

INSTITUTE OF CONTROL AND INDUSTRIAL INFORMATICS

<http://www.urpi.fei.stuba.sk/>

Director

Prof. Ing. Ján Murgaš, PhD.

e-mail: jan.murgas@stuba.sk

Tel/Fax: +421-2-602 91 781

Mob.: +421-908 706 215

I. STAFF

Professors	Prof. Ing. Mikuláš Huba, PhD., Prof. Ing. Ladislav Jurišica, PhD., Prof. Ing. Václav Kalaš, DrSc., Prof. Ing. Štefan Kozák, PhD., Prof. Ing. Ján Murgaš, PhD., Prof. Ing. Vojtech Veselý, DrSc., Prof. Ing. Milan Žalman, PhD.
Associate Professors	Doc. Ing. Igor Hantuch, PhD., Doc. Ing. Peter Hubinský, PhD., Doc. Ing. Alena Kozáková, PhD., Doc. Ing. Zdenka Králová, PhD., Doc. Ing. Eva Miklovičová, PhD., Doc. Ing. Danica Rosinová, PhD., Doc. Ing. Ivan Sekaj, PhD., Doc. Ing. Ján Šturcel, PhD., Doc. Ing. Anton Vitko PhD., Doc. Ing. Katarína Žáková, PhD.
Assistant Professors	Ing. Richard Balogh, Igor Bélai, PhD., Ing. Pavol Bisták, Ing. Michal Blaho, Ing. Jozef Dorner, Ing. Peter Drahoš, PhD., Ing. Mária Dúbravská, Ing. Jozef Dúbravský, Ing. Martin Foltín, PhD., Ing. Mária Hypiusová, PhD., Ing. Štefan Chamraz, PhD., Ing. Slavomír Kajan, PhD., Ing. Ján Kardoš, PhD., Ing. Ladislav Körösi, PhD., Ing. Marián Mrosko, PhD., Ing. Ivan Oravec, PhD., Ing. Jana Paulusová, PhD., Ing. Ľubica Šimová, PhD., Ing. Peter Ťapák, PhD., Ing. Miroslav Toman, PhD.
Research Workers	Ing. František Duchoň, PhD., Ing. Peter Fodrek, PhD., Ing. Miroslav Halás, PhD., Ing. Jaroslav Hanzel, PhD., Ing. Marián Kľúčik, Ing. Leo Mraško, PhD., Ing. Jakub Osuský, PhD., 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 (secretary), Jozef Turčánik
PhD. Students	Ing. Andrej Babinec, Ing. Pavol Bahník, Ing. Michal Bachratý, Ing. Martin Dekan, Ing. Pavol Folvarčík, Ing. Peter Guzmický, Ing. Martin Hlinka, Ing. Ľuboš Chovanec, Ing. Zoltán Janík, Ing. Marek Linder, Ing. Lukáš Palkovič, Ing. Marián Tárník, Ing. Michal Tölgyessy, Ing. Peter Didek, Ing. Zuzana Dideková, Ing. Martin Ernek, Ing. Ľudovít Farkas, Ing. Martin Gažo, Ing. Ivan Holič, Ing. Juraj Hnát, Ing. Peter Kurčík, Ing. Michal Leporis, Ing. Quang Nguyen, Ing. Míchal Oravec, Ing. Peter Pásztó, Ing. Ivan Pestún, Ing. Lukáš Palkovič, Ing. Tatiana Radičová, Ing. Jozef Rodina, Ing. Michal Sedlák, Ing. Miroslav Suchánek, Ing. Jozef Škultéty, Ing. Alexandra Šlezárová, Ing. Juraj Švančara, Ing. Richard Tesár, Ing. Stanislav Triaška, Ing. Martin Urban, Ing. Jakub Vonkomer, Ing. Vladimír Žilka

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Network Control Systems Laboratory
- Continuous Process Control Laboratory

- Optimization and Optimal Control Laboratory
- Production Systems Modelling Laboratory
- Computational Intelligence Laboratory
- Joint Laboratory of Robotics
- 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
- 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 (T014)
- Laboratory of PLC (T-015)
- Laboratory of Applied Mechatronics (T013)
- Laboratory of Modeling and Simulation for Mechatronic Systems (T04A)

II.2 Special Measuring 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 Servo Plant
- Digital Signal Processor Board for Real-Time Control
- Embedded MicroComputer Systems 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, Mocrولوج 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

III. TEACHING

III.1 Undergraduate Study (Bc.)

