

## Monday, September 6, 2010

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|------------------------------------|---------------|
| EUROSIM 2010 Registration          | 15:00 – 19:00 |
| Meeting Point by Registration Desk | <b>15:45</b>  |
| Walking Tour of Prague             | 16:00 – 19:00 |

## Tuesday, September 7, 2010

|                           |              |
|---------------------------|--------------|
| EUROSIM 2010 Registration | 9:00 – 10:00 |
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| <b>EUROSIM 2010 Opening</b> | 10:00 – 10:15<br>Hall Prague A+B+C+D |
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|---|---------------------|
| Invited Plenary Talk  | 10:15 – 11:15       |
| <b>Human Behaviour Modelling as a Challenge for Future Simulation R&amp;D:<br/>Methodologies and Case Studies</b> |                     |
| <i>Agostino G. Bruzzone</i>   |                     |
| Chair: <b>Miroslav Šnorek</b>   | Hall Prague A+B+C+D |

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| Invited Plenary Talk                                       | 11:15 – 12:15       |
| <b>Agent-Based Simulations of Transportation Terminals</b> |                     |
| <i>Antonín Kavička, Norbert Adamko</i>                     |                     |
| Chair: <b>Miroslav Šnorek</b>                              | Hall Prague A+B+C+D |

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|-------------|---------------|
| Lunch Break | 12:15 – 14:00 |
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| <b>Application of Modelling and Simulation I</b> | 14:00 – 16:00 |
| Chair: <b>Mikuláš Alexík</b>                     | Hall Prague A |

- [14:00] Development of the Simulation Software Package Test POERF RAW  
*Vladimír Čech, Jiří Jevický*
- [14:20] Identification of Longitudinal and Lateral Dynamics of an Ultralight Aircraft  
*Roberto Guidorzi, Roberto Diversi*
- [14:40] General Description of WRF-Fire Model Applicable to Bulgarian Forest Fire Data  
*Nina Dobrinkova, Mariana Vassileva*
- [15:00] Evidence-Based Mathematical Maintenance Model for Medical Equipment  
*Abdelbaset Khalaf, Karim Djouani, Yskandar Hamam, Yasser Alayli*

- [15:20] Performance of Iterative Equation Solvers for Convection-Diffusion-Adsorption Problems in Three-Dimensional Sphere Packings in COMSOL  
*Birgit Stute, Wolfgang Joppich, Wolfgang Wiechert, Eric von Lieres*
- [15:40] Fuzzy-Based Modelling of an MR Damper  
*Javier Ruiz-Cabrera, Ruben Morales-Menendez*

### **Modelling Methods, Tools and Techniques I**

Chair: **Jiří Kunovský**

14:00 – 15:40

Hall Prague B

- [14:00] Adequate Mathematical Description of Dynamic System: Statement Problem, Synthesis Methods  
*Yuri Menshikov*
- [14:20] Development Process for Multi Disciplinary Embedded Control Systems  
*Sune Wolff, Peter Gorm Larsen, Tammy Noergaard*
- [14:40] Heterogeneous Model Integration and Virtual Experimentation Using xMOD: Application to Hybrid Powertrain Design and Validation  
*Mongi Ben Gaid, Gilles Corde, Alexandre Chasse, Bruno Léty, Rodolphe De La Rubia, Mohamed Ould Abdellahi*
- [15:00] Application of the Modern Taylor Series Method to a Multi-Torsion Chain  
*Georg Fuchs, Jan Kopřiva, Michal Kraus, Martin Kozek*
- [15:20] Efficient Event Driven Proxel Simulation of a Subclass of Hidden Non Markovian Models  
*Robert Buchholz, Claudia Krull, Graham Horton*

### **Inductive Modelling and Artificial Neural Networks in Simulation I**

Chair: **Pavel Kordík**

14:00 – 16:00

Hall Prague C

- [14:00] Modelling of Age from the Teeth Development  
*Miroslav Čeppek, Aleš Pilný, Radka Kubelková, Jana Velemínská, Miroslav Šnorek*
- [14:20] Simulation of Ant Colonies with Hints Generated by Parallel Heuristics  
*Oleg Kovářík, Miroslav Skrbek*
- [14:40] Continuous Optimization Algorithms: Performance on Benchmarking Functions and Model Parameters  
*Pavel Kordík, Vladimír Bičík*
- [15:00] Road Mesh Modelling Using the Spatiotemporal Clusterization  
*Rudolf Marek, Miroslav Skrbek*
- [15:20] GAME Model Utilization for Feature Ranking and Feature Selection  
*Aleš Pilný, Pavel Kordík, Miroslav Šnorek*
- [15:40] Fast Supervised Feature Extraction From Structured Representation of Text Data  
*Ondřej Háva, Pavel Kordík, Miroslav Skrbek*

