



3rd International Carpathian Control Conference

Malenovice, Czech Republic, May 27-30, 2002
VŠB - TU Ostrava, AGH Krakow, TU Košice

Conference Programme

Tuesday, May 28, 2002

09:00 - 09:30	Opening Ceremony
09:30 - 10:30	Plenary Session
11:00 - 12:30	Section 3a: Control systems and instrumentation
11:00 - 12:30	Section 1: Measurement, monitoring and diagnostic
14:00 - 15:30	Section 3b: Control systems and instrumentation
14:00 - 15:30	Section 2: Identification, modeling and simulation of processes and systems
16:00 - 17:30	Section 3c: Control systems and instrumentation
16:00 - 17:30	Section 8: Engineering education in control and computer systems
17:30 - 18:00	Poster session

09:00 – 09:30 **OPENING CEREMONY** **Conference Hall**

09:30 - 10:30

Plenary Session **Conference Hall**
Chairmen: Smutný, L., Kostúr, K., Sapinski, B

- 1** **PETRUS, Michal, NAHODIL, Pavel & KADLEČEK, David**
Self-Motivated Autonomous Agents
- 2** **IRGENS, Christopher**
Can We Control the Product Design Process
- 3** **VÍTEČEK, Antonín & VÍTEČKOVÁ, Miluše**
Robust Control Algorithms Design

10:30 – 11:00 **COFFEE BREAK** **Conference Hall**

11:00 – 12:30

Section 3a: Control systems and instrumentation Room: <i>Conference Hall</i> Chairmen: Zítek, P., Irgens, Ch.	Section 1: Measurement, monitoring and diagnostic Room: <i>Session Room</i> Chairmen: Zezulka, F., Pluta, J.
1 ARNOŠT, René & ŽAMPA, Pavel Continualization of Structural Cybernetic Systems 2 BEDNARCZYK, Józef, KOT, Andrzej & GLUCH, Gerard Analytical Determining of Forces and Pressures During Electrodynamical Metal Forming 3 ZÍTEK, Pavel & VYHLÍDAL, Tomáš Dominant Pole Assignment for Time Delay Systems 4 DORČÁK, Lubomír, PETRÁŠ, Ivo, KOŠTIAL, Imrich & TERPÁK, Ján Fractional Order State Space Models 5 SAPIŃSKI, Bogdan, PODSIADŁO, Andrzej & PLUTA, Janusz Directional Control of Micro tunneling Machine by Using Neural Network 6 ALEXÍK, Mikuláš Adaptive DB(N) Algorithm With Antiwindup	1 BATKO, Wojciech & MIKULSKI, Andrzej Application of Wavelet Methods to Magnetic Testing of Steel Ropes 2 DOBRILLOVIĆ, Mario, ESTER, Zvonimir & VRKLJAN, Darko Determination of Critical Parameters in Mechanical Testing Methods of Electric Detonators According to New Drafts of European Standards 3 HRUŠKA, František Device for Evaluation of Indices of the Thermal Comfort 4 KOSTŮR, Karol The Systems of Indirect Measurement 5 SMUTNÝ, Lubomír Wireless LAN With Smart Instruments 6 TŮMA, Jiří, KOČÍ, Petr, ŠKUTA, Jaromír & JURÁK, Michal Analysis of a Car Burst Shaking While the Car Engine Is Running at Idle