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

Introduction into Engineering	(1st sem., 2-2h)	K. Žáková
Computer Architecture	(2nd sem., 3-2h)	R. Ravas, Š. Chamraz
Unix/Linux – Real Time Systems	(3rd sem., 2-3h)	I. Sekaj, P. Fodrek
Automatic Control Theory 1	(3rd sem., 2-3h)	M. Huba
Cybernetics 1	(3rd sem., 2-2h)	D. Rosinová
Applied Computational Intelligence	(4th sem., 2-2h)	I. Sekaj
Software for Control Systems 1	(4th sem., 2-2h)	I. Hantuch, E. Šimová
Automatic Control Theory 2	(4th sem., 2-3h)	J. Murgaš
Design of Web Applications	(4th sem., 2-2h)	K. Žáková
Modelling and Simulation	(4th sem., 2-2h)	E. Miklovičová, M. Foltín
Electronics for Control Systems	(4th sem., 2-2h)	J. Šturcel, M. Toman
Instrumentation of Control Systems	(4th sem., 3-2h)	J. Šturcel
Internet and Intranet Applications	(5th sem., 2-2h)	K. Žáková
Actuators	(5th sem., 2-3h)	M. Žalman
Software for Control Systems	(5th sem., 2-3h)	I. Hantuch, L. Kőrösi
Optimization	(5th sem., 2-2h)	D. Rosinová
Basic of Control Systems	(5th sem., 2-2h)	P. Hubinský
Sensor Systems for Cars	(5th sem., 2-2h)	V. Tvarožek, J. Šturcel
Automation 1	(5th sem., 3-2h)	J. Murgaš
Monolithic microcontrollers	(5th sem., 2-2h)	J. Šturcel, Š. Chamraz, R. Balogh
Cybernetics 2	(5th sem., 2-2h)	J. Murgaš
Industrial Communication Bus	(6th sem., 2-2h)	J. Šturcel, P. Drahoš
Industrial Communication Systems	(6th sem., 3-2h)	M. Žalman, I. Bélai
Robotics	(6th sem., 3-2h)	P. Hubinský

Continuous Processes	(6th sem., 3-2h)	E. Miklovičová
Nonlinear Systems	(6th sem., 2-3h)	M. Huba
Automation 2	(6th sem., 2-2h)	M. Žalman

III.2 Graduate Study (Ing.)

CAD for Progr. Control Systems Development 1	(1st sem., 3-2h)	I. Hantuch
Multimedia in Control	(1st sem., 3-2h)	M. Huba, P. Bisták
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
Flexible Manufacturing Systems	(1st sem., 3-2h)	L. Jurišica
Modelling and Simulation of Processes	(1st sem., 3-2h)	E. Miklovičová
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
Applications of Embedded Systems	(1st sem., 2-2h)	Š. Kozák
Modeling of Mechatronic Systems	(1st sem., 2-3h)	Š. Kozák
Digital Control Methods in Mechatronic Systems	(1st sem., 3-2h)	Š. Kozák
Sensor microsystems	(1st sem., 2-3h)	V. Tvarožek, J. Šturcel, P. Drahoš
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
Multivariable System Control	(2nd sem., 3-2h)	V. Veselý
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)	P. Hubinský, J. Kardoš
Multimedia	(2nd sem., 2-3h)	M. Huba, P. Bisták
System Identification	(2nd sem., 2-3h)	E. Miklovičová
Software Development for Office Automation	(3rd sem., 3-2h)	J. Murgaš, M. Kratmüller
Fuzzy and Neural Controllers	(3rd sem., 3-2h)	I. Sekaj
Smart Sensors Systems	(3rd sem., 3-2h)	J. Šturcel
Intelligent Systems	(3rd sem., 3-2h)	I. Sekaj, S. Kajan
CAD for Progr. Control Systems Development 2	(3rd sem., 3-2h)	I. Hantuch
Production Systems Management and Control	(3rd sem., 2-3h)	Z. Králová
Robots Modelling and Control	(3rd sem., 3-2h)	A. Vitko