**Parallel and Distributed Architectures and Systems / Performance Engineering of Computer Systems**

14:00 – 15:40

Chair: **František Zbořil**

Hall Prague D

- [14:00] Accelerated Learning of Gaussian Process Models  
*Bojan Musizza, Dejan Petelin, Juvš Kocijan*
- [14:20] Computational Speed on the Multiprocessor Architecture and GPU  
*Peter Kvasnica, Igor Kvasnica*
- [14:40] Building Parallel Raytracing Simulation Model with Petri Nets and B-Method  
*Štefan Korečko, Branislav Sobota*
- [15:00] Developing Deep Simulation Systems to Study Wireless Network Performance  
*Paolo Pileggi, Giuseppe Iazeolla, Pieter Kritzinger*
- [15:20] Stochastic Markov Model for TCP Throughput  
*Asmir Gogić, Nermin Suljanović, Aljo Mujčić, Amer Hasanović, Matej Zajc*

Coffee Break

16:00 – 16:30

**Simulation to Support Sustainable Power Plant Engineering and Operation**

16:30 – 17:50

Chair: **Kaj Juslin**

Hall Prague A

- [16:30] Temperature Dynamic of Heat Exchangers in Boilers  
*Lukáš Hubka*
- [16:50] Dynamic Simulation of a Solar Power Plant Steam Generation System  
*Thibault Henrion, René Schimon, Karl Ponweiser, Vitali Tregubow*
- [17:10] Extended Material Properties in Apros for Dependable Evaluation of New Combustion Power Plant Concepts  
*Reijo Lilja, Markku Hänninen, Jari Lappalainen, Kaj Juslin*
- [17:30] Reliability Assessment of Southern Croatian Transmission Network  
*Krešimir Fekete, Srete Nikolovski, Goran Knežević*

**Discrete Event and Real-Time Systems**

16:30 – 17:30

Chair: **Roy Crosbie**

Hall Prague B

- [16:30] FPGA-Based Real-Time Simulation of Power Electronic Systems  
*Roy Crosbie, John Zenor, Dale Word, Richard Bednar, Narain Hingorani*
- [16:50] Simulation for Multiprocessor Real-Time Scheduling Evaluation  
*Richard Urunuela, Anne-Marie Déplanche, Yvon Trinquet*
- [17:10] Numerical Methods of Structure Optimization of Homogeneous Queuing Networks  
*Boris Sokolov, Sergey Kokorin*

**Web-Based Simulation**Chair: **Oleg Kovářík**

16:30 – 17:50

Hall Prague C

- [16:30] Iterative System for Simulation of E2E Transport Protocols in Heterogeneous Networks  
*Biljana Stojcevska, Oliver Popov, Aleksandar Milenkoski*
- [16:50] Web Simulation for the Management of the Operations at an International Airport  
*Miguel Poyatos, José Manuel Pastor, Javier Otamendi, Andrés García, Pablo García*
- [17:10] Service Workflows and Distributed Computing Methods for 13C Metabolic Flux Analysis  
*Tolga Dalman, Ernst Juhnke, Tim Dörnemann, Michael Weitzel, Katharina Nöh, Wolfgang Wiechert, Bernd Freisleben*
- [17:30] Performance Optimization for Enterprise Web Applications Through Remote Client Simulation  
*Tomáš Černý, Michael J. Donahoo*

**Agent-Based Modelling and Simulation**Chair: **Aleš Belič**

16:30 – 17:50

Hall Prague D

- [16:30] Algorithmic Evaluation of Trust in Multilevel Model  
*Jan Samek, František Zbořil*
- [16:50] Connecting JADE with PN Agent  
*Jakub Žák, Vladimír Janoušek, Radek Kočí, František Zbořil*
- [17:10] Increasing Profit in Agent Business Model with Trust  
*Ondřej Malačka, Jan Samek, František Zbořil*
- [17:30] Ensembles in Fetal Weight Prediction Modeling  
*Tomáš Siegl, Jan Hrnčíř, Miroslav Šnorek*

**Meeting Point by Hotel Diplomat Reception at 19:00**

Welcome Reception at the Mayor of City of Prague Residence at 19:30

Invited Plenary Talk 9:00 – 10:00

**Physical Modelling: Some Experiences from Education and Applications**

*Borut Zupančič*

Chair: **Esko Juuso**

Hall Prague A+B+C+D

Coffee Break

10:00 – 10:30

**Simulation of Transportation and Logistic Systems I**

10:30 – 12:10

Chair: **Antonín Kavička**

Hall Prague A

[10:30] Detector Settings for Real-Time Traffic Signals

*Yaser Hawas, Faisal Ahmed, Nada Al Bakry*

[10:50] Acquisition of Input Data for Transportation Models

*Petr Cenek, Peter Tarábek*

[11:10] Studies of Effects Influencing the Transmission of UDP Datagrams Between Railway Vehicles and Infrastructure

*Zuzana Kleprlíková, David Žák*

[11:30] The Need of Combining Different Traffic Modelling Levels for Effectively Tackling Complex Project

*Alexandre Torday, Jordi Casas, Alex Gerodimos, Josep Maria Aymamí*

[11:50] Division of Traffic Network for Distributed Microscopic Traffic Simulation Based on Macroscopic Simulation