12:30 – 13:30

LUNCH

14:00 – 15:30

Section 3b: Control systems and instrumentation Room: <i>Conference Hall</i> Chairmen: Kebo, V., Jaracz, K.	Section 2: Identification, modeling and simulation of processes and systems Room: <i>Session Room</i> Chairmen: Noskiewič P., Banks, S. P.
1 IRGENS, Christopher, LANDRYOVÁ, Lenka & SALAMA, Mohamad The Generation of Test Data Using Genetic Algorithms and Case Based Reasoning for Safety Critical Systems 2 GŁOWACZ, Zygfryd & JARACZ, Kazimierz Sensitivity Functions of Converter AC Electric Driving System on the Anti-Parallel Converter Parameters Variations 3 BÍLA, Jiří & ULIČNÝ, David Analysis of Chaotic Signals: Non-Linear Methods Versus Neural Networks 4 POPESCU, Dan Suboptimal Control of Systems With Input Delay 5 MOŠNA, Jiří & PEŠEK, Pavel Deterministic Interpretation of LQG Optimality	1 ALAM JAN, Javed, ŠULC, Bohumil & NEUMAN, Petr Object Oriented Modelling of a Training Simulator 2 AL-AZAB, Tariq Physical and Mathematical Modeling of Automatically Controlled Moving Objects 3 BANKS, Steven P. Viscosity Solutions and Approximations to Characteristics of the HJB Equation 4 NOSKIEWIČ, Petr Closed Loop Control of the System With the Modes of Different Dynamics and Damping 5 SZPYTKO, Janusz, DRZYMAŁA, Zygmunt & MICHLOWICZ, Edward OPERATOR Specialist Crane System Model 6 TERPÁK, Ján, DORČÁK, Lubomír, KOŠTIAL, Imrich & PETRÁŠ, Ivo Mathematical Model of the Theoretical Temperature of the Blast Furnace

15:30 – 16:00

COFFEE BREAK

16:00 – 17:30

<p>Section 3c: Control systems and instrumentation</p> <p>Room: <i>Conference Hall</i> Chairmen: Landryová, L., Dorčák, L.</p>	<p>Section 8: Engineering education in control and computer systems</p> <p>Room: <i>Session Room</i> Chairmen: Balátě, J., Czekkel, J.</p>
<p>1 KLOUB, Nasir Determination of Optimal Qualities of Products During Research, Design and Construct Stages Using the Mathematical Methods</p> <p>2 PERŮTKA, Karel, BOBÁL, Vladimír & NAVRÁTIL, Petr Decentralized Adaptive Control: Influence of Identification Algorithm On Control</p> <p>3 SYSEL, Martin & BOBÁL, Vladimír Control of Higher Order System Using Delta Models</p> <p>4 SZPYTKO, Janusz, SMOCZEK, Jaroslaw & LAKOMSKI, Damian Adaptive Control System of Overhead Crane's Movement Mechanisms</p> <p>5 ŠKUTOVÁ, Jolana Adaptive Neuro-Control Using the Direct Inverse Method</p> <p>6 WAGNEROVÁ, Renata Nonlinear Control Systems Synthesis</p>	<p>1 ÁDÁM, Tihamér, CZEKKEL, János & DALMI, István Laboratory for Education of Integrated Automation Systems</p> <p>2 ÁDÁM, Tihamér, CZEKKEL, János & DALMI, István Experiences with the Teaching of Control Techniques for Engineer Student</p> <p>3 BALÁTĚ, Jaroslav & NAVRÁTIL, Pavel Computer Aided Automatic Control Theory</p> <p>4 SOZAŇSKI, Marek M., SROCZAN, Eugeniusz M. & URBANIAK, Andrzej Education of Students within Environment Engineering Course of Automation and Control Subjects -Experience of Poznań University of Technology</p> <p>6 AUNG, Win & FARANA, Radim Recent Development in International Cooperation in Engineering Education and Research</p>

17:30 - 18:00

<p>Poster Session Room: <i>Poster Room</i> Chairmen: Kačmář, D., Podsiadlo, A.</p>
<p>ADAMCZAK, Stanislaw, JANECKI, Dariusz & STĘPIEŃ, Krzysztof The Function of Cross Correlation in Comparing Roundness Profiles</p> <p>ADAMCZAK, Stanislaw, MICHALSKI, Dariusz & STĘPIEŃ, Krzysztof Computer Method of Geometrical Structure of a Surface Measurements Accuracy Evaluation</p> <p>ADÁMEK, Milan & MATÝSEK, Miroslav The Simulation of Gas Flow in Measuring Tube</p> <p>BARNOSCHI, Adriana, PODARU, Vasile & TRUȚĂ, Adriana-Meda Knowledge Based System in Design Synthesis</p> <p>BEDNARCZYK Józef, PODSIADŁO Andrzej, GŁUCH Gerard Stress Measurement in Electrodynamics' Pipe Making Inductors</p> <p>BOBASU, Eugen Order Systems Reduction By Singular Perturbations Method Application to an Electro hydraulic System</p> <p>BRADÁČ, František The Methods of Improving of Spatial Resolution of Images</p> <p>BRADÁČ, Zdeněk, ZEŽULKA, František, KUČERA, Pavel, FOJTÍK, Pavel, CACH, Petr & FIEDLER, Petr BLUETOOTH for Low-Level Process Control</p> <p>FLAGA Stanislaw Application of Cell Telephones for Process Monitoring</p> <p>FLAGA Stanislaw, KWAŚNIEWSKI Janusz Structure of a Distributed Control System Laboratory</p> <p>HANZELOVÁ, Marcela & BENKOVÁ, Marta The Environmental and Economical Evaluation of the Development Waste in the Slovak Republic</p> <p>HRUŠKA, František Continuous Control of AC Electrical Power in Automation Systems</p>

