Dr Miloš Jovanović
Mihailo Pupin Institute
Volgina 15
11000 Belgrade
Serbia
E-mail:milos.jovanovic@pupin.rs
Voice: +381 11 6776 174

Biography

Mr. Miloš Jovanović PhD, research associate and assistant professor was born in Majdanpek, Serbia. He received his B. Sc, M Sc, and PhD at the faculty of Electrical Engineering, University of Belgrade, Serbia. He was visiting researcher at the Robotics Laboratory, Mechanical Engineering, University of Toronto, from 1998-2002. He was scientific assistant to late Academician Vukobratović. He published more than 50 scientific papers at leading international journals, international conferences and domestic conferences. Hi is member of editorial board of Robotica & Management, International Journal, ISSN 1453-2069, Editura Eftimie Murgu, Reşiţa, Romania. He has 3 recognized international patents, and more than 50 applicable technical solutions in industry and robotic systems. He is currently involved in several domestic and international scientific projects which some of them are bilateral projects together with Chinese and Suisse research institutes. His research interest is previously based on: Service and Personal robots, Medical and rehabilitation robots, Bio-inspired systems, Humanoid Robotics, Biomechanics and Bipedal locomotion, embedded control, Instrumentation & Measurements, Sensor data acquisition and data fusion, System integration, etc. He is employed at the “Mihailo Pupin” Institute, Robotics laboratory, Belgrade, Serbia as research associate and leading research & development engineer, scientific associate. He is assistant professor at the Faculty of Computing, Union University, Belgrade, Serbia.

PROFESSIONAL HIGHLIGHTS

- 10 years of experience in C/C++ and assembler programming
- 6 years of experience in embedded motion controllers
- familiar interfaces I2C, RS232, RS422-485, CAN-BUS, PROFI-BUS
- experience with processors 8051, 8086 , AVR, PIC
- experience with PC and PC104 systems
- debugging tools include ICE, logic analyzer, remote debugger
- DiabData, Archimedes, GNU development tools
- good communication skills
- comfortable both with Unix (Linux) and Windows based tools
- experienced with version control software
- digital/analog hardware design experience
- proficiency in hardware/software design tools: OrCAD, CUPL, TANGO, ACCEL, LATTICE, ICE etc.

EXPERIENCE HISTORY

April 1993 – September 1994, PC hardware engineer
StanCo , http://www.stanco.co.rs
Petrovac na Mlavi, Serbia,

September 1994 – present, firmware engineer
Institute Mihajlo Pupin, http://www.imp.bg.ac.rs
Belgrade, Serbia,

January 1998 – April 2002, contract base

- Robotics and automation laboratory, University of Toronto, prof. dr Andrew Goldenberg, www.mie.utoronto.ca Toronto, Ontario, Canada.
- Engineering Services Inc, http://www.esit.com, Toronto, Ontario, Canada.
- Virtec Vision Inc, www.virtec.ca Toronto, Ontario, Canada.

October 2015 – present, Assistant professor
Union University, Facyltu of Computing. www.raf.edu.rs
Knez Mihailova 6/VI
11000 Београд, Serbia

Education

B. S. C. El. Eng.
University of Belgrade, Faculty of electrical engineering, Serbia, Yugoslavia 1992.

M. SC. El Eng.
University of Belgrade, Faculty of electrical engineering, Serbia, Serbia and Montenegro, 2004.

PhD
University of Belgrade, Faculty of electrical engineering, Serbia, 2012.

Scientific publications

More than 50 scientific publications in international journals, domestic journals and internatinal scientific conferences. He has 39 official citations based on SCOPUS.

Member of the Editorial Board, *Robotica / Management*, International Journal, ISSN 1453-2069, Editura Eftimie Murgu, Reşiţa, Romania, Scientific reviewer of *Robotica / Management*, International Journal, ISSN 1453-2069, Scientific reviewer of *International Journal of Humanoid Robotics* (IJHR), Print ISSN: 0219-8436, Online ISSN: 1793-6942

Scientific area of interest

A) ***primary***

- Robotics
- Industrial electronics systems
- Mechatronics
- System identification, Modeling and Simulation

B) ***particular***

- Service and Personal robots
- Medical and rehabilitation robots
- Bio-inspired systems
- Humanoid Robotics
- Biomechanics and Bipedal locomotion
- Embedded control
- Instrumentation & Measurements
- Sensor data acquisition and data fusion
- System integration

General informations

Married, has a daughter.
Living in Belgrade, Serbia. Speaking Serbian (native), English (fluently) and French (basic communication).