*Tomas Potuzak*

**Modelling and Simulation for Control, Coordination and Supervision I**

10:30 – 12:30

Chair: **Rihard Karba**

Hall Prague B

[10:30] Control of Discrete Event Systems Modelled by Petri Nets

*Juan Ignacio Latorre, Emilio Jiménez, Mercedes Pérez*

[10:50] Control Solutions, Simulation and Experimental Results for a Magnetic Levitation Laboratory System

*Claudia-Adina Dragoş, Radu-Emil Precup, Stefan Preitl, Emil M. Petriu, Mircea-Bogdan Rădac*

[11:10] Application of Neural Networks for Dynamic Modeling of Robotic Mechanisms

*Tadej Petrič, Leon Žlajpah*

[11:30] Modelling, Simulation and Control of Gas Metal Arc Welding

*Marjan Golob, Boris Tovornik*

[11:50] Process History Based Multivariate Statistical Model of Heat Treatment Furnace for Control Optimization

*Božidar Bratina, Nenad Muškinja, Boris Tovornik*

[12:10] Modelling and Fuzzy Control of Biomass Steam Boiler System

*Nenad Muškinja, Božidar Bratina, Boris Tovornik*

**Human Factors and Social Issues / Supply Chain Management**Chair: **Miroslav Skrbek**

10:30 – 11:50

Hall Prague C

- [10:30] Phenomenal Trust Intervention Model  
*Arnoštka Netrvalová, Jiří Šafařík*
- [10:50] A Simulation Study of the Organization for Employment of Workforce in Greece  
*Aikaterini Spyropoulou, Lefteris Angelis*
- [11:10] Multimodal Optimization for Simulated Systems  
*Ahlem Baccouche, Anne-lise Huyet, Henri Pierreval, Besma Feyech*
- [11:30] On the Use of RFID for Supply Chain Scheduling and Execution Control  
*Dmitry Ivanov, Boris Sokolov, Alexey Vinel, Viacheslav Zelentsov*

**Modelling Methods, Tools, and Techniques II**Chair: **Miroslav Čepěk**

10:30 – 12:30

Hall Prague D

- [10:30] Global Exploration of Optimization Landscapes for Nonlinear Ill Posed Parameter Estimation Problems  
*Oliver Schweissgut, Wolfgang Wiechert*
- [10:50] A New Scheduling Method Based on Dispatching Rules and Applicable by Simulation Models  
*Ali Razzazi*
- [11:10] Stability and Convergence of the Modern Taylor Series Method  
*Jiří Kunovský, Václav Šátek, Pavla Sehnalová*
- [11:30] One Approach to Verification and Validation of Simulation Model  
*Alexander Mikov, Elena Zamyatina*
- [11:50] From Tracefile Analysis to Understanding the Message of Simulation Results  
*Gaby Neumann, Juri Tolujew*
- [12:10] Third Party Optimization Tools – A Survey  
*Florian Judex*

Lunch Break

12:30 – 14:00

**Simulation of Transportation and Logistic Systems II**Chair: **Norbert Adamko**

14:00 – 16:00

Hall Prague A

- [14:00] Scenario-Based Approach to Agent's Evaluation  
*Richard Lipka, Pavel Herout*
- [14:20] Analysis of Warehouse Order Picking Systems Using Simulation Technology  
*Rainer Frick*
- [14:40] The Position Detection System of the Autonomous Model Car GT-Car  
*Frank Tränkle, Andreas Kaluza*
- [15:00] The Flow Modelization by Petri Net and Urban Taffic  
*Marc Bourcerie, Frédéric Guegnard, Frédéric Bousseau*

[15:20] Extensive Transportation Service Systems and Their Flexible Simulation Modeling  
*Michal Lekýr, Valent Klima*

[15:40] Rule-Based Interval Valued Fuzzy Logic System  
*Tomáš Brandejský*

### **Simulation in Education/Education in Simulation I**

14:00 – 16:00

Chair: **Maja Atanasijević-Kunc**

Hall Prague B

[14:00] LABI – Modelling and Analysis through Examples  
*Maja Atanasijević-Kunc, Rihard Karba, Borut Zupančič*

[14:20] Analysis and Composition of Discrete Event Oriented Simulations Using Distributed Web Technologies  
*Aman Atri, Nicole Nagele, Nikolas Popper*

[14:40] Towards a Tutoring System for Biology Students Learning Modeling and Simulation  
*Géraldine Ruddeck, Alke Martens*

[15:00] Simulation Education and Its Collaborations Within University Curricula  
*Toni Ruohonen, Edward Williams*

[15:20] Modeling and Simulation Training for Undergraduate Students  
*Iskra Popova, Oliver Popov, Lisa Brouwers*

[15:40] Teaching GPSS in E-Learning Environment  
*Marijana Despotović, Božidar Radenković, Aleksandar Marković, Zorica Bogdanović, Dušan Barać*

### **Application of Modelling and Simulation II**

14:00 – 16:00

Chair: **David Murray-Smith**

Hall Prague C

[14:00] High Order Gaussian Process Models for Prediction of Ozone Concentration in the Air  
*Alexandra Grancharova, Juš Kocijan, Alexander Krastev, Hristina Hristova*

