

The 11th International Gheorghe Vrănceanu Conference on Mathematics and Informatics

Program

May 20, 2026

08:00–19:00

08:00–10:00 Registration

10:00–10:30 Opening Ceremony — D224

Plenary Session — D224

Chairperson: Marcelina Mocanu

- 10:30–11:00 Vasile Berinde
Technical University of Cluj-Napoca, România
On the role of fixed point theory of nonexpansive type mappings in
Machine Learning
- 11:00–11:30 Vijay Gupta
Netaji Subhas University of Technology, India
Approximation and Some Examples of Composition Operators
- 11:30–11:50 Voichita Adriana Radu¹, Marius Birou², Carmen-Violeta Popescu³
¹ *Babeş-Bolyai University, Romania*
² *Technical University of Cluj-Napoca, Romania*
³ *Vasile Alecsandri University of Bacău, Romania*
Baskakov Operators of Integral Type
- 11:50–12:20 Ana Maria Acu¹ (joint work with Mihai Iliina¹, Florin Sofonea¹, Ari-
anna Travaglini², Gianluca Vinti³)
¹ *Lucian Blaga University of Sibiu, Sibiu, Romania*
² *University of Basilicata, Potenza, Italia*
³ *University of Perugia, Perugia, Italia*
Neural Network and sampling Kantorovich operators used for image
reconstruction

12:20–14:00 Lunch Break

Chairperson: Roxana Ardeleanu

- 14:00–14:20 Vaibhav Sharma, Vijay Gupta
Netaji Subhas University of Technology, India
On a Generalization of Ismail–May Operators
- 14:20–14:40 Mahak, Vijay Gupta and Shivam Kumar Singh
Netaji Subhas University of Technology, India
Approximation properties of integral operators based on adjoint
Appell-Euler polynomials

14:40–15:10 Utku Kose
Suleyman Demirel University, Turkeye
GEMEX: A New XAI Methodology with Geodesic Foundations

15:10–15:40 Constantin Băcuță
University of Delaware, United States of America
Finite element discretization for convection dominated problems

15:40–16:00 Coffee Break

Section 1 Mathematics — D224

Chairperson: Carmen Popescu

16:00–16:20 Mihaela Rusu
Alexandru Ioan Cuza University of Iași, Romania
Biconservative Surfaces in the 4-Dimensional Hyperbolic Space – The Extrinsic Characterizations

16:20–16:40 Marcelina Mocanu
Vasile Alecsandri University of Bacău, Romania
A unified approach to some Gromov hyperbolic metrics in geometric function theory

16:30–17:00 Vijay Gupta¹, Carmen-Violeta Popescu (Muraru)², Elena-Roxana Ardeleanu² and Marcelina Mocanu²
¹ *Netaji Subhas University of Technology, India*
² *Vasile Alecsandri University of Bacău, Romania*
A new sequence of approximation operators involving modified Bessel functions of first kind

17:00–17:20 Bogdan Maxim
University of Craiova, Romania
A General Quasilinear Parabolic Problem with Variable Exponents and Applications to Image Processing

17:20–17:30 Coffee Break

Chairperson: Roxana Ardeleanu

17:30–17:50 Valeriu Popa and Marcelina Mocanu
Vasile Alecsandri University of Bacău, Romania
Applications of minimal structures in General topology and beyond

17:50–18:10 Lungu Otilia, Ardeleanu Roxana Elena
Vasile Alecsandri University of Bacău, Romania
Conformal Transformations in Electro-Complex Randers Spaces

18:10–18:30 Alina-Mihaela Patriciu
Dunărea de Jos University of Galați, Romania
The stability of maximal helicoidal spacelike surfaces in three-dimensional Minkowski space

18:30–18:50 Rareş Ambrosie, Valer Nimineţ
Vasile Alecsandri University of Bacău, Romania
Biharmonic homogeneous polynomial maps between spheres

Section 2 Informatics — D225

Chairperson: Cerasela Crişan

- 16:00–16:20** Cosmin Tomozei and Iulian Furdu
Vasile Alecsandri University of Bacău, Romania
Using mixed reality within university master programs curricula: a case study
- 16:20–16:40** Horia Creţu
Luxoft Professional Romania
AI/Software Defined Vehicles - challenges and progress in the current automotive environment
- 16:40–17:00** Teodora Hoamea
Ness Digital Engineering Romania
A Comparison of Data-Driven Techniques Effectiveness in Romania's Public Health
- 17:00–17:20** Bogdan Pătruţ¹, Ionut-Virgil Şerban², Claudia-Mihaela Țugulea³, Andreea-Beatrice Ababei⁴
¹ *Alexandru Ioan Cuza University of Iasi, Romania*
² *International University of Rome, Italy*
³ *Socola Institute of Psychiatry, Iasi, Romania*
⁴ *St. Spiridon Emergency Hospita, Iasi, Romania*
Shaping Quality Research in Medicine and Artificial Intelligence: The Editorial Framework of BRAIN Journal

17:20–17:30 Coffee Break

Chairperson: Cosmin Tomozei

- 17:30–17:45** Sorin Caloian^{1,2}, Gloria-Cerasela Crişan²
¹ *Alexandru Ioan Cuza University of Iaşi, Romania*
² *Vasile Alecsandri University of Bacău, Romania*
Modeling and Optimization of Hybrid Truck–Drone Delivery Systems
- 17:45–18:00** Dan Popa
Vasile Alecsandri University of Bacău, Romania
Disemination of results: 2-becomes A2,when teaching Arduino examples from the IDE using the multifunction shield (HW-262)
- 18:00–18:15** Cezar-Marian Păpară^{1,2}, Lidia-Monica Antal¹
¹ *Alexandru Ioan Cuza University of Iaşi, Romania*
² *Vasile Alecsandri University of Bacău, Romania*
Generative AI in Combinatorial Optimization: Analyzing Limitations and Error Patterns
- 18:15–18:30** Claudiu Cristian Butnaru, Alexandra Calara
Alexandru Ioan Cuza University of Iaşi, Romania

- From Static Fairness to Fairness Maintenance: Monitoring Fairness Drift in Machine Learning Systems
18:30–18:45 Cristina Ticala, Monica Lauran, Adina Pop, Camelia Pinte
Technical University of Cluj-Napoca, Romania
Sensitive Ant Colony Optimization for Edge Detection in Pneumonia Medical Imaging
- 18:45–19:00** Lidia-Monica Antal¹, Cezar-Marian Păpară^{1,2}
¹ *Alexandru Ioan Cuza University of Iași, Romania*
² *Vasile Alecsandri University of Bacău, Romania*
LLM Paraphrasing for Class Imbalance in Sentiment Analysis of Logistics Feedback for Routing Optimization
- 19:00–19:15** Elena Nechita
Vasile Alecsandri University of Bacău, Romania
Small optimization instances for real-world problems in Romania. Modern approaches
- 19:15–19:30** Alexandra Calara, Claudiu Cristian Butnaru
Alexandru Ioan Cuza University of Iași, Romania
Hybrid Multi Agent DRLBenders for real-time temperature aware routing and logistics in perishable