



# INSTITUTE OF CONTROL AND INDUSTRIAL INFORMATICS





# INSTITUTE OF CONTROL AND INDUSTRIAL INFORMATICS

<http://www.urpi.fe.i.stuba.sk/>



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**Director of the Institute:**

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**Vice- Director for Science and Research, Foreign Relations,  
and Industry Cooperation:** prof. Ing. Štefan Kozák, PhD.

**Vice- Director for Teaching:** doc. Ing. Eva Miklovičová, PhD.

**Secretary:** Mgr. Alena Foltinová

**Office:** Katarína Macková

## General Information

Institute of Control and Industrial Informatics (ICII) is one of the top university institutes in Slovakia in the field of automation and control, industrial informatics, cybernetics, robotics and mechatronics. ICII was established in 2006 and consists of the former Department of Automation and Control, and the Department of Automatic Control Systems.

ICII is a technical guarantor of accredited study programmes Industrial Informatics (Bc), Applied Informatics - application domain Information Technologies in Control (Bc., Ing.), Cybernetics (Ing.), Robotics (Ing.), Applied Mechatronics (Ing.), and Applied Mechatronics (PhD.), Automation and Control (PhD.), Cybernetics (PhD.).

The basic research at ICII has been oriented to optimal control, decentralized, adaptive, robust and predictive control of complex systems, soft computing methods in control, and recently also to network and robust hybrid control approaches. The main application areas are drive systems, robotics, power engineering, manufacturing, and process engineering. Individual research teams prove their expertise by a rich publishing activity including international journals, monographs, and proceedings of important world-wide international conferences (IFAC, IEEE, ECC, etc.)

## Departments of the Institute

### Departments of the Institution Control and Industrial Informatics

The institute has 5 departments and administrative-economic body.

#### Department of Systems and Signals

**Head of department:** doc. Ing. Danica Rosinová, PhD.

**Deputy-head:** doc. Ing. Eva Miklovičová, PhD.

#### Department of Automatic Control Methods

**Head of department:** prof. Ing. Mikuláš Huba, PhD.

**Deputy-head:** doc. Ing. Katarína Žáková, PhD.

#### Department of Information and Communication Systems

**Head of department:** doc. Ing. Ivan Sekaj, PhD.

**Deputy-head:** Ing. Ladislav Kőrösi, PhD.



## Department of Robotics and Artificial Intelligence

**Head of department:** prof. Ing. Peter Hubinský, PhD

**Deputy-head:** doc. Ing. František Duchoň, PhD.

## Department of Applied Mechatronics

**Head of department:** prof. Ing. Štefan Kozák, PhD.

**Deputy-head:** prof. Ing. Milan Žalman, PhD.

## I. STAFF

### Professors

prof. Ing. Mikuláš Huba, PhD., prof. Ing. Peter Hubinský, PhD., prof. Ing. Ladislav Jurišica, PhD., prof. Ing. Štefan Kozák, PhD., prof. Ing. Ján Murgaš, PhD., prof. Ing. Vojtech Veselý, DrSc., prof. Ing. Anton Vitko, PhD., prof. Ing. Milan Žalman, PhD.

### Associate Professors

doc. Ing. František Duchoň, PhD., doc. Ing. Igor Hantuch, PhD., doc. Ing. Ján Kardoš, PhD., doc. Ing. Alena Kozáková, PhD., doc. Ing. Zdenka Kráľová, PhD., doc. Ing. Eva Miklovičová, PhD., doc. Ing. Danica Rosinová, PhD., doc. Ing. Ivan Sekaj, PhD., doc. Ing. Ján Šturcel, PhD., doc. Ing. Katarína Žáková, PhD.

### Assistant Professors

Ing. Andrej Babinec, PhD., Ing. Richard Balogh, Ing. Igor Bélai, PhD., Ing. Pavol Bisták, Ing. Michal Blaho, PhD., Ing. Jozef Dorner, doc. Ing. Peter Drahoš, PhD., Ing. Mária Dúbravská, Ing. Jozef Dúbravský, PhD., Ing. Martin Foltin, PhD., Ing. Mária Hypiusová, PhD., Ing. Štefan Chamraz, PhD., Ing. Slavomír Kajan, PhD., Ing. Ladislav Körösi, PhD., Ing. Marián Mrosko, PhD., Ing. Jana Paulusová, PhD., Ing. Peter Pászto, PhD., Ing. Peter Ťapák, PhD., Ing. Miroslav Toman, PhD.

### Research Workers

Ing. Peter Fodrek, PhD., doc. Ing. Miroslav Halás, PhD., Ing. Jaroslav Hanzel, PhD., Ing. Marián Klúčik, Ing. Leo Mrafko, PhD., Ing. Jakub Osuský, PhD., Ing. Tatiana Radičová, Ing. Jozef Rodina, Ing. Danica Sovišová, Ing. Stanislav Števo, PhD., Ing. Jozef Vöröš, PhD.

### Technical Staff

Peter Detvaj, Ing. Radoslav Dibarbora, Mgr. Alena Foltinová, Pavol Gašparovič, Katarína Horváthová, Katarína Macková (office), Jozef Turčánik

### PhD Students

Ing. Martin Dekan, Ing. Duong Quang Khanh, Ing. Branislav Dvorščák, Ing. Tomáš Fico, Ing. Pavol Folvarčík, Ing. Peter Guzmický, Ing. Ivan Holič, Ing. Tomáš Huba, Ing. Ivan Hujsi, Ing. Ľuboš Chovanec, Ing. Anežka Chovancová, Ing. Adrián

Ilka, Ing. Zoltán Janík, Ing. Martin Jarčuška, Ing. Juraj Kostroš, Ing. Andrej Kozák, Ing. Róbert Krasňanský, Ing. Marek Linder, Ing. Tomáš Ludwig, Ing. Tomáš Malatinec, Ing. Filip Noge, Ing. Ivan Ottinger, Ing. Lukáš Palkovič, Ing. Anton Pytel, Ing. Juraj Slačka, Ing. Dávid Soós, Ing. Jozef Škultéty, Ing. Juraj Švančara, Ing. Marián Tárnik, Ing. Alexander Tichý, Ing. Stanislav Triaška, Ing. Michal Tölgyessy, Ing. Peter Valach, Ing. Eugen Vizsus, Ing. Vladislav Vodička, Ing. Daniel Vozák

