

CSIT CONFERENCE

Workshop “MathAI: Artificial Intelligence toward Space and Time”

<https://www.csit.am>

Organized by the Institute for Informatics and Automation Problems

in the framework of the International State Scientific Program in the name of Academician Victor Ambartsumian

26-27 May, 2026, Yerevan, Armenia

Venue: 1, Paruyr Sevak str., Yerevan 0014, Armenia

Tuesday, May 26, 2026

Registration

09:30 – 16:00 Registration

09:50 – 12:00 Session 1 “AI Foresight” | Hall

Moderators: Yuri Shoukourian (Armenia), Levon Aslanyan (Armenia)

09:50 Welcome Messages

10:00 Andreas Athenodorou, Sebastian Wetzel, Adam Lantos (Cyprus), “Machine Learning Identification of Phase Structure: From Ising to Gauge Theories”

10:20 Edward Pogossian (Armenia), “Grounding Generalized Cognizing on Cognizing of Combinatorial Games”

10:40 Garik Mkrtchyan (Armenia), “Trajectory Processing Self-Supervised Metric”

11:00 Gagik Harutyunyan (Armenia), “Multi-Agent Communication System”

11:20 Arthur Malajyan (Armenia), “Accent Classification with Self-Supervised Speech Encoders”

11:40 Erik Saroyan (Armenia), “Hallucination-Free Unsupervised Denoising: Constrained Frequency Recombination Guided by Perceptual Loss”

12:00 – 13:00 Lunch Break

13:00 – 15:00 Session 2 “AI Factory” | Hall

Moderators: Michel Dayde (France), Hrachya Astsatryan (Armenia)

13:00 Alexandre Dupaquis, Ronan Guivarch, Sandrine Mouysset, Daniel Ruiz, Vincent Charvillat, Frédéric Bouilhaguet (France), “A Reduced Variable Neighborhood Search Metaheuristic to Optimize Airport Ground-Handling: A Focus on Catering Operations Assignment”

13:20 Hayk Aslanyan, Garnik Khroyan, Shake Hakobyan, Hripsime Hovhannisyan (Armenia), “Automated Loop Detection and Iteration Count Analysis in Binary Code”

13:40 Hamlet Harutyunyan, Dukhik Hovsepian (Armenia), “A Comparative Study of Vector Indexing Strategies Using Facebook AI Similarity Search as a Case Study”

14:00 Yeghisabet Alaverdyan, Suren Poghosyan (Armenia), “Intelligent Intrusion Detection and Prevention for Self-Organizing Cyber-Physical Systems”

14:20 Vladimir Sahakyan, Artur Vardanyan (Armenia), “Admission Control and Scheduling in a G|G|m Queue with Simultaneous Service and Waiting Time Restrictions”

14:40 Hrachya Astsatryan, Amiran Petrosyan (Armenia), “Predicting Distributed BFS Performance Under RDMA-Based Memory Disaggregation: A Graph-Aware Analytical Model”

15:00 – 15:20 Coffee Break

15:20 – 18:00 Session 3 “AI Math” | IIAP NAS RA, Hall

Moderators: Cris Lorenz (United Kingdom), Edward Pogossian (Armenia)

15:20 Cris Lorenz (United Kingdom), “Applications of Machine Learning in Computational Materials Science”

15:40 Minas Aslanyan, Levon Aslanyan (Armenia), “Occlusion-Aware Part-Level Supervised Contrastive Learning for Skeleton-Based Gait Recognition”

16:00 Diana Davidova (Armenia), “Vectorial Bent Functions and O-Polynomials”

16:20 Arsen Mokatsian (Armenia), “Medvedev Lattice and Plotinus’ and Proclus’ Doctrines of Number”

16:40 Iskandar Karapetyan, Karen Karapetyan (Armenia), “On a New Method for Constructing Complete Cap Sets”

Wednesday, May 27, 2026

10:00 – 12:30 Session 4 "Agentic" | Hall

Moderators: Vladimir Sahakyan (Armenia), Sergo Tsiramua (Georgia)