Hobby

Swimming, astronomy and science fiction

PUBLICATIONS

Vukobratovic, M., Herr, H., Borovac, B., Rakovic, M., Popovic, M., Hofmann, A., **Jovanovic, M**., Potkonjak, V.; "Biological Principles of Control Selection for a Humanoid Robot's Dynamic Balance Preservation", *IntI. Journal of Humanoid Robotics,* Vol. 5, No.4, 639-678, 2008.
Doi No: 10.1142/S0219843608001601
LINK: http://www.worldscinet.com/ijhr/05/0504/S02198436080504.html.

Vukobratovic, M., Borovac, B., Potkonjak, V., **Jovanovic, M**.; "Dynamic balance of humanoid systems in regular and irregular gaits: an expanded interpretation", *Intl. Journal of Humanoid Robotics,* Vol. 6, Issue 1, pp. 117-145, 2009.
Doi No: 10.1142/S0219843609001668
LINK: http://www.worldscinet.com/ijhr/06/0601/S02198436090601.html.

Vukobratovic, M., **Jovanovic, M**.; "Nikolai Aleksandrovich Bernstein - Pioneer in Control and Cybernetics", *Intl. Journal of Humanoid Robotics,* Vol. 7, No.1, pp. 213-222, 2010.
Doi No: 10.1142/S0219843610002040
LINK: http://www.worldscinet.com/ijhr/07/0701/S02198436100701.html.

Potkonjak, V., Tzafestas, S., Vukobratovic, M., Milojevic, M., **Jovanovic**, **M**.; "Humanand-Humanoid Postures Under External Disturbances: Modeling, Simulation, and Robustness. Part 1: Modeling", Journal of Intelligent and Robotic Systems: Theory and Applications, Springer-Verlag Dordrecht, Vol. 63, No2. pp. 191-210, 2011.
Doi No: 10.1007/s10846-010-9517-5
LINK: http://www.springerlink.com/content/kgpnr21u151005h3/

Vukobratovic, M., Milojevic, M., Tzafestas, S., **Jovanovic, M.,** Potkonjak, V.; "Human- and-Humanoid Postures Under External Disturbances: Modeling, Simulation, and Robustness. Part 2: Simulation and Robustness", Journal of Intelligent and Robotic Systems: Theory and Applications Springer-Verlag Dordrecht, Vol. 63, No 2. pp. 211-231, 2011.
Doi No: 10.1007/s10846-010-9525-5
LINK: http://link.springer.com/article/10.1007%2Fs10846-010-9525-5

Jovanovic, M.; "Human Long Jump - A Deductive Approach", International Journal of Advanced Robotic Systems, ISBN: 1729-8806, InTech, Available from:
http://www.intechopen.com/journals/international_journal_of_advanced_robotic_systems/human-long-jump-ndash-a-deductive-approach; 2012.
Doi: dx.doi.org/10.5772/51036
LINK:
http://www.intechopen.com/journals/international_journal_of_advanced_robotic_systems/human-long-jump-ndash-a-deductive-approach

Vukobratovic, M., **Jovanovic, M.;** "Active Exoskeltons, Beginning, Present State and the Future", International Journal, Engineering & Automation Problems. No 4, pp 134-156, 2007.
НАПОМЕНА: Часопис је индексиран у следећим базама: AgroAsia, World Agri. Database, MedLit.

Vukobratovic, M., **Jovanovic,** M.; "New Frontiers in Humanoid Robotics", International Journal, Engineering & Automation Problems, Vol. 6, No 1, pp 3-14, 2008.
НАПОМЕНА: Часопис је индексиран у следећим базама: AgroAsia, World Agri. Database, MedLit.