## II. EQUIPMENT

### II. 1 Teaching and Research Laboratories

- Adaptive Control Laboratory
- Continuous Process Control Laboratory (D-301)
- Optimization and Optimal Control Laboratory
- Multivariable Systems Laboratory
- Production Systems Modeling Laboratory
- Computational Intelligence Laboratory
- Joint Laboratory of Robotics (D-705)
- Actuators Laboratory
- Electronics Laboratory
- CAD CS Laboratory
- Automation Means Laboratory
- Sensors Laboratory
- SIEMENS Automation Technology Laboratory
- Smart Servosystems Laboratory
- Servosystems Laboratory
- Industrial Automation Laboratory
- Multimedia Systems Laboratory
- Nonlinear Systems Laboratory
- Robot Control Laboratory
- Mechatronics Laboratory
- Robotics Laboratory (basement D block - Ro)
- Special Systems Laboratory
- Real-Time Programming Tools Laboratory
- CAD Systems Laboratory
- Flying Devices Laboratory
- Control System Software Laboratory
- Discrete Event Systems Laboratory
- Laboratory of Embedded Control Systems
- Laboratory of PLC
- Laboratory of Applied Mechatronics
- Laboratory of Modeling and Simulation for Mechatronic Systems
- Laboratory of Bio-informatics and Info-Medicine

### II. 2 Special Instruments and Computers

- Mechanical Setup Position Control Plant
- Laboratory Models: Inverted Pendulum, Crane, Helicopter Rack, Helicopter Model, Thermal Plant, Thermo-optical Model, Magnetic Levitation Syst., Two - Tank System, Three - Tank System, Two - Tank System with Two Pumps, Shell and Tube Heat Exchanger, Rotary Pendulum, Propeller Pendulum





- Digital Signal Processor Board for Real-Time Control
- Embedded MicroComputer Systems Development Tools for Atmel, Freescale, Intel
- CALYS 5 Digital Meas. and Calibr. Device for Process Measurement of Temperature
- Multitron PS 10 – Motion Control System
- Intelligent Mobile Robot System
- D Spice DS 1103 Developing System
- Programmable Controllers: MicroLogix, Honeywell, Modicon
- Distributed Control System Yokogawa Centum
- Programmable Controllers: Simatic S7-300, S7-200, UDC Honeywell, Modicon TSX Premium, Mocrlogix 1000, Allen Bradley
- Allen Bradley Motor Drives, FLEX IIO Modules, Panel View 900
- Production Line Models with: Crane, Conveyors, Manipulators
- Networked Control System with CAN Bus & Ether CAT
- Transportation Model, Model for Ball Color Separation, Bouncing Ball Model, Tank Level Control Model, Magnetic Levitation Model, Helicopter Model, Railway Transfer Station Model
- Software: Matlab, MODES, WITNESS, LABREG, PROMOTIC, SAP ERP
- HMI Software - WinCC, WinCC Flexible, Protool
- Programming Software Step7 Professional
- DC Servo Drive System
- Software Wonderware InTouch
- RsLogix5000, RsLogix500, SoftLogix
- ControlNet, DeviceNet, EtherNet
- Emulate500, Emulate5000, LogixArchitect, RsLinx
- RsSQL, RsTune, RSView Supervisory Edition
- HW: ControlLogix PLC, CompactLogix, HMI
- Sinamics S 120
- B&R APC 620 + ACOPOS 1016
- SIMOVERT
- LEGO Mindstorm NXT 2.0
- XCode Developer Tool
- Mobile Robot Research Kit
- Indoor Mobile Robot
- Leica GPS1200
- Thermovision Camera TIM160
- Laser Scanner M2-iLAN-2-80/40
- iRobot Create Robotic Platforms
- Hexapod and Biped wWalking Robots

### III. TEACHING

#### III. 1 Undergraduate Study (Bc.)

Subject, semester, hours per week for lectures and for seminars or practical exercises, name of the lecturer:

- |   |                  |
|---|------------------|
| • <b>Computer Architecture</b>              | (2nd sem., 3-2h) |
| R. Ravas, Š. Chamraz, P. Fodrek             |                  |
| • <b>Modeling and Simulation in Matlab</b>  | (2nd sem., 3-2h) |
| E. Miklovičová, M. Foltin                   |                  |
| • <b>Unix/Linux – Real Time Systems</b>     | (3rd sem., 2-3h) |
| I. Sekaj, P. Fodrek                         |                  |
| • <b>Automatic Control Theory 1</b>         | (3rd sem., 2-3h) |
| M. Huba                                     |                  |
| • <b>Cybernetics 1</b>                      | (3rd sem., 2-2h) |
| D. Rosinová                                 |                  |
| • <b>Automatic Control Theory 2</b>         | (4th sem., 2-3h) |
| J. Murgaš                                   |                  |
| • <b>Design of Web Applications</b>         | (4th sem., 2-2h) |
| K. Žáková                                   |                  |
| • <b>Electronics for Control Systems</b>    | (4th sem., 2-2h) |
| J. Šturcel, M. Toman                        |                  |
| • <b>Instrumentation of Control Systems</b> | (4th sem., 3-2h) |
| J. Šturcel, M. Toman, Š. Chamraz            |                  |
| • <b>Java-graphical Interface CS</b>        | (4th sem. 2-3h)  |
| I. Sekaj, P. Fodrek                         |                  |
| • <b>Cybernetics 2</b>                      | (4th sem., 2-2h) |
| J. Murgaš, J. Paulusová                     |                  |
| • <b>Internet and Intranet Applications</b> | (5th sem., 2-2h) |
| K. Žáková                                   |                  |
| • <b>Actuators</b>                          | (5th sem., 2-3h) |
| M. Žalman, J. Dúbravský                     |                  |
| • <b>Control Systems Software</b>           | (5th sem., 2-3h) |
| I. Hantuch, L. Kőrösi                       |                  |
| • <b>Optimization</b>                       | (5th sem., 2-2h) |
| D. Rosinová                                 |                  |
| • <b>Basic of Control Systems</b>           | (5th sem., 2-2h) |
| P. Hubinský                                 |                  |
| • <b>Sensor Systems for Cars</b>            | (5th sem., 2-2h) |
| V. Tvarožek, J. Šturcel                     |                  |
| • <b>Automation 1</b>                       | (5th sem., 3-2h) |
| J. Murgaš, M. Mrosko                        |                  |
| • <b>Monolithic Microcontrollers</b>        | (5th sem., 2-2h) |
| J. Šturcel, Š. Chamraz, R. Balogh           |                  |
| • <b>Applied Computational Intelligence</b> | (5th sem., 2-2h) |
| I. Sekaj                                    |                  |
| • <b>Control Systems</b>                    | (5th sem., 2-2h) |
| J. Murgaš, M. Mrosko                        |                  |
| • <b>Industrial Communication Bus</b>       | (6th sem., 2-2h) |
| J. Šturcel, P. Drahoš                       |                  |
| • <b>Industrial Communication Systems</b>   | (6th sem., 3-2h) |
| M. Žalman, I. Bélai                         |                  |
| • <b>Robotics</b>                           | (6th sem., 3-2h) |
| P. Hubinský                                 |                  |
| • <b>Continuous Processes</b>               | (6th sem., 3-2h) |
| E. Miklovičová                              |                  |
| • <b>Nonlinear Systems</b>                  | (6th sem., 2-3h) |
| M. Huba                                     |                  |
| • <b>Automation 2</b>                       | (6th sem., 2-2h) |
| M. Žalman, I. Bélai, J. Dúbravský           |                  |
| • <b>Introduction to Engineering</b>        | (1st sem., 2-2h) |
| K. Žáková                                   |                  |