[14:20] A Hybrid Approach to Model and Simulate the Double Gimbaled MEMS-Based Micromirror  
*Ivan Plander, Michal Štepanovský*

[14:40] Development of a Thermally and Pressure Controlled Valve Application by Using FEM-Simulation  
*Uwe Risto, René Uhlig, Lena Zentner*

[15:00] The Pseudo Output Error Identification Algorithm: Effect of the Stationary Filter  
*Elie Tohme, Antoine Abche, Regis Ouvrard, Thierry Poinot*

[15:20] Multi-Domain Modeling and Distributed Real-Time Simulation of an Autonomous Vehicle  
*Tamas Juhasz, Ulrich Schmucker*

[15:40] Study on High Effective Simulation of Complex Electromagnetic Environment  
*Yingnian Wu, Lin Zhang, Fei Tao, Dengkun Liu, Lan Mu*

**Advanced and Comparative Approaches in Modelling and Simulation I**Chair: **Christina Deatcu**

14:00 – 16:00

Hall Vienna I+II

- [14:00] Simulation-Based Development and Operation of Controls on the Basis of the Devs Formalism  
*Tobias Schwatinski, Thorsten Pawletta, Sven Pawletta, Christian Kaiser*
- [14:20] A Combined Cellular Automata - DEVS Simulation for Room Management with Vacation Times  
*Martin Bruckner, Shabnam Tauböck, Nikolas Popper, Dietmar Wiegand, Stefan Emrich, Sanja Zerlauth*
- [14:40] Manufacturing Simulation Within a Rapid Control Prototyping a Comparative Study  
*Tobias Pingel, Sven Pawletta, Thorsten Pawletta, Gunnar Maletzki*
- [15:00] Agent-Based Population Models for Household Simulation  
*Florian Miksch, Günther Zauner, Nikolas Popper, Felix Breitenecker*
- [15:20] Simulation Study of Parallel Model Predictive Control  
*Stefan Behrendt, Peter Dünow, Bernhard Lampe*
- [15:40] Developing Simulation Models Using Statechart Methodology  
*Michael Gyimesi, Patrick Einzinger, Felix Breitenecker*

Coffee Break

16:00 – 16:30

**Simulation of Transportation and Logistic Systems III**Chair: **Antonín Kavička**

16:30 – 18:30

Hall Prague A

- [16:30] Simulation Study of Tatra Electric Railway Possible Reconstruction  
*Róbert Javorka, Peter Márton*
- [16:50] Simulation Model for Estimating Effects of Forming Pick-Up Trains by Simultaneous Method  
*Miloš Ivić, Aleksandar Marković, Sanjin Milinković, Ivan Belošević, Milan Marković, Slavko Vesković, Norbert Pavlović, Milana Kosijer*
- [17:10] A Fuzzy Petri Net Model for Estimation of Train Delays  
*Sanjin Milinković, Milan Marković, Slavko Vesković, Miloš Ivić, Norbert Pavlović*
- [17:30] Blockage Prevention Mechanism for Traffic Management  
*Andreea Udrea, Cristian Flutur, Dumitru Popescu*
- [17:50] Simulation-Based Fitness Landscape Analysis for Vehicle Scheduling Problem  
*Galina Merkuryeva, Yuri Merkuryev, Vitalijs Bolshakovs*
- [18:10] Simulating an Autonomous Ship for Sea Demining  
*Fernando J. Pereda, Hector Garcia de Marina, Juan F. Jiménez, Jose M. Giron-Sierra*



**Engineering, Manufacturing and Control**Chair: **Miroslav Čepěk**

16:30 – 18:30

Hall Prague B

- [16:30] The Individual Channel Analysis and Design Method Applied to Control of a Coupled Tanks System: Simulation and Experimental Results  
*David Murray-Smith*
- [16:50] Self Tuning Decentralized Controller Design of Web Tension Control System  
*Kazuki Mizoguchi, Tetsuzo Sakamoto*
- [17:10] Application of SVM for Evaluation of Wear State and Remaining Life Time  
*Mahmud-Sami Saadawia, Dirk Söffker*
- [17:30] Hysteresis Modelling for a MR Damper  
*Jorge de-J. Lozoya-Santos, Sebastien Aubouet, Ruben Morales-Menendez, Olivier Sename, Ricardo A. Ramirez-Mendoza, Luc Dugard*
- [17:50] Moon Orbiter Simulator for the ESA Project ESMO  
*Matevž Bošnjak, Sašo Blažič, Drago Matko*
- [18:10] Heuristic Algorithms to Obtain Optimized Schedules of Manufacture TCPN Models  
*Miguel Mujica, Miquel Piera*