Jovanović, M. Vujović B., Rodić A., Potkonjak B., „Kinematic model of NAO humanoid robot“, *Int. Journal Robotica & Management*, Ed. Robotics Society of Romania, Vol. 19, No. 1, pp. 21-26, ISSN: 1453-2069, June, 2014.
LINK:
http://www.robotica-management.uem.ro/fileadmin/Robotica/2014_1/Pag_21_Jovanovic.pdf
indexed: Directory of Research Journals Indexing (DRJI), EBSCO Host Google Scholar / Academic (selectively), Index Copernicus International Ltd (IC), Open Academic Journals Index (OAJI), DataBase of National Council of Scientific Research in Higher Education-Romania (Consiliul National al Cercetarii Stiintifice din Invatamantul Superior - CNCSIS):

Despotović, Ž., **Jovanović, M.**, Stojiljković, Z., ”*Microprocessor controlled converter for electromagnetic vibratory drive*”, PROCEEDINGS of the XI International Symposium of the Power Electronics, N.Sad 31.10-2.11.2001,Vol.T2-1.5, pp.180-187.
LINK: http://www.dee.uns.ac.rs/biblio/11-Ee2001.pdf

Jovanovic, M. , Vukobratovic, M, Despotovic, Z., “*General-Purpose Controller for Six-Joint Robot*”, PROCEEDINGS of the XII International Symposium of the Power Electronics, N.Sad 5-7.11.2003, Vol.T4-4.3, pp.1-4.
LINK: http://www.dee.uns.ac.rs/biblio/12-ee2003.pdf

Jovanovic, M., Vukobratovic, M., "PC as a controller for educational robot ROBED-O3", EUROCON-2005, International Conference on Computer as a Tool, I, art. No 2629998, pp 591594, Belgrade, 2005.
Doi No:10.1109/EURCON.2005.1629998
LINK:
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=1629998&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F10849%2F34189%2F01629998

Jovanović, M.; "Improved Kinematics Simulation Model of General Human and Humanoid Motion", Proc. 4-th Serbian-Hungarian joint Symposium on Intelligent Systems, pp 107-117, 29-30. 09. 2006. Subotica.
LINK: http://uni-obuda.hu/conferences/sisy2006/list.htm

Rodic, A., **Jovanovic, M.,** Popic, S., Mester, Dj.; "Scalable experimental platform for research, development and testing of networked robotic systems in informationally structured environments experimental testbed station for wireless robot-sensor networks", Robotic Intelligence In Informationally Structured Space (RiiSS), IEEE, pp. 136-143, 2011.
Doi No:10.1109/RIISS.2011.5945779

LINK:
http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=5945779&url=http%3A%2F%2Fieeexplore.ieee.org%2Fstamp%2Fstamp.jsp%3Ftp%3D%26arnumber%3D5945779

Jovanovic, M., Popic, S., Rodic, A.; "Multifunctional mobile robot platform for outdoor operation", INFOTEH-JAHORINA, Vol. 10, Ref. A-14, pp. 64-66. 2011.
LINK: http://www.infoteh.rs.ba/zbornik/2011/radovi.html

Popić, S., **Jovanović, M.,** Miloradović, B., Dodig, L; "Robotics in Art - Robot Flower", INFOTEH-JAHORINA Vol. 11, 21-23 March 2012, pp 1015-1018, 2012.
LINK: http://www.infoteh.rs.ba/zbornik/2012/radovi.html

Jovanović M., Potkonjak V.; "Modeling of Humanoid Systems Using Deductive Approach", INFOTEH-JAHORINA Vol. 12, 20-22 March 2013, pp 1043-1048, 2013.
LINK: http://www.infoteh.rs.ba/zbornik/2013/radovi.html

Jovanović M., Pavlović A., Milanović S., Nedeljković A.; "System for Measurement of Biomechanical Characteristics of the Fingers and Hands", INFOTEH-JAHORINA Vol. 12, 20-22 March 2013, pp 60-64, 2013.
LINK: http://www.infoteh.rs.ba/zbornik/2013/radovi.html

Rodić A., **Jovanović D M.;** "How to make robots feel and social as humans", The 6th IARIA International Conference on Advanced Cognitive Technologies and Applications (COGNITIVE 2014), pp. 133-139, ISSN: 2308-4197, ISBN: 978-1-61208-340-7, Venice, Italy, May, 25th-29th, 2014

LINK: http://www.iaria.org/conferences2014/COGNITIVE14.html

Popić S., Miloradović B., **Jovanović D M.,** Ćosić A., Rodić A.; "RECIPLET - The collector of recyclable cans and bottles", INFOTEH-JAHORINA Vol. 13, 16-19 March 2014.

