Noémi Uzonyi:** Is Taylor's power law true for random networks?
12.30–13.00 **Boróka Oltean-Péter:** The Modelling of Cardiovascular Diseases Using Differential Equations

Section CS (room C07) -----

Chairman: Krisztian Buza

- 11.30–12.00 **Adriana Popovici:** Extensions of Linear Cellular Automata
12.00–12.30 **Krisztian Buza:** Some Recent Breakthroughs in Artificial Intelligence (science popularizing talk)
12.30–13.00 **Norbert Fejér, Margit Antal:** Handcrafted vs automatic features for user authentication based on mouse dynamics
13.00–14.30 Lunch break

September 2, 14.30–20.00

Plenary session (room C06)

Chairman: Mihai Mihăilescu

14.30–15.30 **Rodica Ioana Lung:** Finding Equilibrium: Computational Intelligence and Games

15.30–16.30 **Csaba Varga:** Multiple positive standing wave solutions for Schrödinger equations with oscillating state-dependent potentials

16.30–16.45 Coffee break

Section AM (room C06) -----

Chairman: Alexandru Kristály

16.45–17.15 **Mihai Mihăilescu:** The Monotonicity of the Principal Eigenvalue of the p -Laplace Operator

17.15–17.45 **Nicușor Costea:** Mixed hemivariational-like inequalities involving set-valued maps and application

17.45–18.15 **Júlia Salamon, Zoltán Makó:** Correlated equilibriums of the games in fuzzy environment

18.15–18.30 Coffee break

Chairman: Emil Horobeț

18.30–19.00 **István Fazekas, Sándor Pecsoara:** On the spectrum of noisy blown-up matrices

19.00–19.30 **Eszter Szatmari:** Differential subordinations obtained by using generalized Salagean integro-differential operator

Section CS (room C07) -----

Chairman: Kása Zoltán

16.45–17.15 **Attila Barta:** Theoretical and simulation results on a network evolution model driven by a branching process

17.15–17.45 **Gyöngyvér Márton:** "End-to-end encryption" – real perspective or danger in cryptography?

17.45–18.15 **Barabási Barna, Katalin Tünde Jánosi-Rancz:** Burnout in IT sector

18.15–18.30 Coffee break

Chairman: David Iclanzan

18.30–19.00 **Csaba Bálint:** Advances in Sphere Tracing

19.00–19.30 **Csanád Sándor:** Compression of Convolutional Neural Networks by Filter Pruning

19.30–20.00 **Gabriel-Bogdan Trofin:** An NLP-paradigm for Retrieving Historical Documents from the Romanian Language

20.00 Dinner

September 3, 9.00–12.30

8.00–8.30 Breakfast

Plenary session (room C06)

Chairman: Liviu Ignat

8.30–9.30 **Andrei Marcus:** Equivalences of categories in representation theory of finite groups

9.30–10.30 **Petru Jebelean:** Multiple periodic solutions for the relativistic operator

10.30–11.00 Coffee break

Section AM (room C06) -----

Chairman: Loredana Bălilescu

11.00–11.30 **Aurora Marica:** Multiplier techniques and eigenfunction estimates for discrete Laplace operators

11.30–12.00 **Tamás László:** Numerical semigroups and geometry of singularities

12.00–12.30 **Alexandru Kristály:** Brezis-Poincaré-Vázquez inequalities on non-euclidean structures

Section CS (room C07) -----

Chairman: Kátai Zoltán

11.00–11.30 **Daniela-Maria Cristea:** Formal Concept Analysis for Amino Acids Classification and Visualization

11.30–12.00 **Lehel István Kovács:** Kinect-Based Gesture Recognition for Robot Control

12.00–12.30 **György Kovács, Gheorghe Sebestyen, Anca Hangan:** Evaluation Metrics for Anomaly Detection Algorithms in Time Series

Section A (room C230) -----

Chairman: Andrei Mărcuş

11.00–11.30 **Mátyás Domokos:** Constructive noncommutative invariant theory

11.30–12.00 **Csaba Szántó:** Schofield sequences in the Euclidean case

12.00–12.30 **Virgilius-Aurelian Minuță:** Character triples and group graded equivalences

12.30–14.00 Lunch break

September 3, 14.00–20.00

Plenary session (room C06)

Chairman: Aurora Marica

14.00–15.00 **Rolland Vida:** Smart Cities – what technology can bring, and what depends on us

