Wednesday, June 25

9:00 Opening Ceremony (prof. Miroslav Doupovec, Vice-Rector of the BUT)

Session 1 (Session chair: prof. Ronald Hochreiter, approx. 13 min/paper)

9:10 9:50 Dr. Thomas Jansen (Aberystwyth University, United Kingdom)
Analysing Evolutionary Algorithms and Other Randomised Search Heuristics: From Run Time Analysis to Fixed Budget Computations

09:50 11:00 Evolutionary Computation, Metaheuristic Optimization (5x: 10, 4, 1, 7, 19, 7)
COMPETITIVE-ADAPTIVE DIFFERENTIAL EVOLUTION WITH ROTATION-INvariant STRATEGIES
Polakova Radka (CZ)
Jose Tvrzik (CZ)

GENETIC ALGORITHM AND TREE BASED CLASSIFICATION IN BIOINFORMATICS
Polaka Inese (LV)
Gasparovica-Asite Madara (LV)
Borisov Arkady (LV)

ACTIVE EXTENSION PORTFOLIO OPTIMIZATION WITH NON-CONVEX RISK MEASURES USING METAHEURISTICS
Hochreiter Ronald (AT)
Waldhauser Christoph (AT)

A DOMAIN KNOWLEDGE-BASED MULTI-OBJECTIVE EVOLUTIONARY ALGORITHM FOR OPTIMIZING ENERGY SYSTEMS
Mahbub Md. Shahrir (IT)

CO-EVOLUTION OF SUDOKU SOLUTIONS
Horn Jeffrey (US)

TWO DIFFERENT IMPLEMENTATIONS OF THE CROSS-OVER OPERATOR IN GPA ALGORITHM
Brandejsky Tomas (CZ)

11:00 11:10 Coffee Break

11:10 12:20 Evolutionary Computation, Metaheuristic Optimization (5x: 14, 46, 13, 3, 59)
THE RELATIONSHIP BETWEEN SEMANTIC DISTANCE AND PERFORMANCE IN DYNAMIC SYMBOLIC REGRESSION PROBLEMS
Tuite Clodhna (IE)

UNDERSTANDING RANDOMISED SEARCH HEURISTICS: LESSONS FROM THE EVOLUTION OF THEORY: A CASE STUDY
Jansen Thomas (GB)
Zarges Christine (GB)

GENERATION OF TESTS AGAINST A GREEDY ALGORITHM FOR THE KNAPSACK PROBLEM USING AN EVOLUTIONARY ALGORITHM
Buzdalov Maxim (RU)

STOCHASTIC QUADRATIC ASSIGNMENT PROBLEM: EV AND EO FORMULATIONS SOLVED BY GA AND HC12 ALGORITHMS
Matousek Radomil (CZ)
Popela Pavel (CZ)

IMPROVED PERFORMANCE OF SPARSE GAUSSIAN PROCESS-BASED ADAPTIVE SOFT SENSORS
Abusnina Ali (DE)

12:20 13:00 Lunch Break (not included)

13:00 Session 2 (Session chairs: Dr. Pavel Popela: approx. 12 min/paper)

13:00 13:40 Prof. Yaochu Jin (University of Surrey, United Kingdom)
Morphogenetic self-organisation of swarm robots for adaptive pattern formation

13:40 14:50 Evolutionary Computation, Metaheuristic Optimization (6x: 9, 12, 45, 17, 18)

GPA-ES ALGORITHM WITH CODE INTERPRETER
Brandejsky Tomas (CZ)

ESTIMATION OF DISTRIBUTIN ALGORITHM WITH COPULA PROBABILISTIC MODEL: A SHORT INTRODUCTION
Schwarz Josef (CZ)

HYRS MARTIN (CZ)

STRENGTHENED BAT ALGORITHM (SBA) FOR TRAINING FEED-FORWARD NEURAL NETWORK
Yilmaz Selim (TR)

KUCCUKSIIL ECE USURU (TR)

SELECTION OF EXTRA OBJECTIVES USING REINFORCEMENT LEARNING IN NON-STATIONARY ENVIRONMENT: INITIAL EXPLORATIONS
Buzdalov Maxim (RU)
Petrova Irina (RU)

Buzdalova Arina (RU)

WORST-CASE EXECUTION TIME TEST GENERATION USING GENETIC ALGORITHMS WITH AUTOMATED CONSTRUCTION AND ONLINE SELECTION OF OBJECTIVES
Buzdalov Maxim (RU)
Kravtsov Nikita (RU)
Buzdalova Arina (RU)
Shalyto Anatoly (RU)
14:50–15:00  Coffee Break