LINK: http://www.infoteh.rs.ba/zbornik/2014/radovi.html

Rodić A., **Jovanović M.,** Stevanović I., Jovanović D.; "Cognitive robots of human character", in Proceedings of 23rd International Conference on Robotics in Alpe-Adria-Danube Region (RAAD2014), ISBN 978-80-227-4219-1, IEEE catalogue number 34043, pp. 263-270, Smolenice, Slovakia, September 3-5, 2014

LINK: http://www.raad2014.org/data_files/Program_of_RAAD2014_sessions.pdf

Despotović Z., **Jovanović M.;** "AC/AC POWER CONVERTER FOR THERMAL PROCESSING OF MASSIVE METAL PARTS", Full Papers Proceeding of International Conference "Power Plants 2014", 28-31. October 2014, Zlatibor, Serbia, ISBN 978-86-7877-024-1, pp. 645 – 655.

LINK: http://e2014.drustvo-termicara.com/sesija/4-eksploatacioni-problemi-termohidrovetro-i-drugih-elektrana/3

Jovanović D. M., Potkonjak V.; „3D Biped Gait Realization Using Inverted Pendulum Analogy“, Proceedings IcETRAN, International Conference on Electrical, Electronic and Computing Engineering, ISBN 978-86-80509-70-9, Vrnjačka Banja, Serbia, June 2–5, ROI2.2 1-4, 2014.
Link: http://etran.etf.rs/Icetran2014/Program_IcETRAN.pdf

Vukobratović, M., Milinović, M., **Jovanović, M**., Popić, S. "Savremene perspektive robota u ekološkim i drugim operacijama zaštite ", Konferencija Ekološki problemi gradova, Beograd 22 - 23 april, 2004. pp 39 - 54.

М. Јовановић, В. Новаковић, Ж. Чебела, Аутоматски регулатор рада комбајна, стр 5.117 , I Интернационални научно-развојни симпозијум “Стваралаштво као услов за развој, нове технологије и технике у служби човека”, Београд октобар 1996,

Despotović, Ž., Stojiljković, Z., **Jovanović, M.,** *”Tiristorski pretvarač za pogon elektromagnetnih vibratora”*, Zbornik radova X Simpozijuma Energetska Elektronika, N. Sad 14-16.10. 1999, pp.150-156.
Link: http://www.dee.uns.ac.rs/biblio/10-Ee1999/10%20savetovanje/radovi/EE1/T1-41.PDF

Jovanovic, M., Vukobratovic, M., Despotovic, Z., “*General-Purpose Six-Joint Robot Controller*”, PROCEEDINGS of the XLVII Conference ETRAN, H. Novi 8-13. 06. 2003, Vol. IV, pp. 371-375.

Despotović, Ž., Stojiljković, Z., **Jovanović, M.**, *“Frekventno kontrolisan energetski pretvarač za pogon elektromagnetnih vibracionih dozatora”,* Zbornik radova XLVII konferencije ETRAN, H. Novi 8-13. 06. 2003, Vol. I, pp. 413-416.

Jovanović, M., Vukobratović, M., "PC robotski kontroler za mobilni robot MR-5", Zbornik radova Vol. IV. (pp. 261-264) - XLIII konferencija ETRAN Cacak, 6-19 juna 2004.

Jovanović, M., Vukobratović, M., "Sistem sigurnosnog opaljenja uređaja za uništavanje eksplozivnih naprava na mobilnom robotu MR-5 ", Zbornik radova Vol. IV. (pp. 359-362)- *XLIV* konferencija ETRAN Budva, 5-10 juna 2005.