15.00–16.00 **Liviu Ignat:** The Schrödinger equation on a tree: dispersion and Hardy's uncertainty principle

16.00–16.15 Coffee break

Section AM (room C06) -----

Chairman: Nicușor Costea

16.15–16.45 **Björn Gebhard, József J. Kolumbán, László Székelyhidi Jr.:** Rayleigh-Taylor turbulence via convex integration

16.45–17.15 **József Kolumbán:** On the solution set of a hemivariational inequality governed by the Navier-Stokes operator

17.15–17.45 **Csaba Farkas:** Multipolar Hardy inequalities on Riemannian manifolds

17.45–18.00 Coffee break

Chairman: József Kolumbán

18.00–18.30 **Paul Blaga, Cristina Blaga:** On some transformations in elliptic triangle geometry

18.30–19.00 **Ágnes Orsolya Páll-Szabó:** Coefficient estimates for new classes of bi-univalent functions defined by Salagean integro-differential operator

19.00–19.30 **Sándor Horváth:** Recursive Formulas for the Simple Continued Fraction of some Mathematical Constants

Section CS (room C07) -----

Chairman: Gyöngyvér Márton

16.15–16.45 **Zoltán Kátai, Erika Osztián:** Dynamic visualizations in the AlgoRythmics environment

16.45–17.15 **Erika Osztián, Zoltán Kátai, Beáta Lőrincz:** Testing tool for investigating young school students' algorithmic thinking

17.15–17.45 **Pálma Rozália Osztián, Jáhel Eszter Nagy, Cristian Cosma, Zoltán Kátai, Erika Osztián:** Interactivity Effectiveness in the AlgoRythmics Universe

17.45–18.00 Coffee break

Chairman: Lehel Kovács

- 18.00–18.30 **Zsolt Levente Kucsván, László Szilágyi:** Atlas based segmentation of 6-month-old infant brain MR images
18.30–19.00 **Szabolcs Pável, Csanád Sándor, Lehel Csató:** Distortion Estimation Through Explicit Modeling of the Refractive Surface
19.00–19.30 **Pedro Henrique Villar de Figueiredo:** Generating Adaptive Distance Fields from Triangle Meshes
19.30–20.00 **Zsók Viktória, Li Jianhao:** Prototyping Distributed Systems

Section A (room C230) -----

Chairman: Emil Horobeț

- 16.15–16.45 **Tiberiu Coconeț:** Domination of blocks and fusion systems
16.45–17.15 **Izabella Ingrid Farkas, Attila Kovács:** Signatures of integer expansions in real quadratic fields
17.15–17.45 **Kálmán Ciszter:** Degree bounds for generators of invariant rings

17.45–18.00 Coffee break

Chairman: Csaba Szántó

- 18.00–18.30 **István Szöllősi:** Computer assisted proof of the tree module property for representations of Euclidean quivers
18.30–19.00 **Dan Popovici:** Decompositions for triples of commuting isometries
19.00–19.30 **Simona-Maria Radu:** CS-Rickart Objects in Abelian Categories

20.00–20.30 String Quartet Recital (Foyer)

20.30 Social Dinner

September 4, 8.30–12.30

8.00–8.30 Breakfast

Plenary session (room C06)

Chairman: Zoltán Kása

8.30–9.30 **Loredana Băilescu:** The dispersion tensor and its unique minimizer

9.30–10.30 **Shariefuddin Pirzada:** On Laplacian eigenvalues of graphs

10.30–11.00 Coffee break

Section AM (room C06) -----

Chairman: Pál Kupán

11.00–11.30 **Emil Horobeț:** Curvature and randomness

11.30–12.00 **Ferenc Szenkovits:** The Jesuit astronomers Nicolaus Ianosi and Maximilian Hell in Cluj

12.00–12.30 **David Iclanzan, Sándor Horváth:** Properties of Simple Random Walks on the Integer Axis

Section CS (room C07) -----

Chairman: Tünde Jánosi-Rancz

11.00–11.30 **Lehel Csató:** Sparse Projection for Data Visualisation and Classification

11.30–12.00 **Balázs Vass:** Enumerating Regional Failures in Communication Networks

12.30–14.00 Lunch break

14.30 City Tour

Poster Section (Monday–Wednesday)

Mira Anisu, Szücs-Csillik Iharika: Existence and stability of circular orbits in exponential-type potentials

Dénes Bartha: Inferring large jumbled patterns from small patterns

Kása Zoltán: Complexity of finite and infinite words