Network Technologies	(3rd sem., 2-3h)	J. Murgaš, M. Foltin
Mobile Robotics Systems	(3rd sem., 3-2h)	L. Jurišica
Mechatronics	(3rd sem., 3-2h)	L. Jurišica
CAD of Control Systems	(3rd sem., 3-2h)	J. Šturcel, P. Drahoš
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
Control of Technological Processes	(4th sem., 2-2h)	Š. Kozák

III.3 Undergraduate Study (Bc.) Distance Education Method

Algorithmisation and Programming	(1st sem.)	I. Sekaj, P. Fodrek
Introduction into Engineering	(1st sem.)	K. Žáková
Computer Architecture	(2nd sem.)	Š. Chamraz
Unix/Linux - Real Time Systems	(5th sem.)	I. Sekaj, P. Fodrek
Automatic Control Theory 1	(5th sem.)	M. Huba, I. Oravec
Automatic Control Theory 2	(6th sem.)	J. Murgaš
Control System Software 1	(6th sem.)	I. Hantuch, L. Šimová
Instrumentation of Control Systems	(6th sem.)	J. Šturcel
Modelling and Simulation	(6th sem.)	E. Miklovičová, M. Foltin
Electronics for Control Systems	(6th sem.)	J. Šturcel, M. Toman
Actuators	(7th sem.)	M. Žalman
Optimization	(7th sem.)	D. Rosinová
Control System Software	(7th sem.)	I. Hantuch, L. Kőrósi
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, P. Bisták

III.4 Graduate Study (Ing.) Distance Education Method

CAE of Mechatronics Systems	(1st sem.)	J. Murín, M. Klůčik, V. Goga
Flexible Manufacturing Systems	(1st sem.)	L. Jurišica
Multimedia in Control	(1st sem.)	M. Huba, P. Bisták
Servosystems	(1st sem.)	M. Žalman, I. Béla
Event Systems	(2nd sem.)	A. Vitko
Sensor Systems in CIM	(2nd sem.)	J. Šturcel, M. Toman
Robots Modelling and Control	(3rd sem.)	A. Vitko
Mechatronics	(3rd sem.)	L. Jurišica
Telematics and Control	(4th sem.)	M. Huba, P. Bisták

IV. RESEARCH PROJECTS

IV.1 International projects

- Reviewing and Reviving Existing VET Curriculum. LLP-LdV-TOI-2008-LT-0022 (M. Huba, K. Žáková)
- Enhancing NO-SK Cooperation in Automatic Control APVV VMSP-P-0004-09 (M. Huba, K. Žáková)
- Autoweldlink. EÚ European Regional Development Fund ITMS 26240220033 (L. Jurišica)
- Ceepus CII-CZ-0404-01-1011 - Cybernetics and Modern Methods of Control (K. Žáková)

IV.2 National projects

- Algebraic Methods in Nonlinear Control Systems: Theory and Applications. VEGA1/0369/10 (M. Halás)
- Intelligent Embedded Systems, VEGA project No 1/0822/08, (Š. Kozák)
- Generalized Modular Industrial Computer, APVV project VMSP-P-0059-09, (Š. Kozák)
- Proposal and Preparation of the New Interdisciplinary Subject Intelligent Buildings (IB). KEGA 3/5179/07 (I. Hantuch)
- Design of a Methodology of Exploitation the 3D-Modelling and Virtual Reality Means in Conditions of Teaching in Specialized Laboratories. KEGA 3/7307/09 (L. Jurišica)
- Building Virtual and Remote Experiments for a Network of Online Laboratories. KEGA 3/7245/09 (M. Huba)
- Advanced Control Methods for Industrial Processes. VEGA 1/0544/09 (V. Veselý)
- Integration and Development of Nonlinear and Robust Control Methods and Their Integration to Control Flying Vehicles. VEGA 1/0656/09 (M. Huba)
- Research and Development of Marginal Power Alternate Traction Drive. APVV -0530-07 (M. Žalman)
- Hybrid Triangulation - Optical System for Working Quality Checking of Tire. APVV VMSP-P-0030-09 (P. Drahoš)
- Clutch Inspector. APVV VMSP-P-0155-09 (M. Žalman)
- Optimization of the Mechatronic Systems Control. VEGA 1/0690/09 (L. Jurišica)
- Intelligent Control of Service Robot APVV VMSP – P-0004-09 (L. Jurišica)
- Building Grant for the Centre of Excellence for Smart Technologies, Systems and Services (SMART 1), ASF EÚ MS SR, ITMS 26240120005, (J. Murgaš)
- Building Grant for the Centre of Excellence for Smart Technologies, Systems and Services 2 (SMART 2), ASF EÚ MS SR, ITMS 26240120029, (J. Murgaš)
- Advanced Methods for Network Control Systems. VEGA 1/0592/10 (J. Murgaš)