### III. 2 Graduate Study (Ing.)

- **CAD of Software Systems** (1st sem., 3-2h)  
I. Hantuch
- **Optimal Control** (1st sem., 3-2h)  
A. Kozáková
- **Servosystems** (1st sem., 3-2h)  
M. Žalman
- **Theory of Automatic Control 3** (1st sem., 2-3h)  
M. Huba
- **Linear Systems Control** (1st sem., 2-3h)  
V. Veselý, M. Hypišová
- **Modeling and Simulation of Processes** (1st sem., 3-2h)  
E. Miklovičová, Z. Králová
- **Artificial Neural Nets** (1st sem., 3-2h)  
I. Sekaj, S. Kajan
- **Internet and Intranet Applications** (1st sem., 2-3h)  
K. Žáková
- **Matlab in Power Systems** (1st sem., 2-3h)  
Š. Kozák
- **Digital Control Methods** (1st sem., 3-2h)  
Š. Kozák, A. Kozáková
- **Sensor Microsystems** (1st sem., 3-2h)  
V. Tvarožek, P. Drahoš
- **Computational Intelligence in Control** (1st sem., 3-2h)  
I. Sekaj
- **Motion Control in Robotics** (1st sem., 3-2h)  
J. Kardoš
- **Embedded Control Systems** (1st sem., 3-2h)  
P. Hubinský, J. Rodina
- **CAD of Control Systems** (1st sem., 3-2h)  
J. Šturcel, P. Drahoš
- **Telematics and Control** (1st sem., 3-2h)  
M. Huba, P. Bisták
- **Modeling and Control of Dynamic Systems** (1st sem., 3-2h)  
A. Vitko, D. Sovišová
- **Multivariable System Control** (1st sem., 3-2h)  
V. Veselý
- **Evolutionary Computing** (2nd sem., 2-3h)  
I. Sekaj
- **Databases of Control Systems** (2nd sem., 2-3h)  
Z. Králová
- **Adaptive Control** (2nd sem., 3-2h)  
J. Murgaš
- **Discrete Event Systems** (2nd sem., 3-2h)  
A. Vitko
- **Advanced Control Theory 1** (2nd sem., 3-2h)  
V. Veselý
- **Sensor Systems in CIM** (2nd sem., 3-2h)  
J. Šturcel, M. Toman
- **Control Methods and Algorithms** (2nd sem., 3-2h)  
J. Kardoš
- **Multimedia** (2nd sem., 2-3h)  
M. Huba, P. Bisták
- **System Identification** (2nd sem., 2-3h)  
E. Miklovičová
- **Modeling and Simulation of Mechatronic Systems** (2nd sem., 2-3h)  
Š. Kozák
- **Software Development for Office Automation** (3rd sem., 3-2h)  
J. Murgaš, M. Kratmüller
- **Smart Sensors Systems** (3rd sem., 3-2h)  
J. Šturcel
- **Intelligent Systems** (3rd sem., 3-2h)  
I. Sekaj, S. Kajan
- **Production Systems Modeling and Management** (3rd sem., 2-3h)  
Z. Králová
- **Robots Modeling and Control** (3rd sem., 3-2h)  
A. Vitko
- **Network Technologies** (3rd sem., 3-2h)  
J. Murgaš, M. Foltin
- **Mobile Robotic Systems** (3rd sem., 3-2h)  
F. Duchoň
- **Mechatronics** (3rd sem., 3-2h)  
A. Vitko, M. Klůčik
- **Database and Visualization Systems** (3rd sem., 2-3h)  
Z. Králová, L. Kőrösi, ? Cigánek
- **Distributed Embedded Comp. Systems** (3rd sem., 3-2h)  
J. Šturcel, Š. Chamraz, R. Balogh
- **VSC Theory in Robotics** (3rd sem., 3-2h)  
J. Kardoš
- **Advanced Methods of Contr. of Mechatr. Systems** (3rd sem., 3-2h)  
Š. Kozák, J. Paulusová
- **Electrical Drives of Mechatronic Systems** (3rd sem., 2-2h)  
I. Bélai, M. Uhrík
- **Control of Complex Systems** (4th sem., 3-2h)  
D. Rosinová
- **Intelligent Servosystems** (4th sem., 3-2h)  
M. Žalman
- **Telematics and Control** (4th sem., 3-2h)  
M. Huba, P. Bisták
- **PLC Systems in Mechatronics** (4th sem., 2-2h)  
J. Šturcel, L. Kőrösi, J. Osuský

### III. 3 Undergraduate Study (Bc.)

#### Distance Learning Method

- **Algorithmisation and Programming** (1st sem.)  
I. Sekaj, P. Fodrek
- **Introduction into Engineering** (1st sem.)  
K. Žáková
- **Computer Architecture** (2nd sem.)  
R. Ravas, Š. Chamraz, P. Fodrek
- **Unix/Linux - Real Time Systems** (5th sem.)  
I. Sekaj, P. Fodrek





- **Automatic Control Theory 1** (5th sem.)  
M. Huba, D. Savišová
- **Automatic Control Theory 2** (6th sem.)  
J. Murgaš, M. Dúbravská
- **Instrumentation of Control Systems** (6th sem.)  
J. Šturcel
- **Modeling and Simulation in Matlab** (6th sem.)  
E. Miklovičová, M. Foltin
- **Java-graphical Interface CS** (6th sem.)  
I. Sekaj, P. Fodrek
- **Actuators** (7th sem.)  
M. Žalman, J. Dúbravský
- **Optimization** (7th sem.)  
D. Rosinová
- **Control System Software** (7th sem.)  
I. Hantuch, L. Kóroši
- **Industrial Communication Systems** (8th sem.)  
M. Žalman, I. Béla
- **Robotics** (8th sem.)  
P. Hubinský
- **Continuous Processes** (8th sem.)  
E. Miklovičová
- **Nonlinear Systems** (8th sem.)  
M. Huba, D. Savišová

### III. 4 Graduate Study (Ing.)

#### Distance Learning Method

- **Motion Control in Robotics** (1st sem.)  
J. Kardoš
- **Embedded Control Systems** (1st sem.)  
P. Hubinský, J. Rodina
- **Telematics and Control** (1st sem.)  
M. Huba, P. Bisták
- **Modeling and Control of Dynamic Systems** (1st sem.)  
A. Vitko, D. Savišová
- **Optimal Control** (1st sem.)  
A. Kozáková
- **Computational Intelligence in Control** (1st sem.)  
I. Sekaj
- **Event Systems** (2nd sem.)  
A. Vitko
- **Sensor Systems in CIM** (2nd sem.)  
J. Šturcel, M. Toman
- **Computer Solution Fields** (2nd sem.)  
V. Kutiš, M. Klúčik
- **Robots Modeling and Control** (3rd sem.)  
A. Vitko
- **Mechatronics** (3rd sem.)  
L. Jurišica, M. Klúčik
- **Telematics and Control** (4th sem.)  
M. Huba, P. Bisták