**Application of Modelling and Simulation III**Chair: **Aleš Pilný**

16:30 – 18:30

Hall Prague C

- [16:30] Client Relay Simulation Model for Centralized Wireless Networks  
*Alexander Pyattaev, Sergey Andreev, Alexey Vinel, Boris Sokolov*
- [16:50] Modeling of Power and Heat Losses of Electrical Arc Furnaces  
*Eder Trejo, Fernando Martell, Alejandro Montesinos, Osvaldo Micheloud*
- [17:10] One Modeling Technique Approach for Operational Risk Prediction  
*Ana Savić, Slobodan Čabarkapa, Nenad Kojić, Boško Živković*
- [17:30] Hardware-in-the-Loop Real-Time Simulation with OpenModelica for Process Automation  
*V. Muralidharan, Prabir Purkayastha, Peter Fritzson, Rominus Valsalam, R. Prasad, Abhir Raj Metkar, C. P. Roshna*
- [17:50] A Retargetable, High-Performance ISA Simulator in Java  
*Marco Kaufmann, Thomas B. Preußer, Rainer G. Spallek*
- [18:10] The Research of Component Based Integrated Modeling and Simulation Environment  
*Duzheng Qing, Bo-hu Li, Lei Sun, Liang Zhang, Yi-Lei Wu, Min Zhou, Han Zhang, Zhiping Li*

**Virtual Reality, Visualisation and Computer Games**Chair: **Michal Štepanovský**

16:30 – 18:30

Hall Prague D

- [16:30] An Exploration of Multivariate Time-Varying Volume Datasets Using Volumetric Parallel Coordinates  
*Siori Yasuoka, Teppei Tanaka, Naohisa Sakamoto, Koji Koyamada*
- [16:50] Model of Game Industry  
*Šárka Květoňová, Michal Kacina*

- [17:10] Modeling and Simulation of Light Propagation for Multistatic 3D PMD-Camera Illuminator Constellations  
*Valerij Peters, Simon Meckel, Otmar Loffeld, Oliver Lottner,*
- [17:30] Virtual Reality Platform Design for Electric Wheelchair Simulation in an Enabled Environment  
*Nico Steyn, Yskandar Hamam, Eric Monacelli, Karim Djouani*
- [17:50] A Combined Approach of Path Planning for Moving Objects in Virtual Environments  
*Gašper Mušič, Gregor Klančar*
- [18:10] Filters Analysis for Speckle Reduction in Intravascular Ultrasound Images  
*Hassen Lazrag, Med Ali Hamdi, Med Saber Naceur*

### **Modelling and Simulation in Medicine and Pharmacy I**

Chair: **Maja Atanasijević-Kunc**

16:30 – 18:30

Hall Vienna I+II

- [16:30] Examining Sources of Interindividual Pharmacokinetic Variability by Nonlinear Mixed Effects Modeling  
*Iztok Grabnar, Igor Locatelli*
- [16:50] How Health Care Systems React on Epidemics  
*Patrick Einzinger, Michael Gyimesi, Günther Zauner*
- [17:10] Analysis of the Steady-State Relations in Mathematical Model of Cholesterol Biosynthesis  
*Aleš Belič, Jure Ačimovič, Marko Goličnik*
- [17:30] Compartment Modelling of Obesity in Inhomogeneous Populations: Problems and Alternative Approaches  
*Barbara Glock, Günther Zauner, Patrick Einzinger*
- [17:50] The Optimization of Healthcare Administrative Processes  
*Robert Leskovar, Alenka Baggia, Zlatko Lazarevič*
- [18:10] Evaluation of Different Modeling Techniques for Simulation of Epidemics  
*Günther Zauner, Nikolas Popper, Felix Breitenecker*

### **Poster Session**

18:30 – 19:30

Poster and Coffee Break Area

1. SIENNA: A Support for Autonomous Learning for Future Classroom  
*Lorenzo Moreno, Evelio J. González, Claudia L. O. Groenwald, Beatrice Popescu, Carina S. González*
2. Multiphase Modelling in Porous Media  
*Sabine Klepsch, Andrea Watzinger, Tamara Čoja*
3. Modelling and Simulating of an Ultrasonic Flow Measuring System  
*Manuel Haide, Wolfgang Schroer, Günter Gramlich, Klaus Ressel, Laurent Sollic, Michael Teufel*
4. Modular PMD Simulator for Multistatic Camera Systems  
*Valerij Peters, Otmar Loffeld, Simon Meckel*
5. Analysis of the Simulation Fidelity for Extended Target in MMWSS  
*Jing Ma, Qiuru He, Duzheng Qing, Xuguang Luo, Congjin Jin, Dong Chen*