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
- HMH 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.
- 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

V.2 International Cooperation

- 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
- Democritos University of Thrace, Xanthi, Greece
- Eindhoven University, The Netherlands

- 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
- HTL Spengergasse, Vienna, Austria
- 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

V.3 Membership in International Organizations and Societies

- IEEE The Institute of Electrical and Electronics Engineers, Inc. (L. Jurišica, M. Žalman, J. Murgaš, V. Veselý)
- IEE The Institute of Electrical Engineers, Inc. (L. Jurišica, M. Žalman, M. Huba, P. Hubinský)
- IFAC TC Nonlinear Control (M. Huba)
- IFAC, member of the Technical Committee on Adaptive and Learning Systems (J. Murgaš)
- IFAC, member of the Technical Committee on Robust Control (V.Veselý, M. Huba)
- Profibus International (URPI, FEI STU)
- CLAWAR Association, member of the Board of Trustees (A.Vitko)
- IMEKO, member of the Technical Committee on Measurement and Control in Robotic (A.Vitko)
- Slovak Society for Cybernetics and Informatics-SSKI (Š. Kozák, chairman)
- Institute of Informatics Slovak Academy of Sciences (Š. Kozák, member of Scientific Board)
- Faculty of Informatics and Information Technology (Š. Kozák, member of Scientific Board)
- IFAC member of Technical Committes: TC 3.1 Computers for Control (Š. Kozák)
- IFAC member of Technical Committes: TC 3.2 Computational Intelligence in Control (Š. Kozák)
- European Coordination Committee for Artificial Intelligence-ECCAI, member, (Š. Kozák)

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 2010

- [1] Ivaniš, M.: Predictive Control of Thermal Laboratory Plant (E. Miklovičová)
- [2] Javorský, S.: Automatic Registration System (M. Foltin)
- [3] Kohút, M.: Control of Real Experiment in Internet Environment (K. Žáková)
- [4] Kovačič, M.: Design DC Engine with PLC Simatic S7-200 (M. Mrosko)
- [5] Lichý, M.: Stability of Distributed Controls Systems (P. Fodrek)
- [6] Lukáček, P.: Monitor System for Entity Tracking (M. Foltin)
- [7] Macura, V.: Optimization Problems in Control Systems (D. Rosinová)
- [8] Majzel, M.: Information Theory in Telemetry and Data Transmission (O. Čičáková)
- [9] Nemeč, M.: Simulation and Control of Model System in a Decentralized Control System PCS 7 (L. Mraško)
- [10] Olas, M.: Discrete-Time Adaptive Control with Reference Model (J. Murgaš)
- [11] Sedláček, P.: Possibilities of Application of a Computer Software for Making Financial Analysis More Efficient (B. Mišota)
- [12] Tárník, M.: Adaptive Control of Synchronous Motors (J. Murgaš)
- [13] Žáček, F.: Predictive Control of Nonlinear Dynamical Systems with Artificial Neural Network (Š. Kozák)