## IV. RESEARCH PROJECTS

### IV. 1 National Scientific Projects

- Robust MPC for Hybrid Systems, VEGA 1/1105/11. Duration 2011-2013 (Š. Kozák)
- Research and Development of New Information Technologies for Prediction and Solution of Critical Situations and Protection of Citizens, OP VaV 26240220060. Duration 2011-2013 (Š. Kozák)
- Advanced Decentralized Control Methods in Network Control Systems, APVV-0211-10. Duration: 2011-2014 (V. Veselý)
- Integration and Development of Nonlinear and Robust Control Methods and their Integration to Control Flying Vehicles, VEGA 1/0656/09. Duration 2009-2012 (M. Huba)
- Modern Methods for Network Control Systems, VEGA 1/2256/12. Duration 2012-2015 (J. Murgaš)
- Advanced Methods of Robust and Optimal Control. VEGA 1/1241/12 Duration 2012-2015 (V. Veselý)
- Advanced Control Algorithms and Methods for Industrial Plants, SK-BG-0035-10 (V. Veselý)
- Optimization of the Mechatronic Systems Control, VEGA 1/0690/09. Duration 2009-2012 (L. Jurišica)
- Building Grant for the Centre of Excellence for Smart Technologies, Systems and Services 2 (SMART 2), ASF EÚ MS SR, ITMS 26240120029. Duration: 2010-2012 (J. Murgaš)
- Competence Center for Intelligent Technologies for Computerizing Systems and Services, ITMS 26240220072. Duration: 2011-2014 (J. Murgaš)
- Research on High-Tech Welding Technologies for Industrial Applications, Req-00048-0001. Duration: 2010-2013 (J. Murgaš)
- Laboratory for Teaching and Development of OpenSource Projects, KEGA 032STU-04/2011. Duration: 2011-2013 (M. Žalman)
- Bioinspired Multirobot Coordination System, APVV-0261-Hub-Sk5. Duration: 2011-2014 (P. Hubinský)
- Control of a Service Robot 7042 RSR. Duration: 2011-2012 (F. Duchoň)
- Advanced Inertial Measurement Unit for Mobile Robots, 7046 AIMU. Duration: 2011-2012 (J. Rodina)
- Intelligent Navigation of a Service Robot, VEGA 1/0177/11. Duration: 2011-2014 (A. Vitko)
- Research of the Service Robot Control with Dual Visual Perception, APVV-0539-11. Duration: 2012-2015 (F. Duchoň)
- Gender Differences in Etiopathogenesis of Social Stress-Related Cardiovascular and Behavioral Disorders in Individuals with Predisposition to Hypertension, APVV-0523-10. Duration: 2011 – 2014 (I. Sekaj)
- Fool Proof Check of Missing Screws on B/C. Duration: 2012-2013 (M. Foltin)





## IV. 2 International Scientific Projects

- Autoweldlink. EÚ European Regional Development Fund ITMS 26240220033. Duration 2010-2014 (F. Duchoň)
- Cybernetics and Modern Methods of Control. CEEPUS CII-CZ-0404-02-1112. Duration: 2011-2012 (K. Žáková, P. Ťapák)

## V. COOPERATION

### V. 1 Cooperation in Slovakia

- ABB Bratislava, Ltd.
- ATEC Ltd., Bratislava
- AXESS Ltd., Bratislava
- Armed Forces Academy, Liptovský Mikuláš
- Business for Excellence Ltd., Bratislava
- ControlTech Industrial Automation Ltd., Trnava
- DATALAN Bratislava, Ltd.
- E-Academia Slovaca, n.o., Bratislava
- Eltis Ltd., Banská Bystrica
- Emerson Ltd., Bratislava
- Gratex International Ltd., Bratislava
- HMM Ltd., Bratislava
- Honeywell Ltd., Bratislava
- Institute of Informatics, Slovak Academy of Sciences, Bratislava
- Johnson Controls Ltd., Bratislava
- KFB Control Ltd., Bernolákovo
- Legrand Slovakia
- Meret Ltd., Bratislava
- MicroStep Ltd., Bratislava
- Microstep MIS Ltd., Bratislava
- NES Ltd., Nová Dubnica
- PosAm Ltd., Bratislava
- PPA Energo Ltd., Bratislava
- PROXY, Nové Mesto n/Váhom
- PZ Bratislava, Inc.
- Q – EX Trenčín, Inc.
- RELKO, spol. s r.o.
- RMC Nová Dubnica, Ltd.
- Samsung Electronics Slovakia s.r.o.
- S&A Ltd., Banská Bystrica
- SAP Slovakia, Ltd.
- SE Inc., Bratislava
- Schneider Electric Slovakia, Ltd.
- Siemens Ltd., Bratislava
- Slovak Electricity Transmission System Ltd., Bratislava
- Slovakodata, Inc., Bratislava
- Slovnaft Bratislava, Inc.
- SPP – Slovtransgaz Inc., Nitra
- SWH – Siemens Business Service, Bratislava
- Technical University of Košice
- Telegyr Systems (Slovakia) Ltd., Bratislava
- UMB Banská Bystrica
- UNIT Ltd., Bratislava

- University of Agriculture, Nitra
- University of Economics, Bratislava
- University of Žilina
- Volkswagen Slovakia Inc., Bratislava
- Vonsch Brezno, Ltd.
- VUJE Inc., Trnava
- Robotika Sk, Bratislava
- ME Inspection, Bratislava
- ZTS VVU Košice
- EVPU Nova Dubnica a.s.,
- Institut of Informatics, SAV, Bratislava
- Regotrans Rittmeyer, s.r.o., Bratislava
- Schneider Electric Slovakia, s.r.o., Bratislava
- Termoreg, s.r.o., Bratislava
- Faculty of Architecture, Slovak University of Technology in Bratislava

### V. 2 International Cooperation

- Arzamas Polytechnic Institute of R. E. Alekseev Nizhny Novgorod State Technical University
- Norwegian University of Science and Technology, Trondheim, Norway
- Institute de Recherche en Communications et Cybernetique, C.N.R.S., Nantes, France
- Department of Mathematical Sciences, Chalmers University of Technology, Gothenburg, Sweden
- Budapest University of Technology and Economics, Budapest, Hungary
- Czech Technical University of Prague, Czech Republic
- Democritus University of Thrace, Xanthi, Greece
- Dynamic Future s.r.o. Ostrava, Czech Republic
- Eidhoven University, The Netherlands
- Electronics Research Institute, National Research Center, Giza, Egypt
- Faculty of Automatics, Technical University Sofia, Bulgaria
- Faculty of Industrial Organisation and Management, Silesian Technical University, Gliwice, Poland
- Fern Universität - Hagen, Germany
- Heilbronn University, Germany
- Humusoft Ltd., Praha, Czech Republic
- Hungarian Fuzzy Association, Hungary
- IIASA Laxenburg, Austria
- InnoC.at, Austria (Austria Association for Innovative Computer Science)
- Institute for Problems of Mechanical Engineering, St. Petersburg, Russia
- Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- Institute of Cybernetics at Tallinn University of Technology, Tallinn, Estonia
- Key Lab of Mathematics Mechanization, AMSS, Chinese Academy of Sciences, Beijing, China
- MES – DEA, Ltd., Switzerland