15:00–16:30  Fuzzy Logic, Subjective Logic, Bayesian methods (6x: 28, 29, 30, 31, 52, 41)

- Fuzzy Integration of Multiple Hypothesis Results
  Brandejsky Tomas (CZ)

- Transition of Vagueness Between Layers of Hierarchical Fuzzy Systems
  Mutlu Begüm (TR)
  Sezer Ebru (TR)
  Nefeslioglu Hakan A. (TR)

- Fuzzy Routing in Supply Chain Management with Temporal Dependence
  Savelyeva Marina (RU)
  Belicov Stanislav (RU)

- Fuzzy-Based Filter for ETL Process
  Zacek Jaroslav (CZ)
  Hunka Frantisek (CZ)
  Sevcik Jaroslav (CZ)

- Association Rule Techniques for Analyzing Statistical Data: A Case Study
  Peter Grabusts (LV)

- Enhancing Decision-Level Fusion through Cluster-Based Partitioning of Feature Set
  Vaiciukynas Evaldas (LT)
  Verikas Antanas (SE)
  Bacauskienė Marija (SE)
  Gelzinis Adas (LT)
  Kons Zvi (IL)

16:30–16:40  Coffee Break

16:40–17:00  Session 3 (Session chair: prof. Jiří Pospíchal, approx. 12 min/paper)

Prof. Pavel Ošmera (Brno University of Technology, Czech Republic)

Singular Talk: Vortex-fractal-ring Structures

17:00–18:00  Soft Computing (5x: 48, 53, 60, 16, 23)

- The Syntheses of Technological Materials as Emergences in Complex Systems
  Bila Jiri (CZ)

- Prediction of Preferences for Sellers on Online Auctions Based on Evidence Theory
  Beranek Ladislav (CZ)

- Extensional Principles in Three Types of Context
  Marek Menslík (CZ)
  Lukáš Vich (CZ)
  Vladimir Jarotek (CZ)

- Hybrid Algorithm for Wait-and-See Network Design Problem
  Hrabec Dušan (CZ)
  Popela Pavel (CZ)
  Roupec Jan (CZ)
  Hágen Kjetil (NO)
  Jindra Petr (CZ)

- Power-Function Method of Fractal Dimension Estimation
  Martiček Dalibor (CZ)
  Druckmüllerová Hana (CZ)

18:00  Welcome Party
Thursday, June 26

9:00 Session 4 (Session chair: prof. Pavel Ošmera, approx. 13 min/paper)
9:00÷9:20 B&R Automation: MSc. Petr Malounek, Perfection in Automation: Science Industry
9:40÷10:50 Intelligent Image Processing, Computer Vision (6x: 24, 32, 33, 35, 37, 51)

- MODELLING OF SPRUCE TREES USING L-SYSTEMS
  Janoutová Růžena (CZ)
  Pivovarník Marek (CZ)

- THE DATABASE DESIGN OF CHARACTERISTICS SUITABLE FOR OBJECT RECOGNITION
  Vytečka Marcel (CZ)
  Ondroušek Vít (CZ)
  Kolomazník Jan (CZ)

- TREE CROWN DELINEATION USING REGION GROWING AND ACTIVE CONTOUR: APPROACH INTRODUCTION
  Novotny Jan (CZ)

- STEGANOGRAPHY BASED ON NEURAL NETWORKS
  Volna Eva (CZ)
  Jarusek Robert (CZ)
  Kotyrba Martin (CZ)

- HIGH ACCURACY SHIFT DETECTION USING DIGITAL MICROSCOPE
  Kalvoda Petr (CZ)
  Kocmanova Petra (CZ)

- BUS SEARCH: DEVELOPMENT AND EVALUATION OF PERFORMANCE AND USABILITY OF MOBILE APPLICATION FOR BLIND OR VISUALLY IMPAIRED
  Viyanon Waraporn (TH)

10:50÷11:00 Coffee Break

11:00 Session 5 (Session chair: prof. Josef Schwarz, approx. 12 min/paper)
11:00÷11:40 Prof. Ponnuthurai Nagarathnam Suganthan (Nanyang Technological University, Singapore)
Adaptation for Differential Evolution

11:40÷13:10 Evolutionary Computation, Soft Computing (7x: 21, 22, 47, 54, 62, 56, 5)

- ADAPTATION METHODS IN DIFFERENTIAL EVOLUTION: A REVIEW
  Suganthan P.N. (SG)
  Das Swagatam (IN)
  Mukherjee Satrajit (IN)
  Chatterjee Sarthak (IN)