Alumni Robotics, June 2010

- [1] Baláž, F.: Actuating Unit for Stepper Motor in Educational (J. Dúbravský)
- [2] Baranček, P.: Measurement System for Speed Servosystems (J. Dúbravský)
- [3] Bartek, T.: Detection of the Target Object by the Visual System, Determination of the Relative Position of the Object (M. Klůčik)
- [4] Bednár, V.: Possibilities of RFID Technologies for Goods Logistics Monitoring (B. Mišota)
- [5] Bezák, B.: Remote Software Installation Through a Web Interface (I. Hantuch)
- [6] Csiba, T.: Controlling of a Train Traffic System and Communication with the Control System of a Loader Machine (L. Kőrösi)
- [7] Čornanič, I.: Universal System for Specific Searching and Monitoring (P. Fodrek)
- [8] Dekan, M.: Reactive Navigation of Mobile Robot in Environment by Using his Sensors (F. Duchoň)
- [9] Ďuriš, S.: Workstation with Drives Simovert (I. Béla)
- [10] Ďurkovič, A.: Computer Supply for Course of TAR3 (M. Huba)
- [11] Folvarčík, P.: Extending Client-Server Application for Remote Control of Real Systems in Java (P. Bisták)
- [12] Frtús, M.: Economic Aspects of Server Solutions Based on Opensource (L. Horka)
- [13] Gálffy, G.: Controlling of a Storage Warehouse and Securing of Communication with a Train Transport System (L. Kőrösi)
- [14] Gula, J.: Real-Time Data Management Framework (M. Foltin)
- [15] Guzmický, P.: Industrial Process Simulator for the Visualization Tool InTouch (J. Kardoš)
- [16] Havran, I.: Analysis of the Control Group Small Hydro Turbines in the Water Žilina (J. Murgaš)
- [17] Heinrich, M.: Possibility of Using CMS for E-Commerce (B. Mišota)
- [18] Hipp, T.: Resolving Optimization Task by Using Equipments of Genetic Algorithm (J. Grman)
- [19] Hornáček, T.: Managing of Automatic Warehouse Using Modicon PLC (L. Kőrösi)
- [20] Hošťák, Z.: SW Modell Smart House (I. Hantuch)
- [21] Hudek, J.: Motion Control of Personal Mobile Robot (P. Hubinský)
- [22] Chovanec, L.: Vizualization of Experiments with Prediction Stop Point Methods with Using Shaping Algorithms (P. Hubinský)
- [23] Jacko, L.: Robust Control Design for Thermo-Optical Plant UDAQ28/LT (M. Hypiúsová)
- [24] Jankech, P.: Optimizing the Production of a Press Using Simulation (Z. Králová)