Invited Plenary Talk

9:00 – 10:00

## Modelica

*Peter Fritzson*

Chair: **Rihard Karba**

Hall Prague A+B+C+D

Coffee Break

10:00 – 10:30

## Circuits, Sensors and Devices / Image, Speech and Signal Processing

10:30 – 12:30

Chair: **Miroslav Skrbek**

Hall Prague A

- [10:30] Modelling of Flow and Pressure Patterns. Estimation of Blood Flow and Blood Pressure Manner in Different Sized Patients. New Challenge for Cardiology and Cardiac Surgery  
*David Macků, Filip Ježek, Petr Huňka*
- [10:50] Compact VHDL-AMS System Level Model of Smart Power Switches for Control Concept Verification  
*Hans-Peter Kreuter, Vladimír Košel, Michael Glavanovics*
- [11:10] Electro-Thermal Simulation of a Semiconductor Device Based on Simulatively Extracted Electrical Parameters from Measurements  
*Vladimír Košel, Christian Djelassi, Helmut Köck, Michael Glavanovics, Arno Zechmann*
- [11:30] Communication Efficiency and Pattern Optimization in FPGA Accelerated RTL Simulation  
*Steffen Koehler, Jan Schirok, Rainer G. Spallek*
- [11:50] 2D Position Identification of a Sound Source Using Phase Difference Spectrum Images  
*Ryuichi Shimoyama*
- [12:10] Modeling and Simulation Results on a New Compton Scattering Tomography  
*Gél Rigaud, Mai Nguyen, Trong Tuong Truong*

## Modelling and Simulation in Environmental Informatics

10:30 – 11:50

Chair: **Jochen Wittmann**

Hall Prague B

- [10:30] Development and Implementation of a Domain Model for Persistence and Code Generation for Consistent Material Flow Simulations with Milan  
*Paul Jahr, Lars Schiemann, Volker Wohlgemuth*
- [10:50] The Design of Self-Developmental Model of Atmospheric Pollutant Dispersion  
*Radim Dvořák, Jiří Krajčů, Jaroslav Zendulka, František Zbořil*
- [11:10] Modelling the Flow Processes in Unsaturated Porous Media for Predicting the Water Content Distribution in Levees and Earth Dams  
*Rene Blankenburg, Peter-Wolfgang Graeber*
- [11:30] Preliminary Study of Using Ellam Framework for Solution of Atmospheric Advection Diffusion Reaction Equation  
*Radim Dvořák, František Zbořil*

**Advanced and Comparative Approaches in Modelling and Simulation II**Chair: **Nikolas Popper**

10:30 – 12:10

Hall Prague C

- [10:30] Speedup 512 ? – Using Graphic Processors for Simulation  
*Thomas Wiedemann*
- [10:50] Implementing a Large-Scale Spatial Epidemic Model as Agent-Based System Using GPGPU and Databases  
*Günter Schneckenreither, Günther Zauner, Nikolas Popper, Felix Breitenecker*
- [11:10] An Approach for Combined Simulation Based Parameter and Structure Optimization Using Evolutionary Algorithms  
*Olaf Hagendorf, Thorsten Pawletta, Christina Deatcu, Roland Larek*
- [11:30] Application of Advanced-Search Methods for Automotive Data Bus System Signal Integrity Optimization  
*Harald Günther, Stephan Frei, Thomas Wenzel, Wolfgang Mickisch*
- [11:50] Hybrid State Chart Modelling for Nonlinear Bouncing Ball Dynamics  
*Rouzbeh Karim, Pavol Bauer, Bernhard Heinzl, Matthias Rößler, Günter Schneckenreither, Andreas Körner, Katharina Breitenecker, Günther Zauner, Nikolas Popper*

**Modelling and Simulation in Water Treatment**Chair: **Esko Juuso**

10:30 – 11:30

Hall Prague D

- [10:30] Evolutionary Optimisers in Calibration of Activated Sludge Models  
*Jukka Kesitalo, Kauko Leiviskä*
- [10:50] Modelling of Residual Alumum in Water Treatment Process  
*Petri Juntunen, Mika Liukkonen, Marja Pelo, Markku Lehtola, Yrjö Hiltunen*
- [11:10] Data Based Development of Hybrid Models for Biological Wastewater Treatment in Pulp and Paper Industry  
*Esko Juuso*

Lunch Break

12:30 – 14:00

**Modelling and Simulation in Medicine and Pharmacy II**Chair: **Jože Drinovec**

14:00 – 16:00

Hall Prague A

- [14:00] Simulation Analysis of Therapeutic Outcomes Regarding Chronic Heart Failure When Using Beta Blockers  
*Maja Atanasijević-Kunc, Jože Drinovec, Barbara Guštin, Aleš Mrhar*
- [14:20] Pulse Wave Separation: A Comparison of Methods  
*Bernhard Hametner, Johannes Kropf, Christopher Mayer, Thomas Weber, Bernd Eber, Siegfried Wassertheurer*
- [14:40] Representation of Competitive Serotypes in Dynamic Models  
*Christoph Urach, Florian Miksch, Günther Zauner, Nikolas Popper, Felix Breitenecker*
- [15:00] Compton Scattering Emission Imaging Based on the V Line Radon Transform and Its Simulation  
*Rémi Régnier, Mai Nguyen, Trong Tuong Truong*

- [15:20] A Kinetic Sorption Model for Citrate in Soil  
*Daniel Leitner, Eva Oburger, David Jones, Konstantinos Zygalakis, Tiina Roose, Andrea Schnepf*
- [15:40] A Method to Improve Team Performance in the OR Through Intent Inferencing  
*Eugene Santos Jr., Keum Joo Kim, Fei Yu, Deqing Li, Elizabeth A. Jacob, Lindsay Katona, Joseph Rosen*

