

International conference
“Machine learning and Nonlinear dynamics - 2025”
15.10.2025 – 18.10.2025

HSE University – Nizhniy Novgorod
25/12, Bolshaya Pecherskaya Street

15 October, Wednesday

14.00-14.45	Registration	Hall, 1st floor
14.45-15.00	Opening	305
15.00 – 18.00	Workshop «AI for medicine»	305
15.00-15.20	Kadurin A.A. AI for drug discovery	
15.20-15.40	Klinshov V.V. Deep learning for automatic spine radiograph labeling	
15.40-16.10	Bursov A.I. Experience in developing a medical device with AI in the ISP RAS	
16.10-16.25	Coffee-Break	
16.25-16.45	Gombolevskiy V.A. Medical AI: Algorithms that are changing practice	
16.45-17.05	Khrabrov K.A. Optimization of molecular conformations using graph neural networks	
17.05-17.25	Levanova T.A. Automated Sleep Spindle Analysis in Epilepsy EEG Using Deep Learning	
17.25-17.40	Semenova N.I. Assessment of tissue glycation in diabetes using optical clearing and nonlinear regression	
17.40-18.00	Lebedeva A.V. Development of a technology for restoring neuronal activity in the rat hippocampus using AI	

16 October, Thursday

14.45-15.00	Coffee-Break	
15.00 – 18.00	Section “Nonlinear dynamics for machine learning”	305
15.00-15.45	Semenova N.I. Internal noise in hardware neural networks of various types	
15.45-16.30 on-line	Kuptsov P.V. Application of machine learning methods to reconstruct a one-parameter family of dynamic models from a scalar time series	
16.30-17.00	Solovev I.A. Training a simple neural network: a tradeoff between speed and memory consumption	
17.00-17.30	Kolesnikov I.D. Modeling and evaluation of the impact of additive and multiplicative noise on the performance of hardware neural networks	
17.30-17.45	Myakov T.I. The influence of the differential equation integration method at the stage of training dataset formation on the properties of neuronetwork map	
17.45-18.00	Panyushev A.A. Machine learning for solving the problem of detecting multistable attractors	

International conference
“Machine learning and Nonlinear dynamics - 2025”
15.10.2025 – 18.10.2025

HSE University – Nizhniy Novgorod
25/12, Bolshaya Pecherskaya Street

17 October, Friday

14.45-15.00	Coffee-Break	
15.00 – 18.00	Section “Dynamical Systems”	305
15.00-15.45	Semenov V.V. Symmetry control for bistable systems: methods and applications	
15.45-16.15 on-line	Čubrović M. Semiclassical chaos and superdiffusion in Bose-Hubbard lattices	
16.15-16.45	Gonchenko A.S. On discrete Lorenz-like strange attractors in systems with axial symmetry	
16.45-17.00 on-line	Franovic I. How ketogenic diet impacts multistability and allows for control of seizure-like activity: new insights from a next-generation neural mass approach	
17.00-18.00	Poster Session, Coffee-Break	Hall, 3rd floor

Poster session

Smyshlyaev A.P. Sleep spindles detection using hypergraph learning

Klimenko K.E. Reconstruction of the mean-field dynamics of neuron-astrocyte interaction using the dend-PLRNN architecture

Gromov N.V. On some properties of output matrices in reservoir computings

Bagautdinova E.R. Comparative analysis of multistable properties of the Hodgkin-Huxley model and its neural network map

Moskvitin V.M. The Impact of Internal Noise on the Performance of an Artificial Neural Network: Application of a Noise Reduction Strategy

Shamsina A.L. Multistability in non-autonomous generator of quasi-periodic oscillations

Qasim M. Classification of dynamical regimes in the Chialvo map with Machine Learning

18 October, Saturday

14.45-15.00	Coffee-Break	
15.00 – 17.30	Section “Machine learning for tasks of nonlinear dynamics”	305
15.00-15.45	Klinshov V.V. TBA	
15.45-16.30	Karavaev A.S. Biosignal models for parameter tuning and verification of data analysis methods	
16.30-17.00	Posnenkova O.M., Bondarenko I.A. Analysis of the phase structure of the electrocardiogram under stress and at rest using machine learning methods	
17.00-17.30 on-line	Ishbulatov Yu.M. Neural network method for estimating the strength of directional interaction between self-oscillating systems	
17.30-18.00	Closing	