

**Session Program**

**25-29 May 2026**

**25th IEEE Real Time Conference - La Biodola,  
Elba, Italy**

***AI, Machine Learning, Real Time Simulation,  
Intelligent Signal Processing - PS***

La Biodola - Isola d'Elba (Italy)

## Wednesday 27 May

11:05

### AI, Machine Learning, Real Time Simulation, Intelligent Signal Processing - PS

Poster Session | Location: Hotel Hermitage, Elena Room

#### FPGA-Deployed Variational Autoencoder for Real-Time Soft X-Ray Electron Temperature Reconstruction in RFX-mod2

**Speaker**

Luca Orlandi

#### Single-Detector Cosmic-Ray Muon Identification in Plastic Scintillators Using Machine Learning

**Speaker**

Hai Vo

#### Self-Supervised and Semi-Supervised Machine Learning for Waveform-Based Neutron/Gamma Discrimination in EJ-276 Plastic Scintillator

**Speaker**

Hai Vo

#### Intelligent Pulse Timing on Digitized Nuclear Signals with Self-Weakly-Supervised Neural Regression Models

**Speaker**

Pengcheng Ai

#### Event-Driven Spiking Neural Networks for Emergent Robotic Swarm Behavior

**Speaker**

Dr Marcos Turqueti

#### Real-Time Machine-Learning Inference Workflows at FRIB using EKFAT and ESNet

**Speaker**

Giordano Cerizza

#### Design-Space Exploration and Integer Quantization of Graph Neural Networks for Real-Time FPGA Track Finding

**Speaker**

Andrea Cardini

#### Real-time Autoregressive Evolution of Tokamak Plasma Magnetic Measurements

**Speaker**

Dr Shuai Li

#### An Initial Study of Neural-Network-Assisted Approaches for Drift Chamber Tracking

**Speaker**

Mr Viet Nguyen

#### Benchmarking Neural Network Inference on Versal ACAP AI Engines for Real-Time Detector Alignment

**Speaker**

Akshay Malige

**Studies for a track finder algorithm based on Graph Neural Networks for the MEG II experiment****Speaker**

Antoine Venturini

**A High-performance DOI Encoding Algorithm for PET Detectors with High Coupling Ratio****Speaker**

Yonggang Wang

**A Maximum Log-Likelihood Regression Approach for Quantitative Mixture Prediction in PGNAA Spectroscopy****Speaker**

Helmand Shayan

**A Scalable Intelligent Agent System for Automated Monitoring and Debugging Support of the JUNO Electronics system****Speaker**

Yifan Yang

**Real-Time Plasma Density Prediction and Control Framework for Pellet Injection on EAST Tokamak****Speaker**

Yucheng Wang

**A 1D-Convolutional Autoencoder for Pulse Compression in Nuclear DAQ Systems****Speaker**

Jose Manuel Deltoro Berrio

12:05