JURÁK, Michal & TŮMA, Jiří
Testing of a Car Engine Control Unit Using the Hardware-In-The-Loop Simulation

KOWAL, Janusz & ORNACKI, Roman
Analysis of Properties of Actuators Used in Vibration Control Systems

KRÁLOVCOVÁ, Jiřina & HERNYCH, Miloš VIRTUAL
Models As an Aid of Logic Control Training

LACIAK, Marek & KOSTŮR, Karol
Models for Indirect Temperature Measurements of Melt in LD Converter

LIČEV, L.
Monitoring of Changes in Measurements of Objects from Photographs

LIČEV, L.
Implementation of Tools of AI for Object Recognition in System FOTOM

LOBUR, Mykhaylo, KERNYTSKYI, Andriy & WRÓBEL, Jerzhy
Production Data Management System As a Tool for Engineering Databases Integration in Small Machine-Building Enterprise

MACHÁČEK, Jiří
Decentralized Control With Identification

MATÝSEK, Miroslav & ADÁMEK, Milan
the Network Monitoring and Control System for Technological Processes Based On Os Linux

NOSKIEVIČOVÁ, Darja
The Proposal of the Expert System for SPC

OPRZĘDKIEWICZ, Iwona & FILIPOWICZ, Artur
Description of Vibrations of a Concentrating Table With an Inertial-Bumper-Drive

PAVLAS, Roman
Database System for Recording of Training Courses

PETRE, Emil
Multivariable Control Strategies for a Biotechnological Process

PLUTA Janusz, PODSIADŁO Andrzej, KONIECZNY Jarosław
Reconstruction of Absolute Displacement of a Vibration Isolated Mass in a 2 DOF System

SALOKY, Tomáš
Industrial Robots and Computer Vision

SIBIELAK Marek, RĄCZKA Waldemar
Application of the MATLAB/SIMULINK Package for Rapid Prototyping of DSP Based Control Systems

SIBIELAK, Marek & RĄCZKA, Waldemar
Fuzzy Logic Time-Optimal Controller

ŠKUTA, Jaromír
Web Cam Using for Real-Time Tasks Monitoring in Control Web 2000 System

TRÉFA, Gabriel & KOSTŮR, Karol
the Realisation of System of Indirect Measurement Temperature in Ld – Converter

TRUŤÁ, Adriana-Meda, BICÁ, Marin & ZENOVIC, Gherasim
Some Consideration about Modelling Human Process and Mechanism

VÍTEČKOVÁ, Miluše & VÍTEČEK, Antonín
Analytical Controller Tuning Method for Proportional Non-Oscillatory Plants With Time Delay

ZÁDA, Václav & ZELENKA, Daniel
Optimal Setting of Parameters of Nonlinear Systems

18:00 – 18:30

Poster Discussion

Poster Room

19:00 – 23:00

Welcome Reception

Reception Hall, Outdoor Terrace

Wednesday, May 29, 2002

09:00 - 10:30	Section 5a: Information systems (SCADA/HMI, GIS, MES) and their Internet support
09:00 - 10:30	Section 4a: Robotics and automation
11:00 - 12:30	Section 5b: Information systems (SCADA/HMI, GIS, MES) and their Internet support
11:00 - 12:30	Section 4b: Robotics and automation