- [25] Jediný, T.: Modelling of Electronic Differential Lock EDS (V. Goga)
- [26] Joha, D.: Software Tool for Robust PID Controllers Tuning (M. Huba)
- [27] Kabina, I.: Communication and Information System Mercom for Small and Middle Companies (I. Hantuch)
- [28] Kadlec, R.: Creation of Models of Dynamic Systems in 3D and their Animation (P. Bisták)
- [29] Kaštan, D.: The Determination of Position of the Mobile Robot in the Environment (F. Duchoň)
- [30] Kocmunda, V.: Servo-Drive with Frequency Converter Sinamics G120 (I. Bélai)
- [31] Kopčok, A.: Security of Unix (P. Fodrek)
- [32] Kormoš, I.: Visualization of Algorithms to Eliminate the Residual Vibrations (P. Hubinský)
- [33] Kosorín, M.: Proposal for Control and Visualization of Process Controlled by PLC (L. Mraško)
- [34] Kostolanský, R.: Position Control of Induction Motors by Frequency Inverter (L. Kórósi)
- [35] Kostolný, M.: Remote Control of Technology Proces Model (I. Bélai)
- [36] Kováčik, M.: Design of Robot Control System with Parallel Kinematics Structure (M. Žalman)
- [37] Kráčalík, B.: Time Attendance and Access System (R. Tesár)
- [38] Kuracina, T.: Mobile Robots Suitable for Movement in a Group (M. Klůčik)
- [39] Kušnier, L.: Visualization of the Model of Mobile Robot Using PhysX Technology (P. Hubinský)
- [40] Kuřka, T.: Teaching Instrument for Showing the Characteristics of Neuron Networks (J. Grman)
- [41] Lelkes, Z.: Automation System for Tire Identification (P. Drahoš)
- [42] Linder, M.: Application of Methods of Softcomputing on PLC (I. Sekaj)
- [43] Murcko, M.: Animation and Control of Dynamic Systems Using Adobe Flash (M. Huba)
- [44] Nováčik, M.: Design of Mobile Robot for Interiors (M. Klůčik)
- [45] Novotný, M.: Webserver Solution Based on Opensource with Minimal Costs (L. Horka)
- [46] Országh, M.: Mechatronic Motion System (J. Dúbravský)
- [47] Plesník, T.: The manipulator controlling on the mobile robot (M. Klůčik)
- [48] Pobuda, M.: Control System for Graphic Display (J. Dúbravský)
- [49] Princzkel, T.: Control of Mobile Robot with a Camera System (M. Klůčik)
- [50] Prno, M.: Regulation of Virtual Market Systems (L. Andrášik)
- [51] Segiň, J.: A Case Study in SAP Application Development Using Object Oriented Programming (Z. Králová)
- [52] Sileš, O.: Regulation of Temperature in Container Using PLC Simatic S7-200 (M. Mrosko)
- [53] Sládek, L.: Automatic Acquisition and Evaluation of Characteristics in Remote Environment (M. Daříček)
- [54] Sojčák, J.: Design Traction and Geometry Optimalization of the Selected Member of the Crank Mechanism (V. Goga)
- [55] Spišiak, J.: Digital Servosystem with DC Motor (J. Dúbravský)
- [56] Šajdík, J.: Control Systems in Intelligent Buildings (IB) Management and Thermal Comfort in Intelligent Buildings (J. Šturcel)
- [57] Šmol, L.: Speed Control of a DC Motor Implementing a PLC (J. Dúbravský)
- [58] Špes, M.: Speed Control System of a SM (R. Tesár)
- [59] Štofanač, M.: Position Control Servo Drive with SM (M. Suchánek)
- [60] Vrbjar, R.: Projection and Realization of Positional system (M. Žalman)
- [61] Wolf, P.: Potential Usage of Web Technologies (B. Mišota)

Alumni Robotics, June 2010 (Distance Education Method)

- [1] Danko, J.: Visualization of the Variable Structure Control in Touch Environment (J. Kardoš)
- [2] Ďurovec, J.: Energetic Management of Mobile Robot (R. Balogh)
- [3] Fekete, V.: Sensor Subsystem of the Mobile Robot for Mapmaking (R. Balogh)
- [4] Gašper, P.: Mobile Robot with Combined Gear (M. Klůčik)
- [5] Gdovin, P.: Controlling Mobile Robot Via Web Interface (J. Hanzel)
- [6] Grman, M.: eLearning (Virtual Multi-Media Conference Classroom) (M. Dúbravská)
- [7] Gronich, T.: Procession and Recognition of Image Information with Use of Computer Vision Methods (J. Dorner)

- [8] Jáno, M.: Internet-Based Task Solving by Scilab (K. Žáková)
- [9] Jasenovec, P.: Modelling and Simulation of SMA Actuator (P. Drahoš)
- [10] Kalata, P.: Imagery of Algorithm of Saturated Control with Entering of Poles in Phase Space (P. Bisták)
- [11] Karlík, M.: Position Servosystem with Frequency Converters Simovert Masterdrives (I. Béla)
- [12] Mihálik, S.: Autonomous Control System Movable Robots – Subsystem Navigation (I. Hantuch)
- [13] Nemčok, J.: Virtual Model of Alternate Positional Servomotor with Drive Sinamics (M. Žalman)
- [14] Plávka, M.: Bus Control Systems in Intelligent and Big Buildings (IBB), Logic Control in IBB (J. Šturcel)
- [15] Riečan, P.: Remote Control of Real System Supported by Matlab (K. Žáková)
- [16] Tkačík, M.: Driving a Mobile Robot with Camera by Microcontroller (M. Klúčik)
- [17] Vajda, R.: Control Movement Structures of Industrial Converter of DCS Series (P. Kurčík)
- [18] Zubák, J.: The Use of OPC in the Software of Control Systems (M. Blaho)

