

# NEUREL 2018 Conference Program

Tuesday, November 20, 2018

**08:00 -** **Start of Registration** **NEUREL 2018**  
**Registration Desk**

**08:30 – 10:15** **SESSION 1** **Japan Salon**  
**Signal, Image and Video Processing** **(First floor)**  
*Chairpersons: Ana Gavrovska and Milorad Paskaš*

- S1.1** **Milorad Paskaš, Marijeta Slavković-Ilić, Irini Reljin and Branimir Reljin**  
*Adaptation of Local Binary Patterns toward Robustness to Gaussian Noise*
- S1.2** **Ana Gavrovska, Goran Zajić, Milan Milivojević and Irini Reljin**  
*Machine-learning based Blind Visual Quality Assessment with Content-aware Data Partitioning*
- S1.3** **Aleksandra Pavlović, Ana Gavrovska and Nataša Milosavljević**  
*The Skyline Image Segmentation using Color and Detail Clustering*
- S1.4** **Milan Milivojević, Ana Gavrovska and Irini Reljin**  
*Biometric Clustering of ECG using Wave Peaks*
- S1.5** **Milan Pavlović, Goran Zajić, Marija Zajeganović, Dragan Ristić, Irini Reljin and Miomir Mijić**  
*Classification of Room Impulse Responses using Kohonen Neural Network*
- S1.6** **Nikola Slavkovic, Goran Zajic, Ana Gavrovska, Irini Reljin, Branimir Reljin and Milan Bjelica**  
*Integrating Mobile Vehicle Sensor Diagnostic Procedures into the Intelligent Transportation Network*
- S1.7** **Dragana Sandić-Stanković, Dejan Bokan and Dragan Kukolj**  
*Blind DIBR-synthesized Image Quality Assessment using Multi-scale DoG and GRNN*

**10:30 – 12:00** **Opening Ceremony** **Rooms 1+1a+1b/0**  
**(Joined with TELFOR Conference)** **(Ground Level)**

**12:00 – 13:00** **Welcome Party** **Sava Center Restaurant**  
**(Ground Level)**

**14:30 – 16:30** **SESSION 2** **Japan Salon**  
**Biomedical Applications 1** **(First floor)**  
*Chairpersons: Marko Janković and Dejan Raković*

- IL.1** **Invited Lecture 1: Marko Jankovic, University of Bern, Switzerland**  
*Quantum Low Entropy based Associative Reasoning - QLEAR Learning*  
*Chairman for Invited Lecture: Branimir Reljin*
- S2.1** **Qingnan Sun, Marko Jankovic, Lia Bally and Stavroula Mougiakakou**  
*Predicting Blood Glucose with an LSTM and Bi-LSTM Based Deep Neural Network*
- S2.2** **Qingnan Sun, Marko Jankovic and Stavroula Mougiakakou**  
*Impact of Errors in Carbohydrate Estimation on Control of Blood Glucose in Type 1 Diabetes*
- S2.3** **Vladimir Atanasoski, Marija Ivanovic, Milan Marinkovic, Goran Gligoric, Bosko Bojovic, Alexei Shvilkin and Jovana Petrovic**  
*Unsupervised Classification of Premature Ventricular Contractions Based on RR Interval and Heartbeat Morphology*
- S2.4** **Adam Barton**  
*The Spiking Neural Network Agent – The Initial Experimental Study*
- S2.5** **Dejan Raković**  
*On Extended Quantum-Holographic Framework for Control of Macro-Quantum Correlations of Individual and Collective Consciousness*
- S2.6** **Aneta Kartali, Miloš Roglić, Marko Barjaktarović, Milica Đurić-Jovičić and Milica Janković**  
*Real-time Algorithms for Facial Emotion Recognition: A Comparison of Different Approaches*

**16:45 – 17:00** **Coffee Break**

# NEUREL 2018 Conference Program

17:00 – 18:45

## SPECIAL SESSION – Vlatacom Institute

Session Organizer: Srđan Stanković

Japan Salon  
(First floor)