10:00 1. Michel Kulhandjian (USA), "Integrated 5G Sensing and Communications (ISAC) for Passive Radar, RF Intelligence, and Airspace Monitoring in Complex Environments"

10:15 Zaven H. Naghashyan (Armenia), "If Aristotle Had a Laptop: Reimagining Philosophy in the Information Age"

10:30 Kazarian A. E., Kazarian A. A., Minasyan G. H., Mkrtchyan A. O., Sahakyan V. G. (Armenia), "Applications of Artificial Intelligence in Geoinformatics and Earthquake Precursor Research"

10:45 Agit Atashyan, Yuri Shoukourian, Vahagn Poghosyan, Large-Scale Preflight Simulation and Verification of Deterministic Coverage and Conflict Minimization in Self-Organizing UAV Swarms on Multi-Eulerian Rotor-Router Graphs

11:00 Sepuh Melikyan, Gurgen Melikyan (Armenia), "Reinforcement Learning Approaches to Combinatorial Optimization: Methods and Applications"

11:15 Sergey Abrahamyan, Yeghiazar Grigoryan (Armenia), "Security Analysis of SAFER+ Against Multidimensional Linear Cryptanalysis"

11:30 Artyom Lazyan, Yuri Shoukourian, Vahagn Poghosyan, A Cross-Platform Microservice-Based Multi-User Platform for Decentralized Unmanned Aerial Vehicle Swarm Mission Engineering

11:45 Vartanov S. R., Minasyan V. A. (Armenia), "A Neural Network-Based Alarm System and Event Processing in a Virtual Cluster Environment"

12:00 Erik Pogosyan (Armenia), "Cooperating Roving Agents for Network Routing"

12:15 Samvel Darbinyan (Armenia), "On Hamiltonian Bypasses in Digraphs and Bipartite Digraphs"

12:30 – 13:00 Coffee Break

13:00 – 15:00 Session 5 Round Table "AI-Related Discussion", Closing | IIAP NAS RA, Hall

Moderators: Karen Eghiazarian (Finland), Vakhtang Kvaratskhelia (Georgia)

1. Usepyan M. G. (Armenia), "An Intelligent Platform for Iterative Curriculum Design Based on Stakeholder Feedback"

2. Hambardzum Minasyan (Armenia), "Secure Edge Machine Learning Architecture for Privacy-Preserving Intrusion Detection in Internet of Things Environments"

3. Gurgen Melikyan, Sepuh Melikyan (Armenia), "InstructID: Identity-Aware Instruction-Conditioned One-Step Diffusion"

4. Artur Vardanyan, Tigran Gabrielyan (Armenia), "Advanced Molecular Toxicity Prediction Using Graph Neural Networks with Integrated Functional Group Features"

5. Arusyak Manasyan (Armenia), "Quantifying Network Resilience: Evaluating Machine Learning Models for Automated Anomaly Intervention"

6. Boris Karapetyan (Armenia), "Instrumental Environment for Synthesizing Game Strategies"

7. Gayane Barseghyan (Armenia), "Discrete Modeling of Biological Pathways with a Demonstration Using Insulin Signaling and Apoptosis"

8. Levon Aslanyan, Hasmik Sahakyan, Vilik Karakhanyan, Irina Arsenyan (Armenia), "Cross Communication Model"

9. Erik Saroyan (Armenia), "Graph Neural Networks for Radio Frequency Image Classification"

10. Garik Mkrtchyan (Armenia), "Latent-Adversarial Pixel-Decoder for Radio-Frequency Images"

11. Aghasy Movsesyan (Armenia), "Attention-Gated Convolutional Neural Networks for Interpretable Classification of Radio-Frequency Images"

12. Vilik Karakhanyan, Irina Arsenyan, Properties of Multivalued Multidimensional Torus

13. Levon Aslanyan (Armenia), "Logic Constructive Learning"

Evening Programme

19:00 – 21:00 Project Invited Welcome Reception