- Moscow Power Institute, Moscow, Russia
- Profibus International, Germany
- Schneider Electric, Germany
- Strasbourg University, BETA, Strasbourg, France
- Technical University of Brno, Czech Republic
- Technical University of Liberec, Czech Republic
- Technical University of Ostrava, Czech Republic
- Technical University of Tomas Bata in Zlín, Czech Republic
- Technical University of Ancona, Italy
- Technical University of Graz, Austria
- Technical University of Vienna, Austria
- University of Maribor, Slovenia
- University of Bochum, Germany
- University of Defence, Czech Republic
- University of West Bohemia in Pilsen, Czech Republic
- University of Zagreb, Croatia
- Vytautas Magnus University, Kaunas, Lithuania
- FH Technikum, Vienna, Austria
- Technical University Riga
- Faculdade de Engenharia da Universidade do Porto, Portugal
- Interoceanmetal Joint Organization (Bulgaria, Cuba, Czech Republic, Poland, Russia, Slovakia)

## VI. THESES

### VI. 1 Masters Theses

Masters theses supervised at the Institute of Control and Industrial Informatics. The names of supervisors are in brackets.

#### Alumni Cybernetics, June 2012

- [1] Baliga, P.: GPU powered scheduling algorithms (P. Fodrek)
- [2] Batora, V.: Internet application for education of subject; Nichtlineare Regelungen (M. Huba)
- [3] Bazylák, J.: Scheduling Algorithms for GPU (P. Fodrek)
- [4] Birkus, P.: Control of linear continuous systems (M. Dúbravská)
- [5] Capuliaková, K.: Home automation (L. Farkas)
- [6] Csontos, J.: The use of mobile devices in applications for remote laboratories (P. Bisták)
- [7] Gašparík, T.: Parallel genetic algorithms (I. Sekaj)
- [8] Horník, A.: Linux kernel modules (P. Fodrek)
- [9] Hudaček, M.: Computing-intensive task in Matlab (M. Blaho)
- [10] Chovancová, A.: Attitude stabilization of an aerial mobile robot (J. Rodina)
- [11] Ilka, A.: Modeling and control system of wind power plants with pumped storage hydro power plant (M. Ernek)
- [12] Kamhiyeh, T.: Controlling a Transport System (M. Blaho)

- [13] Karsay, A.: Process control design using PLC (M. Mrosko)
- [14] Kelemen, J.: Online training of artificial neural networks in PLC (L. Körösi)
- [15] Kurilla, J.: Usage of a 3D accelerometer for identification an eigen frequency of oscillations of a burden of a gantry crane (P. Hubinský)
- [16] Majerník, O.: Scheduling algorithms on the GPU (P. Fodrek)
- [17] Martinkovič, M.: Synthesis of robust controller for unstable object (V. Veselý)
- [18] Morvaj, T.: Predictive control with constraints of input and output variables (E. Miklovičová)
- [19] Mucha, M.: Process optimization of project advertising campaign in Call center (M. Blaho)
- [20] Očadlík, M.: Design of discrete LQG regulator (A. Kozáková)
- [21] Pituch, J.: Design of LQR/LTR regulator (A. Kozáková)
- [22] Polák, T.: Robust control laboratory hydraulic system (V. Veselý)
- [23] Pytel, A.: Supervisory system for building automation (P. Drahoš)
- [24] Slačka, J.: Control of nonlinear systems (E. Miklovičová)
- [25] Soós, D.: Adaptive control of systems with time delay (J. Murgaš)
- [26] Ševčík, M.: Design of fuzzy predictive control (J. Paulusová)
- [27] Turcsek, D.: Fuzzy toolbox for PLC (L. Körösi)
- [28] Urban, E.: Predictive control of the power output of a thermal power plant (M. Ernek)
- [29] Vereš, Z.: Processing of image data for the purpose of monitoring and controlling of processes (P. Bisták)
- [30] Vincze, Z.: Optimization of the structure of neural networks with orthogonal activation function (L. Körösi)
- [31] Vyskoč, P.: Temperature control (P. Drahoš)

#### Alumni Robotics, June 2012

- [1] Benčat, J.: Odometry data processing of skid steer differential gear (A. Babinec)
- [2] Bielko, S.: Java Real-Time System in Control (M. Blaho)
- [3] Božidar, M.: Control of the Juggling system with one degree of freedom (M. Žalman)
- [4] Brezák, A.: Control of Gantry Crane model (I. Béla)
- [5] Čapucha, L.: Workstation with PLC accessible via the Internet (R. Balogh)
- [6] Dipčárová, J.: Hydraulic Control System (P. Ťapák)
- [7] Dravecký, M.: Tracking and recognition of objects by camera (J. Dorner)
- [8] Dunajčík, M.: Mobile robot longest possible trajectory determination by a visual system in different environments (P. Pászto)
- [9] Džalai, M.: Transport delay compensation in telematics systems (P. Folvarčík)