Chairpersons: Branka Stojanović and Miloš Stanković

- S3.1 **Milan Stojanović, Nataša Vlahović, Miloš Stanković and Srđan Stanković**  
*Deep Features in Correlation Filters for Thermal Image Tracking*
- S3.2 **Miloš Pavlović, Branka Stojanović, Ranko Petrović and Srđan Stanković**  
*Fusion of Visual and Thermal Imagery for Illumination Invariant Face Recognition System*
- S3.3 **Branka Stojanović, Snežana Puzović, Nataša Vlahović, Ranko Petrović and Srđan Stanković**  
*Real-Time Multi-Sensor Infrared Imagery Enhancement*
- S3.4 **Nataša Vlahović, Nemanja Ilić and Miloš Stanković**  
*Deep Learning in Video Stabilization Homography Estimation*
- S3.5 **Jakub Špaňhel, Jakub Sochor and Aleksej Makarov**  
*Vehicle Fine-grained Recognition Based on Convolutional Neural Networks for Real-world Applications*
- S3.6 **Jakub Špaňhel, Jakub Sochor and Aleksej Makarov**  
*Detection of Traffic Violations of Road Users Based on Convolutional Neural Networks*
- S3.7 **Katarina Knežević, Emilija Mandić, Ranko Petrović and Branka Stojanović**  
*Blur and Motion Blur Influence on Face Recognition Performance*

Wednesday, November 21, 2018

08:30 – 10:30

## SESSION 4

Japan Salon  
(First floor)

### Miscellaneous Applications

Chairpersons: Liviu Goras and Tomislav Šekara

- S4.1 **Aleksej Avramović, Domen Tabernik and Danijel Skočaj**  
*Real-time Large Scale Traffic Sign Detection*
- S4.2 **Igor Ševo**  
*Semi-supervised Neural Network Training Method for Fast-moving Object Detection*
- S4.3 **Aleksej Avramović, Vedran Jovanović, Ratko Pilipović, Vladan Stojnić, Vladimir Risojević, Slavica Gajić, Mitar Simić, Igor Ševo, Mario Muštra, Zdenka Babić and Janja Filipi**  
*Automatic Monitoring of Honeybees' Activity Outside of the Hive from UHD Video*
- S4.4 **Vladan Stojnić and Vladimir Risojević**  
*Analysis of Color Space Quantization in Split-Brain Autoencoder for Remote Sensing Image Classification*
- S4.5 **Saad Merrouche, Dimitrije Bujaković, Milenko Andrić and Boban Bondžulić**  
*Feature Selection for Image Distortion Classification*
- S4.6 **Jovan Mikulović and Tomislav Šekara**  
*Power Definitions for Fractional Order Elements and Non-Active Power Compensation*
- S4.7 **Liviu Goras, Viorel Stefan Savinescu and Nica Ioan**  
*On Pattern Formation in Homogeneous and Nonhomogeneous Cellular Neural Networks*
- S4.8 **Vladica Đorđević, Zlatica Marinković, Olivera Pronić-Rančić and Vera Marković**  
*Comparative Analysis of Different ANN Methods for the Noise Wave Temperature Extraction*

10:45 – 11:00

Coffee Break

# NEUREL 2018 Conference Program

11:00 – 13:30

## SESSION 5

Japan Salon  
(First floor)

### Deep Learning

*Chairpersons: Irena Orović and Budimir Lutovac*

- IL.2 Invited Lecture 2: Petar Djurić, Stony Brook University, USA**  
*Deep Gaussian Processes: Theory and Applications*  
*Chairman for Invited Lecture: Srđan Stanković*
- S5.1 Guanchao Feng, J. Gerald Quirk and Petar Djurić**  
*Supervised and Unsupervised Learning of Fetal Heart Rate Tracings with Deep Gaussian Processes*
- S5.2 Predrag Tadić, Nima Asadi, Nikola Popović and Zoran Obradović**  
*Improving the Efficiency of the Support Vector Decomposition Machine*
- S5.3 Miloš Brajović, Budimir Lutovac, Miloš Daković and Ljubiša Stanković**  
*Reconstruction of Missing Samples in LFM Signals Using the Genetic Algorithm*
- S5.4 Andjela Draganić, Irena Orović and Srđan Stanković**  
*QR Encoding from Highly Under-sampled Code Image Based on the CS Approach*
- S5.5 Ljubinka Sandjakoska and Ana Madevska Bogdanova**  
*Towards Stochasticity of Regularization in Deep Neural Networks*
- S5.6 Vedran Jovanović, Eirik Svendsen, Vladimir Risojević and Zdenka Babić**  
*Splash Detection in Fish Plants Surveillance Videos Using Deep Learning*
- S5.7 Luka Šećerović and Veljko Papić**  
*Detecting Missing Products in Commercial Refrigerators using Convolutional Neural Networks*
- S5.8 Milos Kotlar, Dragan Bojic, Marija Punt, and Veljko Milutinovic**  
*A Survey of Deep Neural Networks: Deployment Location and Underlying Hardware*