VI.2 PhD Theses

- [1] Benický, P.: Classification of Motion in Robotic Applications (L. Jurišica)
- [2] Cigánek, J.: Contribution to the Problem of Robust Control Using Stable Polytope of Reflection Vectors (Š. Kozák)
- [3] Duchoň, F.: Design of Algorithms Mobile Autonomous Robot Navigation (L. Jurišica)
- [4] Chvostek, T.: Embedded Control Systems (Š. Kozák)
- [5] Kőrösi, L.: A Contribution to Artificial Neural Network Structure Optimization (Š. Kozák)
- [6] Mraňko, L.: Control of AGV Systéme (B. Hruz)
- [7] Mrosko, M.: Predictive Control (J. Murgaš)
- [8] Paulusová, J.: Intelligent Methods for Modelling of Nonlinear Systems Using Fuzzy-Neuro Techniques (Š. Kozák)
- [9] Petrovič, L.: Sensor Fusion and Validation of Sensors Mobile Robot. (L. Jurišica)
- [10] Števo, S.: Intelligent Buildings, Model Process - Support of Projection (I. Hantuch)
- [11] Osuský, J.: Robust Controller Design in Frequency Domain (V. Veselý)
- [12] Vranka, B.: Online Methods of Eliminating Residual Vibrations (P. Hubinský)

VII. OTHER ACTIVITIES

Conferences organized by the Institute:

- International Conference 'Cybernetics and Informatics' organized by SSKI, Vyšná Boca, Slovakia, 10 - 13 February 2010
- 12th Conference of Doctoral Students ELITECH' 10 - (A. Kozáková - responsible for organization, editor of Conference Proceedings)
- 9th International Conference Control of Power Systems 2010, Tatranske Matliare, 18 – 20 May, 2010 (V. Veselý, J. Murgaš, Z. Králová, E. Miklovičová)
- Istrobot: Competition of Mobile Robots, Bratislava, SK. April 2010 (R. Balogh)
- International Summer School of Robotics, (R. Balogh, P. Hubinský) + Freescale Race Competition, FEI STU, Bratislava July 2010 (R. Balogh)
- 1st International Conference on Robotics in Education, Bratislava, 2010, (R. Balogh, P. Hubinský)

Other events:

Conferences Participation, Membership in Committees:

- ELOSYS 2010, Trenčín. SK. October 2010, J. Murgaš, I. Sekaj, M. Foltin – PC members, Profibus exposition)
- Austria, Vienna: Robotchallenge Competition participation (R. Balogh)
- AT&P Journal (L. Jurišica, J. Šturcel, M. Žalman, I. Hantuch, J. Murgaš, V. Veselý – Editorial Board members)

- Selected Topics in Modelling and Control (V. Veselý - Editor, L. Jurišica, Editorial Board member)
- Transactions of the Institute of Measurement and Control (A. Vitko – Associate editor)
- CLAWAR Conference Nagoya (A. Vitko - Member of International Program Committee)
- Accreditations Board of SAS (L. Jurišica – member)
- Profibus Slovakia Association (P. Drahoš – chairman)
- International Machine Fair Nitra, May 2008 (Profibus exposition)
- Cooperation with Encyclopedic Institute of Slovak Academy of Sciences on the Slovak Encyclopedia (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)
- Local Centre of Distance Education (M. Huba - head, D. Sovišová - study coordinator, P. Bisták - equipment manager, K. Žáková - international cooperation)
- Computer Viruses Analysis ESET Ltd. Bratislava (P. Hubinský)
- Administration of Shareware Archive of Slovak Antivirus Centre (P. Hubinský)
- Slovak Society of Cybernetics and Informatics (M. Huba – deputy head)
- SSKI (Slovak Society for Cybernetics and Informatics): Chair of Main Committee - Š. Kozák, Vice-chairs: V. Veselý, M. Huba
- 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
- MacPlanet: M. Foltin – editor internet journal www.macplanet.sk

Projects:

- Schneider-Electric Courses, Automation and Control Systems (M. Mrosko)
- Creating the Future – Centrobot International Project Slovakia – Austria, EFRE N-0023 (R. Balogh, P. Hubinský)
- Istrobot (APVV LPP-0301-06) Popularization Project (R. Balogh)