### **Energy, Power Generation and Distribution**

14:00 – 16:00

Chair: **Jan Drchal**

Hall Prague B

- [14:00] A Case Study: Performance Evaluation for a Computer Integrated Power Plant Network  
*Jozef Bohdan Lewoc, Antoni Izvorski, Sławomir Skowronski, Antonina Kieleczawa, Tadeusz Czachórski, Georgi M. Dimirovski, Vesna Ojleska*
- [14:20] New ANN Models for Short Term Forecasting of Electricity Loads  
*Jelena Milojković, Vančo Litovski*
- [14:40] Multiphysical Simulation Improves Engineering of Electric Drives  
*Anton Haumer, Thomas Baeuml, Christian Kral*
- [15:00] Theoretical Consideration of Large Dynamic Gas Distribution Systems, by Using Significant Coefficients to Evaluate the Energy Efficiency  
*Rene Schimon, Andreas Werner, Thibault Henrion, Markus Haider*
- [15:20] Development of the Latvian Energy Sector System Dynamic Model  
*Valerijs Skribans*
- [15:40] Modelling and Simulation of the Dynamics of Hydro-Energetic Systems  
*Dumitru Popescu, Silviu Cirstoiu*

### **Physical Modelling and Control**

14:00 – 16:00

Chair: **Thorsten Pawleta**

Hall Prague C

- [14:00] Moving Boundary Heat Exchanger Model and Validation Procedure  
*Manuel Gräber, Nils Christian Strupp, Wilhelm Tegethoff*
- [14:20] Design of a Hybrid Control Model for Automatic Sample Changers at SGAS/IAEA  
*Katharina Breitenecker, Andrew P. Maddison, Herbert Siegmund*
- [14:40] Creating a Simscape Hydraulic Library for Physical Modelling  
*Bernhard Heinzl, Günther Zauner, Felix Breitenecker, Matthias Röbler*
- [15:00] BCP - A Benchmark for Hybrid Modelling and State Event Modelling  
*Andreas Körner, Bernhard Heinzl, Matthias Röbler, Stefanie Winkler, Irene Hafner, Günter Schneckenreither, Günther Zauner, Nikolas Popper*
- [15:20] Exploiting Structural Dynamism in Functional Hybrid Modelling for Simulation of Ideal Diodes  
*Henrik Nilsson, George Giorgidze*
- [15:40] Simulators for Physical Modelling - Classification and Comparison of Features / Revision 2010  
*Felix Breitenecker, Nikolas Popper, Günther Zauner, Michael Landsiedl, Matthias Röbler, Bernhard Heinzl, Andreas Körner*

**Modelling and Simulation for Control, Coordination and Supervision II**

14:00 – 16:00

Chair: **Rihard Karba**

Hall Prague D

- [14:00] Modelling HP Steam Generator with Fuzzy Feedforward Control System  
*Tomáš Náhlavský*
- [14:20] Measuring and Modelling the Dynamics of Reactions of Car Drivers  
*Mikulaš Alexík*
- [14:40] Modeling and Simulation of the Electric Arc Furnace for the Control Design Purposes  
*Vito Logar, Dejan Dovžan, Igor Škrjanc*
- [15:00] Discrete-Time Fuzzy Modelling and Parallel Distributed Compensation Control of Wheeled Mobile Robots  
*Sašo Blažič, El-Hadi Guechi, Jimmy Lauber, Michel Dambrine, Gregor Klančar*
- [15:20] A Simulation-Based Approach for Control-Optimization of Lecture-Room Management  
*Stefan Emrich, Sanja Zerlauth, Martin Bruckner, Nikolas Popper, Shabnam Tauböck, Dietmar Wiegand, Felix Breitenecker*
- [15:40] Modeling of Thick Walled Composite Structure Cure Process  
*Sergey Shevtsov, Ivan Samochenko, Victor Doubrov, Gennady Toiskin, Vladimir Axenov*

Coffee Break

16:00 – 16:30

16:30 – 17:30

**Behave Emotions like Transfer Functions? - The Laura-Petrarca Case***Felix Breitenecker and the LAURA Group*Chair: **Felix Breitenecker**