Vukobratović, M., Potkonjak, V., **Jovanović, M**.; "Preservation of Dynamic Balance of Humanoid Robots", 53. Konferencija ETRAN, Proceedings of the 53. ETRAN,: RO1.8-1 RO1. 8-4, 2009.
Link: http://etran.etf.rs/etran2009/sekcije.htm

Vukobratović, M., Potkonjak, V., **Jovanović, M**.; "N. A. Bernstein - Pioneer in the field of Feeedback Control", Proc. ETRAN 2010. June 7-11, Donji Milanovac, RO1.9,1-3, 2010.
Link: http://etran.etf.rs/etran2010/Program_ETRAN_2010.pdf

Filipovic, M., Popic, S., **Jovanovic, M.,** Rodic, A.; "Sistem za opservaciju radnog prostora", Zbornik radova 24. Procesing '11, pp. 80-81, 2011.
Link: http://www.smeits.rs/include/data/docs0120.pdf

Jovanovic, M., Potkonjak, V.; "Human Long Jump Simulation Using Deductive Approach", Zbornik radova 55. Konferencije ETRAN Banja Vrucica, RO 1.4 1-4, 2011.
Link: http://etran.etf.rs/etran2011/fajlovi/Program_ETRAN_2011.pdf

Jovanović, M., Despotović, Ž., *" Nao - Humanoidni robot visokih performansi",* 56.Konferencija za elektroniku, telekomunikacije, računarstvo, automatiku i nuklearnu tehniku-ETRAN, Zlatibor, 11-14. Jun 2012. R.O 2.5 1-4
Link: http://etran.etf.rs/etran2012/Program_ETRAN_2012.pdf

Pavlović, A., **Jovanović, M.,** Popić, S.; "Sistem za merenje biomehaničkih karakteristika ruku", Zbornik radova 56. Konferencije ETRAN Zlatibor 11-14 jun 2012, R.O 2.5 1-4, 2012.
Link: http://etran.etf.rs/etran2012/Program_ETRAN_2012.pdf

Vujović V., Jovanovic D M.; „Sinteza kinematskog modela humanoidnog robota NAO metodom D-H parametara“, Zbornik radova 57. Konferencije ETRAN Zlatibor 3-6 jun 2013, R.O 1.6 1-5, 2013.
Link: http://etran.etf.rs/etran2013/Program_ETRAN_2013.pdf

Jovanović D M., Potkonjak V.; „Modelovanje humanoidnih sistema pomoću deduktivnog pristupa“, Zbornik radova 57. Konferencije ETRAN Zlatibor 3-6 jun 2013, R.O 1.4 1-4, 2013.
Link: http://etran.etf.rs/etran2013/Program_ETRAN_2013.pdf

Stevanović, I., Popić S., Rodić A., Despotović Ž., Jovanović M.; „Pokretni robotizovani solarni generator, primer konstruktivnog rešenja mehaničke strukture “, Zbornik radova 57. Konferencije ETRAN Zlatibor 3-6 jun 2013, R.O 2.6 1-4, 2013.
Link: http://etran.etf.rs/etran2013/Program_ETRAN_2013.pdf

PROJECTS

Indoor security system (Internal use in StanCo corporation)

M. Jovanovic; Hardware design for indoor security system based on IR detectors and magnetic sensors. April – September 1994.

Mine Field Placer Vehicle (Yugoslav Army)

M. Jovanovic, M. Timotijevic, V Semencenko, J Bulatovic; Designed and developed the software for the control of minefield placer. Mihajlo Pupin Institute and Yugoslav Army, 1994-1996.

ANTIDOLOR (INTT &Mechanical faculty Belgrade)

M Jovanovic V Novakovic; Hardware and software design of universal real-time device for pain treatment based on ultra low vibrations (10-120Hz). Device has two electro-magnetic vibro-microsonde specially designed to activate biological active points to remove pain. Device is European patent protected. 1996.

VIBROPALICATOR (INTT & Mechanical faculty in Belgrade)

M Jovanovic V Novakovic; Hardware and software design of PC compatible medical real-time device for post insult and hemiparesas patient treatment. Device is based on PC platform and generate ultra low vibrations (10-120Hz). Special vibro-shoos are designed for patent treatment. Windows based user interface written in C++ is used for system control. Device is European patent protected. 1996

Automatic trainer (INTT / Mechanical faculty in Belgrade)

M Jovanovic V Novakovic; Hardware design of automatic trainer. This is motor platform designed for invalid patients for leg movement. Device is used together with VIBROAPLICATOR. Device is European patent protected. 1996

Time Machine (Institute "Mihajlo Pupin"- Belgrade)

M. Jovanovic, M. Timotijevic, Z. Despotovic, N. Grujic; Hardware design for a family of devices based on Philips 80C751 and Atmel 89C52 micro controller (5 inputs, 2 outputs 4*LED 7-sg digits, 4 momentary switches, 35mm DIN rail mountable). Software configurable for wind speed monitoring, timing relay, counter, RPM monitoring and control. Created a software library platform for Time Machine system. 1996

High Precision Dose System For Component Color Mixing (Suko-Pirot)

M. Jovanovic, M. Timotijevic; Design and development control software for high precision component dose in color mixing. Using real time operating system, AD conversion and mass and temperature measurement. Low precision flow control is developed for internal control. February 1997.