VIII. PUBLICATIONS

VIII.1 Journals

- [1] BABINEC, A. - VITKO, A.: Histogram Navigation Algorithms - Developments and Principles. In: Automa. - ISSN 1210-9592. - Vol. 16, No. 5 (2010), p. 26-29. (in Slovak)
- [2] BACHRATÝ, M.: Sound Source Localization Based on TDOA Measurements in Mobile Sensor Networks. In: Metalurgija. Metallurgy. - ISSN 0543-5846. - Vol. 49, No. 2 (2010), p. 124-127. (in English)
- [3] BALOGH, R.: Acrob-an Educational Robotic Platform. In: AT&P Journal Plus. - ISSN 1336-5010. - Iss. 2. Robotics in Education (2010), p. 6-9. (in English) [vnútrofakult. kateg.: C]
- [4] BALOGH, R.: Control System for Hybrid Electric Drive. In: AT&P Journal Plus. - ISSN 1336-5010. – Iss. 1: Systems of Automatic Control (2010), p. 80-83. (in English)
- [5] BALOGH, R.: Model of the Ball-Tracing Robot. In: Metalurgija. Metallurgy. - ISSN 0543-5846. - Vol. 49, No. 2 (2010), p. 136-140. (in English)
- [6] BALOGH, R.: Istrobot 2010. In: Robot revue. - Vol. 2, No. 5 (2010), p. 8-9. (in Slovak)
- [7] BALOGH, R.: Conference Robotics in Education. In: AT&P Journal. - ISSN 1335-2237. - Vol. 17, No. 11 (2010), p. 45. (in Slovak)

- [8] BALOGH, R.: Robots Contest at the FEI STU. In: Spektrum. - ISSN 1336-2593. – Vol. 16, No. 9 (2010), p. 20. (in Slovak)
- [9] BALOGH, R.: Slovak and Austrian Students Created Robots. In: Dobrá škola. - Vol. 1, No. 5 (2010), p. 20. (in Slovak)
- [10] BALOGH, R.: Golden Medal for the Students of STU. In: Spektrum. - ISSN 1336-2593. - Vol.16, No. 8 (2010), p. 1-2. (in Slovak)
- [11] BENICKÝ, P. - JURIŠICA, L.: Real Time Motion Data Preprocessing. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 61, No. 4 (2010), p. 247-251. (in English)
- [12] BLAHO, M. - FOLTIN, M. - FODREK, P. - POLIAČIK, M.: Preparing Advanced Matlab Users. In: WSEAS Transactions on Advances in Engineering Education. - ISSN 1790-1979. - Vol. 7, Iss. 7 (2010), p. 234-243. (in English)
- [13] BUCZ, Š. - MARIČ, L. - HARSÁNYI, L. - VESELÝ, V.: A Simple Robust PID Controller Design Method Based on Sine Wave Identification of the Uncertain Plant. In: Journal of Electrical Engineering. - ISSN 1335-3632. - Vol. 61, No. 3 (2010), p. 164-170. (in English)
- [14] BUCZ, Š. - MARIČ, L. - HARSÁNYI, L. - VESELÝ, V.: Controller Parameter Design. In: Elektrotechnický magazín. - ISSN 1210-5422. - Vol. 20, No. 4 (2010), p. 24-26. (in Czech)
- [15] BUCZ, Š. - HARSÁNYI, L. - VESELÝ, V.: PID Controller Training. In: EE časopis pre elektrotechniku a energetiku. - ISSN 1335-2547. - Vol. 16, Special Issue (2010), p. 26-30. (in Slovak)
- [16] CHAMRAZ, Š. - BALOGH, R.: Controller Design for the Static System with Electric Actuated Valve. In: AT&P Journal Plus. - ISSN 1336-5010. – Iss. 1: Systems of Automatic Control (2010), p. 53-57. (in English)
- [17] CHAMRAZ, Š.: Design of the Position Controller Using the Generalized Method of the Required Dynamics. In: Journal of Cybernetics and Informatics. - ISSN 1336-4774. - Vol. 11 (2010), http://www.sski.sk/casopis/show_article.php?id_art=80&id_cat=12. (in English)
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