09:00 – 10:30

<p>Section 5a: Information systems and their Internet support Room: <i>Conference Hall</i> Chairmen: Vašek, V., Glowacz, Z.</p> <p>1 BŁAŻEWICZ, Jacek & KLAUS, Rafał PLANT Control With the Use of SMS Service</p> <p>2 CZYRWIK, Sebastian, FERUŚ, Jacek, HEYDUK, Adam, LANGHAMMER, Michal, MIŚKIEWICZ, Kazimierz & SZEBESTA, Krystian Application of Lonworks Networks for Intrinsically Safe Control of Mining Rope Transport Systems</p> <p>3 KUBALČÍK, Marek & BOBÁL, Vladimír ADAPTIVE Control of Coupled Drives Apparatus</p> <p>4 ZEZULKA, František, BRADÁČ, Zdeněk, VÍTEK, Petr, SUŠINA, Radek, MICHLÍČEK, Pavel & KRYSTÝNEK, Pavel Small-Scale Modular Laboratory Control System</p> <p>5 GREGA, Wojciech & KOLEK, Krzysztof Monitoring and Control of Heat Distribution</p> <p>6 CHRAMCOV, Bronislav, BALÁTĚ, Jaroslav & PRINC, Michal Inclusion of Weather Influences in Calculation of Heat Supply Daily Diagram Forecast</p>	<p>Section 4a: Robotics and automation Room: <i>Session Room</i> Chairmen: Kostůr, K., Sapinski, B.</p> <p>1 BEDNARCZYK, Józef & GLUCH, Gerard Experimental Determination of Motion Parameters During Pipe Bulging in Pulse Magnetic Field</p> <p>2 DORČÁK, Lubomír, TERPÁK, Ján, KOŠTIAL, Imrich & PETRÁŠ, Ivo Control of Speed of Turboexhausters for Agglomeration Belt</p> <p>3 TŮMA, Jiří Phase Demodulation in Angular Vibration Measurements</p> <p>4 PETRÁŠ, Ivo, VINAGRE, Blas M., DORČÁK, Lubomír & FELIU, Vincent Fractional Digital Control of a Heat Solid: Experimental Results</p>
---	--

10:30 – 11:00

COFFEE BREAK

11:00 - 12:30

<p>Section 5b: Information systems (SCADA/HMI, GIS, MES) and their Internet support Room: <i>Conference Hall</i> Chairmen: Šulc, B., Nosirev, M.</p> <p>1 JANÁČOVÁ, Dagmar, KOLOMAZNÍK, Karel & VAŠEK, Vladimír Optimization of Chrome Shavings Treatment By Enzymatic Digestion</p> <p>2 JACHIMSKI, Marcin, HAYDUK, Grzegorz, WRÓBEL, Grzegorz & ZYGMUNT, Henryk Small Internet Monitoring and Control Device</p>	<p>Section 4b: Robotics and automation Room: <i>Session Room</i> Chairmen: Bíla, J., Kloub, N.</p> <p>1 PHAM MANH, Thang & VAŠEK, Vladimír The Computer Control System in Tanning Processes</p> <p>2 POKORNÝ, Pavel & VAŠEK, Vladimír Temperature Control in the Technology Process Drying</p> <p>3 SZYMCZYK, Magdalena Communication Problems in Real-Time and Embedded Systems</p>
---	--

<p>3 KAČMÁŘ, Dalibor Windows CE Practical Deployment in Real-Time Applications</p> <p>4 LANDRYOVÁ, Lenka & KOZIOREK, Jiří Process Data Visualization and Monitoring Using Internet</p> <p>5 PRINC, Michal, BALÁTĚ, Jaroslav & CHRAMCOV, Bronislav Analysis of Hydraulic and Heat Relations in Heat Networks; Calculation in Real Locality</p>	<p>5 VAŠEK, Vladimír, BLIŽŇÁK, Michal & PERŮTKA, Karel REAL Time Applications in Windows NT</p> <p>6 BABIUCH, Marek Implementation of User-Friendly Programming Environment for Standalone Micro-Controllers</p>
--	--

12:30 – 13:30

LUNCH

13:30 – 18:30

Social, Cultural and Sport Programme

19:00 – 23:00

Banquet

Restaurant

Thursday, May 30, 2002

09:00 - 10:30

Section 6: Engineering application of informatics

11:00 - 12:20

Walking trip to the mountain pub “U Veličků”

9:00 - 10:25

Section 6:

Engineering application of informatics

Room: *Session Room*

Chairmen: Farana, R., Truřa, A-M.