Hall Prague A+B+C+D

**Meeting Point by Hotel Diplomat Reception at 19:00**

Congress Dinner at Restaurant Vikárka – Prague Castle at 19:30

**Friday, September 10, 2010**

Invited Plenary Talk

9:00 – 10:00

**Modelling and Simulation in Health Technology Assessment***Felix Breitenecker*Chair: **Borut Zupančič**

Hall Prague A+B+C+D

Coffee Break

10:00 – 10:30

**Scenarios and Models for Future Transportation**Chair: **Jochen Wittmann**

10:30 – 12:30

Hall Prague A

- [10:30] Workflow Management of the Ground Handling at the Airport Through Modular System Optimizing  
*Marc Widemann, Yousef Farschtschi, Jochen Wittmann, Dietmar P. F. Möller*
- [10:50] Global Optimization of Local Workflow Managers Using the Example of Airport Hamburg  
*Yousef Farschtschi, Marc Widemann, Jochen Wittmann, Dietmar P. F. Möller*
- [11:10] Macroscopic Modeling of a Luggage Stream in an Airport Terminal  
*Marc Widemann, Jochen Wittmann, Kai Himstedt, Dietmar P. F. Möller*
- [11:30] Modelling and Simulation of Vehicle Movements Using a SPPTW Algorithm and the Application to Airport Surface Movements Analysis  
*Niclas Dzikus, Volker Gollnick*
- [11:50] Macroscopic Modelling of Passenger Streams on the Airport and Its Adaptation in Matlab Simulink  
*Yousef Farschtschi, Dominik Formella, Kai Himstedt, Jochen Wittmann, Dietmar P. F. Möller*
- [12:10] Simulating the Impact of Various Quay Operational Protocols on Container Unloading and Loading Efficiency  
*Gregory A. Harris, Bernard J. Schroer, Dietmar P. F. Möller*

**Inductive Modelling and Artificial Neural Networks in Simulation II / Intelligent Systems**Chair: **Pavel Kordík**

10:30 – 12:30

Hall Prague B

- [10:30] Simulation and Genetic Evolution of Spiking Neural Networks  
*Petr Podhorský, Miroslav Skrbek*
- [10:50] Classification of Spatio-Temporal Data  
*Jakub Zahradník, Miroslav Skrbek*
- [11:10] Hybrid Neighborhood Control Method of Adaptive Plan System with Genetic Algorithm  
*Hieu Pham, Hiroshi Hasegawa*
- [11:30] A Concept of a Robot for the Robotour Competition  
*Jaroslav Rozman, František Zbořil*
- [11:50] Cellular Automata in Thermodynamic and Cloud Dynamics Simulations  
*Alisson Rodrigo, Maury Gouvêa Jr.*
- [12:10] Comparing Ability of Generalisation for Methods Solving Decision Making Processes within Simulation Models of Passenger Railway Stations  
*Michael Bažant, Jan Fikejz*

**Simulation in Education/Education in Simulation II**

10:30 – 12:50

Chair: **Felix Breitenecker**

Hall Prague C

- [10:30] An E-Learning Study: Using Maple T.A. to Improve the Mathematic Skills of Students  
*Peter Kristöfel, Andreas Körner, Felix Breitenecker, Vilma Urbonaite*
- [10:50] Advanced Randomization and Grading in the E-Learning System Maple T.A.  
*Andreas Zimmermann, Vilma Urbonaite, Andreas Körner, Stefanie Winkler, Stefan Krause, Maximilian Kleinert*
- [11:10] MMT - A Web Based E-Learning System for Mathematics, Modeling and Simulation Using Matlab  
*Stefanie Winkler, Andreas Körner, Irene Hafner*
- [11:30] Radioactive Decay Models in a Matlab E-Learning Environment  
*Katharina Breitenecker, Felix Breitenecker, Andreas Körner, Peter Kristöfel, Nikolas Popper, Günter Schneckenreither, Günther Zauner*
- [11:50] A.RIES - A Web Lecture and Online Exercise Management System for Applied Mathematics and Mathematical Modelling  
*Andreas Körner, Nicole Nagele, Günter Schneckenreither, Nikolas Popper, Michael Landsiedl*
- [12:10] A Multimedia Interactive 3D Virtual Environment for Emergency Simulation, Teaching and Practice of Safety Procedures  
*Marco Vannucci, Valentina Colla, Alessandro Avigni, Andrea Avigni*
- [12:30] Projectile Motion - Boundary Value Problem and Optimization in Education  
*Rüdiger Hohmann, Nico Hagemann, Nicolas Kaiser*

**Modelling and Simulation for Control, Coordination and Supervision III**

10:30 – 12:50

Chair: **Rihard Karba**

Hall Prague D

- [10:30] Modelling of Mobile Robot Dynamics  
*Edouard Ivanjko, Toni Petrinić, Ivan Petrović*
- [10:50] Identification of a Hybrid Fuzzy Model of a Batch Reactor for Simulation and Control  
*Gorazd Karer, Igor Škrjanc, Borut Zupančič*
- [11:10] Modelling and Simulation of the Active Vibration Control by Means of PI Regulated Electro-Dynamic Actuator and Bond Graph Approach  
*Željko Lozina, Ivan Tomac, Damir Vučina*
- [11:30] Modelling Deadlock Avoidance in AGV Systems via Coloured Petri Nets  
*Michal Žarnay, Ladislav Jančík, Petr Cenek*
- [11:50] Higher Order Differential Delay Systems with Control Applications  
*Athanasios Pantelous, Athanasios Karageorgos, Leonidas Dritsas, Vasilis Tsoukias*
- [12:10] Modelling and Simulation of Semi-Batch Polymerization Reactor for Improved Reactants Dosing Control  
*Nadja Hvala, Dolores Kukanja*
- [12:30] Modeling of Robot Learning in Matlab/Simulink Environment  
*Bojan Nemec, Leon Žlajpah*

**EUROSIM 2010 Closing**

12:50 – 13:10

Hall Prague A+B+C+D