- [10] Fico, T.: Technical equipment for acupuncture diagnosis (J. Dúbravský)
- [11] Fischer, P.: Realization of KNX/EIB converter (P. Drahoš)
- [12] Fördős, T.: Text recognition using neural networks (L. Körösi)
- [13] Funiak, R.: Detection and evaluation of obstacles using the visual system for mobile robot navigation (P. Pásztó)
- [14] Grech, D.: Collection and evaluation of data from MEMS sensors (P. Hubinský)
- [15] Herda, L.: Control of two-level hydraulic system (P. Ľapák)
- [16] Jamrich, P.: Model of portal crane in the Microsoft Robotics Studio environment (P. Hubinský)
- [17] Jankovič, L.: Control of thermo-optical plant (P. Ľapák)
- [18] Jarčuška, M.: Testing parameters of stepper motor (J. Dúbravský)
- [19] Kostroš, J.: Design of intelligent sensorless BLDC motor control driver for mobile robots (J. Rodina)
- [20] Kotman, M.: Error minimization in k - nearest neighbor algorithm (Š. Balogh)
- [21] Kučera, R.: Control of thermal-optical plant (P. Ľapák)
- [22] Ludwig, T.: The use of OS X Snow Leopard server operating system in small and medium business I (M. Foltin)
- [23] Madola, M.: Robust control of multivariable system (D. Rosinová)
- [24] Maťuga, M.: Collect and review data from wireless sensor (P. Hubinský)
- [25] Meluš, M.: Communication system of remotely controlled inspection mobile robot (A. Babinec)
- [26] Mertinko, J.: Mobile robots in simulation software development (F. Duchoň)
- [27] Meščan, M.: Decentralized control for MIMO systems (D. Rosinová)
- [28] Molnár, M.: Security control application for an eccentric press (L. Körösi)
- [29] Morvaj, P.: Modules for mobile service robots (R. Balogh)
- [30] Mudrák, M.: Linear piezoelectric motor control and design (M. Klúčik)
- [31] Nagy, G.: Methodology of creating user-friendly interfaces (M. Foltin)
- [32] Ottinger, I.: Application of the Mac OS X Server in the small and medium enterprises (M. Foltin)
- [33] Profant, Ľ.: Safety automated workplace (P. Drahoš)
- [34] Puškár, T.: Neural controller design using genetic algorithm (S. Kajan)
- [35] Radičová, M.: Design of the modern GUI (M. Foltin)
- [36] Senko, M.: Model of two-wheel chassis in the program Blender (P. Hubinský)
- [37] Sivok, T.: Control of inverted pendulum (P. Ľapák)
- [38] Stránsky, P.: Navigation of a mobile robot using ARTToolkit (M. Huba)
- [39] Šilon, M.: Thesis: Face recognition using OpenCV (P. Pásztó)
- [40] Tichý, A.: Design of servosystem with synchronous motor (J. Dúbravský)
- [41] Tóth, L.: System for environmental variables monitoring (R. Balogh)
- [42] Varga, M.: Development of hardware and software solution to control for mobile robotic system (J. Dorner)
- [43] Varga, V.: Generating a grid map for a mobile robot using laser scanner (A. Babinec)
- [44] Zbihlej, I.: Designing the simple haptic master - slave device with 1 degree of freedom (P. Folvarčík)

#### **Alumni Robotics, June 2012 (Distance Learning Method)**

- [1] Baran, A.: Text editor for Mac OS X as open source project (M. Foltin)
- [2] Beták, M.: Modeling and simulation of stepper motor's parameters (M. Uhrík)
- [3] Bielik, B.: User interface design of intelligent bio-monitoring system using mobile communication (L. Majer)
- [4] Boháčik, M.: Design of intelligent PID controllers (M. Halás)
- [5] Borka, T.: Client-Server application for virtual lab on NET Framework (P. Bisták)
- [6] Čík, Ľ.: Anti-crash system control for keeping safe distance in front of a vehicle (P. Hubinský)
- [7] Endresl, M.: Using CakePHP framework for creating web applications (Z. Králová)
- [8] Fleško, V.: Simulation analysis of the packing line in a shoe company (Z. Králová)
- [9] Gašparová, M.: Automatic text recognition (J. Hanzel)
- [10] Grolmus, R.: PROFIBUS diagnostics (I. Béla)
- [11] Horváth, Š.: Visual system for mobile robot odometry (M. Klúčik)
- [12] Hronec, R.: Workstation with drives DCS 600 (I. Béla)
- [13] Jánošík, J.: Monitoring the network behavior of programs (P. Hubinský)
- [14] Jantošík, P.: Recognition and tracking of objects by methods of computer vision (J. Dorner)
- [15] Kanský, M.: Control system design of radial magnetic bearing (M. Žalman)
- [16] Kostelec, J.: Development of USB driver for Matlab (M. Halás)
- [17] Kováč, M.: Virtualization of web servers (I. Hantuch)
- [18] László, Z.: Distributed control systems based on PLC/PAC (L. Mrafko)
- [19] Lehotzký, R.: Adaptive control for manipulator of industrial robot (A. Vitko)





- [20] Magda, M.: Control of the real system via Internet (K. Žáková)
- [21] Martinka, J.: Automated line for bottling (L. Jurišica)
- [22] Popelka, V.: Construction of an IP camera for monitoring and control in remote laboratories (P. Bisták)
- [23] Slezák, I.: Control system of a belt conveyor (J. Dúbravský)
- [24] Sobolčiak, V.: System monitoring for integration platform TIBCO/SIEBEL CRM (I. Hantuch)
- [25] Vlček, I.: Information System for Company operating an Internet Information Town Portal of Companies and Organizations (Z. Králová)
- [26] Vrba, V.: Monitoring and inspection of a lackquer feeding system in polycarbonate pressings hard-coating process (J. Šturcel)
- [21] Sloboda, M.: Modeling of random processes and planning of experiments in manufacturing systems simulation (Z. Králová)
- [22] Stohl, M.: Display and data collection using the Simatic S7-1200 (M. Mrosko)
- [23] Svítok, S.: Development of modern graphical application for mobile devices with iOS (M. Foltin)
- [24] Šlauka, J.: Computational methods and their application in practice (S. Števo)
- [25] Ťažký, A.: Web applications development in language Ruby and framework Ruby on Rails (M. Foltin)
- [26] Varga, R.: Using MVC architecture and ORM technology in modern web application development (M. Foltin)
- [27] Zuštiak, J.: Smart building - Integration of Sonos and Foxtrot technologies (S. Števo)

### Alumni Applied Informatics, Information technology in Management, June 2012

- [1] Aust, P.: Advanced techniques of web applications speed optimization (Z. Janík)
- [2] Haluska, P.: Web application development with the modern Ruby on Rails framework (M. Foltin)
- [3] Horvatovič M.: Development of management application for Apple platform (M. Foltin)
- [5] Chren, Š.: Development of management application for desktop platform in language Java (M. Foltin)
- [6] Illič, M.: Online control of the real system (K. Žáková)
- [7] Jeniš, M.: Personalized support of online experiments (K. Žáková)
- [8] Kašuba, M.: Model animation of robotized workplace (J. Kardoš)
- [9] Kovalčík, P.: Diagnostic of industrial Ethernet network (I. Bélai)
- [10] Kurcz, R.: Visualization of dynamic systems in modern web browsers (P. Bisták)
- [11] Lovász, V.: Design, simulation and control of lighting - LED lighting (S. Števo)
- [12] Marčeková, M.: Interactive vector graphics in e-learning systems (Z. Janík)
- [13] Miklošik, M.: Design of control road network and light intersections (J. Dorner)
- [14] Mlynár, P.: Developing of management web application (M. Foltin)
- [15] Petrgál, M.: Intelligent building (S. Števo)
- [16] Plesnivý, M.: Analysis of the streaming media and their implementation in e-learning systems (P. Bisták)
- [17] Putz, E.: Development of Paralel Evolutionary Algorithms (I. Sekaj)
- [18] Selický, P.: Servo control system (E. Miklovičová)
- [19] Siebert, M.: Use SmartPhones in the control system of mobile robots (I. Hantuch)
- [20] Slivka, P.: Application Interface for Computer Algebra Systems (K. Žáková)

