

# **Program of 10th PhD Workshop on Systems and Control**

**Tuesday, September 22**

**Registration** from 16:00

**Supper** 18:30

**Wednesday, September 23**

**Openning Notes** 9:00 – 9:30

- Miroslav Kárný

**Invited Lecture** 9:30 – 10:30

- Frank Allgöwer: Communication Networks in Control: New Dimensions of Complexity

**Coffee Break** 10:30-11:00

**Control Session** 11:00 – 13:00

- Marc Peter Deisenroth, Carl Edward Rasmussen: Efficient Reinforcement Learning for Motor Control
- Boštjan Pregelj, Samo Gerškšič: Multiple Model approach to Multi-Parametric Model Predictive Control of a Nonlinear Process – Simulation Case Study
- Milan Anderle, Sergej Čelikovský: Analytical and LMI Based Design for the Acrobot Traking with Aplication to Robot Walking
- Gregor Kandare: Oxygen Control in a Wastewater Treatment Plant Using Adaptive Predictive Controllers
- Jan Zeman: New Approach in Estimating of Bellman's Function

**Dinner** 13:00-14:00

**Estimation and Data Processing Session (1)** 14:00-16:00

- Václav Šmídl: Dual Control - Benefits and Challenges
- Kamil Dedecius: A Brief Comparison of Selected Forgetting Methods
- Vasilevskiy Valentin: Practical Aspects of FHSS-based ISM Band Wireless Telemetry System Development
- Volodymyr Fedak , Adrian Nakonechnyy: Artifacts Suppression in Images and Video. Non-local Means as Algorithm for Reducing Image and Video Distortions
- Levente Hunyadi, István Vajk: An approach to Identifying Linearizable Dynamic Errors-in-variables Systems

**Coffee Break** 16:00-16:30

**Modelling in Control and FDI Session (1)** 16:30-17:45

- Creosteanu Laurentiu: Electromagnetic Compatibility (EMC) in Several Gate Charging Topologies for Automotive High Side Power Switches
- Květoslav Belda: On Time Parameterizations of User Demands in Mechatronics
- Pavle Boškosi, Bojan Musizza, Janko Petrovčič, Dani Juričić: Bearing Fault Detection in Brushless DC Motors - a Sensitivity Study

**Supper** 18:00

## **Thursday, September 24**

### **Excursion**

- Nuclear power plant Temelín
- Český Krumlov

## **Friday, September 25**

### **Invited Lecture 9:00-10:00**

- Rudolf Kulhavý: Pattern Theory and Its Applications

### **Modelling in Control and FDI Session (2) 10:00-11:15**

- Matej Gašperin, Pavle Boškoski, Đani Juričić: Gear Health Monitoring and Prognosis
- Péter Görbe, Attila Magyar, Katalin M. Hantos: Line Conditioning with Grid Synchronized Inverter's Power Injection of Renewable Sources in Nonlinear Distorted Mains
- Attila Fodor, Attila Magyar, Katalin M. Hantos: Dynamic Modeling and Analysis of a Synchronous Generator in a Nuclear Power Plant

### **Coffee Break 11:15-11:45**

### **Decision Support Session (1) 11:45-13:00**

- Eugene Bykov: Development of Decision Support System «BPsim3»: Multi-service Telecommunication Networks Design and Modeling Application
- Radek Hofman: On-line Estimation of Selected Radiological Quantities during Emergency Situations
- Martin Branda: Stability Analysis of Mean-CVaR Investment Model with Transaction Costs and Integer Allocations

### **Dinner 13:00-14:00**

### **Decision Support Session (2) 14:00-15:40**

- Jan Šindelář: Construction of Multi-step Ahead Predictions in a Normal BVAR(p) Model Using Monte Carlo Sampling
- Ladislav Král, Ivo Punčochář, Jindřich Duník: Functional Adaptive Controller for MIMO Systems with Dynamic Structure of Neural Network
- Miroslav Pištěk: The Minority Game with Heterogenous Agents
- Evgenia Suzdaleva, Ivan Nagy: Probabilistic Approach to Analysis of Death Traffic Accidents

### **Coffee Break 15:40-16:20**

### **Estimation and Data Processing Session (2) 16:20-17:30**

- Tomas Flouri, Xhevi Qafmolla: Linear Pattern Matching with Swaps for Short Patterns
- Jernej Mrovlje, Damir Vrančić: Distortion Impact on a Stereo Distance
- Jiří Ajgl, Miroslav Šimandl, Jindřich Duník: Millman's Formula in Data Fusion

### **Closing 17:30 – 18:00**

### **Supper 18:00**