Automatic Control Water Recycling system (Port Novorosijsk –Russia)

M. Jovanovic, M. Timitijevic, Z. Despotovic; Design and development control software for automatic water recycling control system using small PLC controller. Used C and assembler together with real-time scheduler, Mart 1997.

µPLC (Institute "Mihajlo Pupin"- Belgrade)

M. Jovanovic, M. Timotijevic, Z. Despotovic; Hardware design for uPLC-504 (80537 based, 16I/12O reconfigurable and locally programmable at the parametric level)
Designed and developed test program for µPLC system. Created a software library platform for µPLC system January – August 1997

AUTOMATIC SISTEM WATER PUMP

Z.Despotovic, M.Timotijevic, M.Pesko, M.Jovanovic; **Micro controller module of automatic system to pump water out of mine Ajvalija**-Trepca, Serbia, July 1997.

High-Yield Mixer Control System (Grmeč-Belgrade)

M Jovanovic, M Timotijevic, D. Ostojic, Z Despotovic; Designed and developed control software for the controller of a high-yield mixer. The measurement of active power via AD conversion of phase voltage and current. Used C and assembler together with real-time scheduler. Implemented system robustness via state-machine design and WDT. 1997

ROM-Emulator ("Mihajlo Pupin " Institute-Belgrade)

M. Jovanovic, M. Timotijevic; Designed and developed ROM emulator and FLASH emulator hardware. Windows OS based user interface for the ROM-emulator development product written in C++. 1997.

Mobile Target System (Yugoslav Army)

M. Jovanovic, M. Timotijevic, D. Ostojic; Designed and developed control software for the distributed system that operated on the site for the military shooting training activities. System implemented a robust communication protocol for command exchange and real time data collection. 1994-1998.

IPS friction based PC Controled robotic System (ESI-Toronto)

M. Jovanovic, S Ragzibizadeh; Hardware design of PC104 compatible controller IPS fristion based robot control system. Robot consist 6 degree of freedom controlled by PC-104 platform. Incremental encoders obtain high accuracy of position control. IPS is unique mobile system. (http://www.esit.com) January-March 1998.

Universal DIGIO board (ESI Toronto)

M. Timotijevic, M. Jovanovic; Hardware design of universal digital input-output board based on PC104 standard. Board has 16 optically isolated inputs and 8 optically isolated outputs, 1998.

Motor control ENCDA board (ESI Toronto)

M. Timotijevic, M. Jovanovic; Hardware design of multifunction PC104 encoder board. Board has 4 single ended or differential encored inputs, 16 TTL digital inputs 4 TTL digital outputs and 4 motor control analog outputs. 1998.

MR-1 Video system and base station (ESI-Toronto)

M. Jovanovic, M. Timotijevic, L Gryniewski; Video system and congrol base station hardware design for MR-1 robot (http://www.esit.com) January- 1998.

TRITEC 3 axis linear to rotary movement control system (ESI-Toronto)

M. Jovanovic, V. Matijevic, N. Kircanski; Hardware design of PC ISA and PC104 compatible controller for TRITEC robot control system. Robot controller 3 linear motors controlled by PC platform. Absolute encoder obtain high accuracy of position control. (http://www.esit.com) september 1998.

MEASUREMENT OF COUNT SPEED DEVICE

M. Jovanovic; **Microprocessor based count speed monitoring device,** Mechanical Faculty Belgrade, May 1999.

Board Testing System (Cement factory Paracin)

M. Jovanovic, Z. Despotovic, N. Grujic ;Hardware design of PC compatible device for testing EURO type digital boards based on 4040-processor type control system FLS625. Designed and developed C++ based software for testing of 4040-procesor type boards. August 2000.