### VI. 2 PhD Theses

#### Automation and Control

- [1] Babinec, A.: Improvements of navigation capabilities of a robotic agent (A. Vitko)
- [2] Bachratý, M.: Distributed modular multi-robotic platform (P. Hubinský)
- [3] Blaho, M.: Type-2 fuzzy systems in networked control systems (J. Murgaš)
- [4] Dúbravský, J.: Contribution to the methods and algorithms of control of DC servo-drives (M. Žalman)
- [5] Pásztó, P.: Mobile robot navigation using visual system (P. Hubinský)
- [6] Šlezárová, A.: Modeling in virtual reality – airbots team control (I. Hantuch)
- [7] Valo, R.: Modification of selected optimisation methods for learning processes (Š. Kozák)
- [8] Vonkomer, J.: Self-commissioning speed servo drive with induction motor (M. Žalman)

#### Cybernetics

- [1] Nguyen Quang, T.: Robust control of dynamic systems (V. Veselý)
- [2] Švančara, J.: Simulation analysis of the High-Mix Low-Volume manufacturing system (Z. Králová)

## VII. OTHER ACTIVITIES

#### Conferences organized the Institute:

- 14th Conference of Doctoral Students ELITECH'12 (A. Kozáková, D. Rosinová, Z. Králová, I. Sekaj)
- ISTROBOT: Competition of Mobile Robots, Bratislava, SK. April 2012 (R. Balogh, P. Hubinský, M. Foltin, M. Dekan)
- 10th International Scientific Conference CONTROL OF POWER SYSTEMS, CPS 2012, Tatranské Matliare, May 2012 (V. Veselý, E. Miklovičová)



- MOBILE ROBOTICS DAYS AT ELOSYS 2012, Trenčín, SK. 8.-12. October 2012 (F. Duchoň, A. Babinec, J. Rodina, L. Palkovič)

#### Other events:

Conferences Participation, Membership in Committees:

- 11th IFAC/IEEE International Conference on Programmable Devices and Embedded Systems (PDES 2012), 23-25 May 2012, Brno, Czech Republic (K. Žáková, M. Huba – IPC members)
- 10th International Conference on Emerging eLearning Technologies and Applications (ICETA 2012), 8-9 November 2012, High Tatras, Slovakia (K. Žáková, M. Huba – IPC members)
- 4th International Conference on Computer Supported Education (CSEDU 2012), 16–18 April 2012, Porto, Portugal (K. Žáková, IPC Member)
- Special Session “Challenges in Engineering Education Research” at IGIP International Conference on Engineering Pedagogy, 26-28 September 2012, Villach, Austria (K. Žáková, M. Huba – IPC members)
- International Conference Robotics in Education (RiE), Prague 2012 (R. Balogh, P. Hubinský)
- ELOSYS 2012, Trenčín (J. Murgaš, I. Sekaj, M. Foltin – PC members, Profibus exposition)
- IFAC Symposium ACE 2012, Nižnij Novgorod, Russia (M. Huba, Š. Kozák, A. Kozáková – IPC members; Š. Kozák, A. Kozáková, K. Žáková, P. Ťapák, I. Holíč, D. Vozák, R. Krasňanský - participants)
- INCOM 2012, 14th IFAC Symposium on Information Control Problems in Manufacturing, Bucharest, Romania (J. Švančara – participant)
- International Conference Cybernetics and Informatics 2012, Skalka pri Kremnici 2012 (Š. Kozák-chairman, J. Murgaš, V. Veselý, M. Huba, M. Žalman, A. Kozáková, D. Rosinová, I. Sekaj, K. Žáková, L. Körösi, P. Bisták, M. Mrosko, J. Osuský)
- Witness Conference, Hlubočky u Olomouce, Czech Republic, June 7-8, 2012 (Z. Králová – PC member)
- AT&P Journal (L. Jurišica, J. Šturcel, M. Žalman, I. Hantuch, J. Murgaš, V. Veselý – Editorial Board members)
- Selected Topics in Modeling and Control (V. Veselý - Editor, L. Jurišica, Editorial Board member)
- Transactions of the Institute of Measurement and Control (A. Vitko – Associate editor)
- CLAWAR Conference Maryland (A. Vitko – IPC member)
- Accreditations Board of SAS (L. Jurišica – member)
- Profibus Slovakia Association (P. Drahoš – chairman)
- Cooperation with Encyclopaedic Institute of the Slovak Academy of Sciences on the Slovak Encyclopaedia (Lexical Group Cybernetics): (L. Harsanyi, L. Jurišica, A. Kozáková, D. Rosinová, J. Šturcel, M. Žalman, K. Žáková)
- Accreditation Board of the Government of Slovakia. (Working Group - L. Jurišica, J. Murgaš – member)

- Computer Viruses Analysis ESET Ltd. Bratislava (P. Hubinský)
- Administration of Shareware Archive of Slovak Antivirus Centre (P. Hubinský)
- Slovak Society for Cybernetics and Informatics at SAS: Š. Kozák - chair of Main Committee, V. Veselý, M. Huba - vice-chairs, A. Kozáková – secretary)
- Journal of Cybernetics and Informatics: Š. Kozák - Editor in Chief, D. Rosinová - Managing Editor
- Journal of Electrical Engineering (V. Veselý - member of Editorial Board)
- Slovak Society for Operations Research (Z. Králová - council member)
- European Robotics Week-active-participation (R. Balogh)
- Freescale Race challenge – a European contest (R. Balogh, 2nd and 3rd places for students of STU FEI)
- Robotchallenge Wien – International Robotic Contest (R. Balogh, 1st place for students of STU FEI)

#### Projects:

- Schneider-Electric Courses, Automation and Control Systems (M. Mrosko)

## VIII. MEMBERSHIP IN INSTITUTIONS/COMMITTEES

### VIII. 1 Membership in National Institutions/Committees

- The Accreditation Commission - an advisory body to the Government, Working Group Research 16 (L. Jurišica, J. Murgaš, members)
- Accreditation Commission of the SAS (L. Jurišica, member)
- Faculty of Informatics and Information Technology (Š. Kozák, member of Scientific Board)
- Slovak Society for Operations Research (Z. Králová, member)
- Institute of Informatics Slovak Academy of Sciences (Š. Kozák, member of Scientific Board)

### VIII. 2 Membership in International Institutions/Committees

- IEEE The Institute of Electrical and Electronics Engineers, Inc. (L. Jurišica, M. Žalman, J. Murgaš, V. Veselý, M. Huba)
- IEE The Institute of Electrical Engineers, Inc. (L. Jurišica, M. Žalman, Š. Kozák, M. Huba, P. Hubinský)
- IFAC Technical Committee: TC 1.2 Adaptive and Learning Systems (J. Murgaš - member)
- IFAC Technical Committee: TC 2.3 Nonlinear Control Systems (M. Huba, M. Halás - members)
- IFAC Technical Committee: TC 2.4 Optimal Control (A. Kozáková - member)
- IFAC Technical Committee: TC 2.5 Robust Control (V. Veselý, M. Huba - members)