13:30 – 14:30

## Lunch Break

Sava Center Restaurant  
(Ground Level)

14:30 – 16:30

## SESSION 6

Japan Salon  
(First floor)

### Biomedical Applications 2

*Chairpersons: Valeri Mladenov and Dan Lacrama*

- IL.3 Invited Lecture 3: Natasa Reljin, University of Connecticut, USA**  
*Transthoracic Bioimpedance Measurements for Heart Failure Detection*  
*Chairman for Invited Lecture: Srđan Stanković*
- S6.1 Natasa Reljin, Yelena Malyuta, Gary Zimmer, Yitzhak Mendelson, David Blehar, Chad Darling and Ki Chon**  
*Automatic Detection of Dehydration using Support Vector Machines*
- S6.2 Sotiria Gilou, Christos Dimitrousis, Alexander Zogkas, Christina Kemanetzi, Chrysovalantis Korfitis, Elizabeth Lazaridou, Panagiotis Bamidis and Alexander Astaras**  
*Artificial Neural Networks and Statistical Classification Applied to Electrical Impedance Spectroscopy Data for Melanoma Diagnosis in Dermatology (DermaSense)*
- S6.3 Sertan Kaymak, Parvaneh Esmaili and Ali Serener**  
*Deep Learning for Two-Step Classification of Malignant Pigmented Skin Lesions*
- S6.4 Georgi Tsenov and Valeri Mladenov**  
*EEG Alphabet Speller with Neural Network Classifier for P300 Signal Detection*
- S6.5 Yasen Yordanov and Valeri Mladenov**  
*Humanoid Robot Detecting Animals via Neural Network*
- S6.6 Dan Lacrama, Florin Alexa, Florentina Pintea and Tiberiu Karnyanszky**  
*Brain - Machine Interfaces in the Context of Artificial Intelligence Development*

16:45 – 17:00

## Coffee Break

# NEUREL 2018 Conference Program

17:00 – 19:00

## SESSION 7

Japan Salon  
(First floor)

### Estimation, Planning and Management

*Chairpersons: Nataša Reljin and Zoi Dokou*

- IL.4** **Invited Lecture 4: Zoi Dokou, University of Connecticut, USA**  
*Water Resources Management for Ensuring Food and Water Security*  
*Chairman for Invited Lecture: Branimir Reljin*
- S7.1** **Zoi Dokou, Natasa Reljin, Mohsen Kheirabadi, Amvrossios Bagtzoglou and Emmanouil Anagnostou**  
*Lake Level Estimation using Machine Learning and Physically-based Approaches in Lake Tana, Ethiopia*
- S7.2** **Emir Žunić, Harun Hindija, Admir Beširević, Kerim Hodžić and Sead Delalić**  
*Improving Performance of Vehicle Routing Algorithms using GPS Data*
- S7.3** **Emir Žunić, Sead Delalić, Kerim Hodžić, Admir Beširević and Harun Hindija**  
*Smart Warehouse Management System Concept with Implementation*
- S7.4** **Merima Čišija, Emir Žunić and Dženana Đonko**  
*Collection and Sentiment Analysis of Twitter Data on the Political Atmosphere*
- S7.5** **Adnan Husaković, Eugen Pfann and Mario Huemer**  
*Robust Machine Learning Based Acoustic Classification of a Material Transport Process*
- S7.6** **Abdullah Erdal Tümer and Serpil Edebali**  
*Modeling and Optimization of Hexavalent Chromium Sorption onto Amberjet 1200H by Using Multiple-Linear Regression*

19:00 – 19:15

## Closing Session

Japan Salon  
(First floor)

19:30 –

## Boat Tour and Conference Dinner

Yachting Club Kej  
Usce bb

Boat cruising will start at 20:00 from Yachting Club “Kej”, Usce Street bb. All participants are kindly requested to be on board by 19:45.

The time for oral presentation is limited to 30 minutes for invited lectures and 15 minutes for regular papers including discussion (approximately 5 minutes).

Authors who will present the papers are kindly requested to contact their session chairmen 10 minutes before the beginning of the session. In this way, the authors will contribute to well organization of sessions.