- MULTI-SWARM APPROACH FOR CHAOTIC PSO ALGORITHM – AN INITIAL STUDY
  Pluhacek Michal (CZ)
  Senkerik Roman (CZ)
  Zelinka Ivan (CZ)

- TIME EFFICIENT GRAPH VERSION OF THE A* ALGORITHM OPTIMIZED FOR MATLAB
  Škrabánek Pavel (CZ)

- EQ-ALGEBRAS AUTOMATED GENERATION BASED ON GENETIC ALGORITHMS
  Habiballa Hashim (CZ)
  Novak Vilem (CZ)
  Dyba Martin (CZ)
  Schenk Jiri (CZ)

- EXTRACTING RULES FROM ZCS EVOLUTIONARY CLASSIFIER SYSTEM FOR THE PURPOSE OF FUTURE USAGE IN ROBOTIC SYSTEMS
  Cádrik Tomáš (SK)
  Mach Marián (SK)
  Peter Sinčák (SK)

- A DEVELOPMENT OF ACTIVITY RECOGNITION ON ANDROID PLATFORM FOR INTERACTIVE GAME CONSOLE
  Sukaphat Sasivimon (TH)
  Sirieak Taveewit (TH)
  Niyomthum Chatchawan (TH)
  Chatnopakun Sahatas (TH)

- INVERTING CONDITIONAL OPINIONS IN SUBJECTIVE LOGIC
  Josang Audun (NO)
  Sambo Francesco (IT)

13:30 Session 6 (Chairs: Radek Matoušek and Pavlína Zrůstová, approx. 15 min/talk!)
THE WORKSHOP
rendezvous of participants 13:20 and bus departure 13:30
the workshop program will be specify at the registration
(Dinner included at 18:30, projector and audio equipment are provided)

23:00 returning from the workshop
Friday, June 27

**Session 7** (Session chair: prof. Eva Volná, approx. 10-12 min/paper)

9:00÷ 9:40

Prof. René Lozi (Université de Nice Sophia-Antipolis, France)

*Mathematical chaotic circuits: an efficient tool for shaping numerous architectures of mixed Chaotic/Pseudo Random Number Generators*

9:40÷10:30

**Soft Computing (4x: 20, 7, 2, 6)**

- **NONRANDOM EVOLUTIONARY ALGORITHMS**
  - Zelinka Ivan (CZ)
  - Sekaj Ivan (SK)
  - Pernecký Daniel (SK)
  - Kaján Slavomír (SK)
- **MODELING OF NONLINEAR DYNAMICAL SYSTEMS USING GRAMMATICAL EVOLUTION**
  - Buchta Ludek (CZ)
- **DEAD-TIME COMPENSATION METHOD USING KALMAN FILTER IN THE VECTOR-CONTROLLED AC SYSTEM**
  - Číhalová Martina (CZ)
  - Štěpán Jan (CZ)

10:30÷10:40

**Coffee Break**

10:40÷11:50

**Soft Computing (7x)**

- **AN INITIAL STUDY ON THE MULTI-CHAOTIC APPROACH FOR THE DIFFERENTIAL EVOLUTION**
  - Senkerik Roman (CZ)
  - Pluháček Michal (CZ)
  - Zelinka Ivan (CZ)
  - Davendra Donald (CZ)
  - Komínková Oplatková Zuzana (CZ)
- **ADAPTIVE PARALLEL GENETIC ALGORITHM**
  - Sekaj Ivan (SK)
  - Pernecký Daniel (SK)
- **LENSES CLASSIFICATION BY MEANS OF PSEUDO NEURAL NETWORKS - TWO APPROACHES**
  - Komínková Oplatková Zuzana (CZ)
  - Senkerik Roman (CZ)
  - Fister Iztok Jr. (SI)
  - Suganthan P. N (SG)
  - Strnad Damjan (SI)
  - Brest Janez (SI)
  - Fister Iztok (SI)
- **ARTIFICIAL NEURAL NETWORKS REGRESSION ON ENSEMBLE STRATEGIES IN DIFFERENTIAL EVOLUTION**
  - Škrabánek Pavel (CZ)
  - Petr Došležel (CZ)
  - Abbadi Ahmad (SY)
  - Matousek Radomil (CZ)
  - Osmera Pavel (CZ)
  - Knispel Lukas (CZ)
  - Holešovský Jan (CZ)
  - Fusek Michal (CZ)
  - Michálek Jaroslav (CZ)

11:50

**Closing Ceremony**

12:00

**The END**