- IFAC Technical Committee: TC 3.1 Computers for Control (Š. Kozák - member)
- IFAC Technical Committee: TC 3.2 Computational Intelligence in Control (Š. Kozák - member)
- IFAC Technical Committee: TC 4.3 Robotics (P. Hubinský - member)
- IFAC Technical Committee on Control Education (M. Huba - member)
- IFAC member of the CC4-Mechatronics, Robotics and Components (P. Hubinský)
- Profibus International (P. Drahoš)
- CLAWAR Association, member of the Board of Trustees (A. Vitko)
- IMEKO, member of the Technical Committee on Measurement and Control in Robotics (A. Vitko)
- Transactions of Inst. of Measurement and Control, associate editor (A. Vitko)
- European Coordination Committee for Artificial Intelligence-ECCAI (Š. Kozák - member)
- Slovak Society for Cybernetics and Informatics-SSKI (Š. Kozák, chairman, V. Veselý, M. Huba - members)

## IX. PUBLICATIONS

### IX. 1 Journals

- [1] BÉLAI, I. - ŽALMAN, M.: An Effective Predictive Controller Design for Asynchronous Motor. In: International Review of Automatic Control. - ISSN 1974-6059. - ISSN 1974-6067. - Vol. 5, No.4 (2012), p. 476-480. (in English)
- [2] BLAHO, M. - FOLTIN, M. - FODREK, P. - MURGAŠ, J.: Students Perspective on Improving Programming Courses. In: International Journal of Education and Information Technologies. - ISSN 2074-1316. - Vol. 6, Iss.1 (2012), p. 17-24. (in English)
- [3] BLAHO, M. - URBAN, M. - FODREK, P. - FOLTIN, M.: Wireless Network Effect on PI and Type-2 Fuzzy Logic Controller. In: International Journal of Communications. - ISSN 1998-4480. - Vol. 6, Iss. 1 (2012), p. 18-25. (in English)
- [4] BUCZ, Š. - KOZÁKOVÁ, A. - VESELÝ, V.: A Sine-Wave-Type Gain Margin Approach to Tune Robust PID Controllers for Systems with Unstable Zero. In: International Journal of Systems Control. - ISSN 1737-927X. - Vol. 3, Iss. 1 (2012), p. 5-12. (in English) eg.: B]
- [5] BUCZ, Š. - VESELÝ, V.: Modified Frequency Response Ziegler-Nichols Method for Specified Overshoot and Settling Time. In: Pro automatizaci, měřicí a regulační techniku. - ISSN 1804-834X. - Vol. 2, No. 1 (2012), p. 54-58. (in Czech)
- [6] CHOVANCOVÁ, A. - RODINA, J. - HUBINSKÝ, P.: Modelling of the VTOL Micro Aerial Mobile Robot. In: ATP Journal plus. - ISSN 1336-5010. - No. 1 : Modelling of Mechanical and Mechatronic Systems (2012), p. 104-107. (in English)
- [7] CHOVANEC, L. - HUBINSKÝ, P.: Advanced Mathematical Model of the Tower Crane Using Visual Feedback Control. In: ATP Journal plus. - ISSN 1336-5010. - No. 1: Modelling of Mechanical and Mechatronic Systems (2012), p. 53-56. (in English)
- [8] DEKAN, M. - VITKO, A. - TÖLGYESSY, M. - BABINEC, A.: Global Navigation for a Mobile Robot. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 18, No. 4 (2012), p. 28-29. (in Slovak)
- [9] DIDEKOVÁ, Z. - Mikovičová, B.: Classification of Radio Communication Signals Using Fuzzy Logic. In: World Academy of Science, Engineering and Technology. - ISSN 2010-376X. - Iss. 64 (2012), p. 1187-1191. (in English)
- [10] DRAHOŠ, A. - BÉLAI, I.: Analysis Communication of Frequency Converters for Bus PROFIBUS. In: Automa. - ISSN 1210-9592. - Vol. 18, No. 12 (2012), p. 52-54. (in Slovak)
- [11] DRAHOŠ, P. - BÉLAI, I.: Analysis Communications of Intelligent Sensors for Bus PROFIBUS. In: Automa. - ISSN 1210-9592. - No. 8-9 (2012), p. 52-54. (in Slovak)
- [12] DUCHOŇ, F. - DEKAN, M. - JURIŠICA, L. - VITKO, A.: Some Applications of Laser Rangefinder in Mobile Robotics. In: Journal of Control Engineering and Applied Informatics. - ISSN 1454-8658. - Vol. 14, No. 2 (2012), p. 50-57. (in English)
- [13] FODREK, P. - FARKAS, L. - BLAHO, M. - FOLTIN, M. - HNÁT, J. - MURGAŠ, T.: Real-Time Scheduling Using GPUs-Advanced and More Accurate Proof of Feasibility. In: Journal of Communication and Computer. - ISSN 1548-7709. - Vol. 9, No. 8 (2012), p. 863-871. (in English)
- [14] HALÁS, M. - KOTTA, Ü.: A Transfer Function Approach to the Realisation Problem of Nonlinear Systems. In: International Journal of Control. - ISSN 0020-7179. - Vol. 85, No. 3 (2012), p. 320-331. (in English)
- [15] HUBINSKÝ, P. - HÄUPTLE, P.: Reducing Oscillations during Positioning of a Servomechanism Having Flexibility. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 63, No. 4 (2012), p. 201-212. (in English)
- [16] HUBINSKÝ, P.: Use the Software for Advantageous Price (1). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 1 (2012), p. 88. (in Slovak)
- [17] HUBINSKÝ, P.: Use the Software for Advantageous Price (10). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 10 (2012), p. 96. (in Slovak)
- [18] HUBINSKÝ, P.: Use the Software for Advantageous Price (11). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 11 (2012), p. 102. (in Slovak)



- [19] HUBINSKÝ, P.: Use the Software for Advantageous Price (12). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 12 (2012), p. 102. (in Slovak)
- [20] HUBINSKÝ, P.: Use the Software for Advantageous Price (2). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 2 (2012), p. 94. (in Slovak)
- [21] HUBINSKÝ, P.: Use the Software for Advantageous Price (3). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 3 (2012), p. 88. (in Slovak)
- [22] HUBINSKÝ, P.: Use the Software for Advantageous Price (4). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 4 (2012), p. 96. (in Slovak)
- [23] HUBINSKÝ, P.: Use the Software for Advantageous Price (5). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 5 (2012), p. 88. (in Slovak)
- [24] HUBINSKÝ, P.: Use the Software for Advantageous Price (6). In: PC revue. - ISSN 1335-0226. - Vol. 20, No. 6 (2012), p. 94. (in Slovak)
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