- | |
|---|
| <p>1 SZEGA, Marcin & RUSINOWSKI, Henryk
Selected Problems of the Uncertainty Determination of Measurements and Computational Value in Thermal Processes</p> <p>2 ALAM JAN, Javed & ŠULC, Bohumil
Evolutionary Computing Methods for Optimising Virtual Reality Process Models</p> <p>3 RUSINOWSKI, Henryk & SZEGA, Marcin
Energy Evaluation of a Heat-And-Power Unit Operation Together With the Checking of the Validity of the Results of Measurements</p> <p>4 SZYMCZYK, Piotr
Developing Service Level Agreement for Outsourced Processes and Systems</p> <p>5 KOČÍ, Petr
Diagnostics of Machine Tools Dynamic Properties</p> <p>6 FARANA, Radim & SMUTNÝ, Lubomír
Developing and Remote Control of Web Information Systems</p> |
|---|

10:25 – 10:30

Conference Closure

10:30 – 10:50

COFFEE BREAK

11:00 - 12:20

Walking trip to the mountain pub “U Veličků”

In case of good weather only.

Start of walking trip in the hotel lobby on 11 AM, walking distance about 45 minutes to the pub (3 km).

12:30 – 13:30

LUNCH

14:00

Departure of the special bus to Ostrava



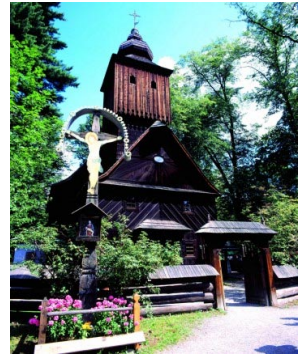
Wednesday May 29, 2002 afternoon

13:30 – 18:30

Social, Cultural and Sport Programme

Excursion to Walachian open-air museum (National cultural monuments: Wooden little town, Mill valley or Walachian village) - 40 participants, by special bus, 13,45 from the hotel P. Bezruč

The Walachian open-air museum: Walachian museum is the oldest open-air museum in Center Europe, established in year 1925. The three independent premises, Wooden Town, Mill Valley, and Walachian Settlement, contain more than sixty showplaces that represent typical timbered architecture of Walachian region. The Walachian open-air museum welcomes more than 600 000 visitors every year. They admire not only dwellings, farms and technical building, but are spectaculars of regular weekend happenings that demonstrate old ways of housewifery, housework, and craft. Programs for lovers of the folk music, vocals, and dance run every Saturday and Sunday since May till September on stage of the chamber amphitheatre. The stylish boarding in the area of the Wooden Town and Walachian Settlement is available throughout the year. The wide spectrum of folk craftsmen products, souvenirs, and postcards are offered in the shop. The museum provides guided tours in Czech, English, German, French, Russian and Polish. Printed leaflets are available in all world languages and Czech. The museum also prepares regular exhibitions where it presents its rich collection funds. The collections have been building since the twenties of the last century. They total at the present more than 100 000 three dimension objects, 120 000 negatives and photographs, 13 000 book volumes in the library, and 40 000 archive items.



Walking trip to Lysá hora Mountain (good weather only)

On foot – 8 to 10 km length, 700 m of altitude difference

Lysá hora mountain: With its stretch of 1.160 km² The Beskydy Mountains Protected Area is the largest natural region in the Czech Republic. It was found in 1973. Almost 70% is a timbered land. The Beskydy Mountains first were composed of mixed forests (firs, beeches), later there were planted out spruce firs. Today trees are affected headly by the industry and logging. The herbage and various of flower create a typical impression of this landscape. To known tops belong headly the highest point of the Beskydy Mountains Lysá hora (1.328 m), further it is Radhošť (1.129 m), Pustevny (1.020 m), Kněžyně (1.256 m), Smrk (1.276 m) or Velký Javorník (918 m). These massifs are mainly formed of grit on a claystone from the chalk age. The Beskydy Mountains are also an important water region with some fresh water reservoirs. Natural reservation is mostly of a primeval forest type with several natural protected creations.