SDDC chip writer PC based Control System (ESI-Toronto)

M. Jovanovic, M. Timotijevic, N. Kircanksi; Hardware design of PC ISA and PC104 compatible controller for SDDC Chip writer robot control system. Robot SDDC is bioethical 3 axis robot manipulator controlled by PC platform. (http://www.esit.com) January-June 2000.

CP - PC based Control System (ESI-Toronto)

M. Jovanovic, M. Timotijevic, N. Kircanksi; Hardware design of PC ISA and PC104 compatible controller for CP biological colony picker robot control system. Robot CP is bioethical 4 axis robot manipulator controlled by PC platform. (http://www.esit.com) January-June 2000.

MR5 Robot PC based Control System (ESI-Toronto)

M. Jovanovic, L Gryniewski; Hardware design of PC ISA and PC104 compatible controller for MR5 robot control system. Robot controller has 9 degree of freedom controlled by PC platform. Incremental encoders obtain high accuracy of position control. MR5 is unique mobile system. (http://www.esit.com) January-June 2000.

4 Axis Distribution Board For Biotechnology Robotic Devices (ESI-Toronto)

M. Jovanovic, M. Timotijevic, S Ragzibizadeh; Hardware design of PC ISA and PC104 compatible distribution board for Biotechnology robotic Device. Used in SDDC arrayer and CP robotic systems for high precision 4-axis control. (http://www.esit.com). 2001

SDDC-CP chip writer PC based Control System (ESI-Toronto)

M. Jovanovic, M. Timotijevic, N. Kircanksi; Hardware design of PC ISA and PC104 compatible controller for SDDC_CP Chip writer and colony picker robot control system. Robot SDDC-CP is bioethical 3 axis robot manipulator controlled by PC platform. (http://www.esit.com) February 2001.

SA chip writer (ESI-Toronto)

M. Jovanovic, M. Timotijevic, N. Kircanksi; Hardware design of PC controled by RS232 protocol SA Chip writer robot control system. Robot SA is bioethical 3 axis robot manipulator controlled by PC platform. (http://www.esit.com) January-June 2000.

Automatic Temperature Control System for Dryer (Bioprotein-Obrenovac)

M. Jovanovic, Z. Despotovic, N. Grujic; Designed and development of control software for µPLC programmable controller for Dryer temperature control system. Software is written in C and assembler together with real-time scheduler. 2000.

WIND SPEED MONITORING DEVICE

M. Jovanovic, Z. Despotovic; **Microprocessor wind speed monitoring device,** KOMEL Belgrade, June 2000.

Tank Targeting Training System (Yugoslav Army)

M. Jovanovic, Z. Despotovic; Hardware design of device for operator training based on flash micro controller and laser pointer. Design and development control software for tank training targeting system (assembler 51). 2000 – 2002.

SOFT SWITCHING HIGH CURRENT SEITCHGEAR

M. Jovanovic, Z. Despotovic; **Module for soft switching high current switchgear**- Thermal Power Plant Kolubara, May 2002.

Tank automatic gear transmition controller (Yugoslav Army)

M. Jovanovic, Z. Despotovic, Z. Zivanovic, G. Jerkin Hardware and software design for Tank automatic gear transmition controller. Hardware is PC104 platform based. The measurement of speed and moment via ultra speed AD conversion. Software is multi-tasking AMX platform based for real time control. 1999 – 2002.

ROBED universal school robot ("Mihajlo Pupin " Institute-Belgrade)

M Jovanovic, Z. Despotovic; Hardware and software design of controller for universal school robot ROBED. Controller is PC and PC104 based with real time operating system. Controller has 6 degree of freedom with encoder capability. 2002.

2 AXIS STEP SERVO POSITIONING CONTROLLER

M. Jovanovic, Z. Despotovic**; Hardver Design of servo positioning controller for two axis stepper motor system-**ANDRIJASEVIC Company, Ruma, March 2003

Core mattress manufacturin machine

M. Jovanovic, Z. Despotovic, **Universal automatic manufacturing machine for forming core of mattress**-ANDRIJASEVIC Company, Ruma, December 2003.

SAFETY VALVE OF MAIN BOILER

M. Jovanovic, Z. Despotovic; **Electropneumatic module for safety valve of main boiler**, Thermal Power Plant Kolubara, July 2003.

Programabile hand washing timer (Mc Donalds Restarurants Belgrade)

M. Jovanovic; **Microprocessor programabile device for sound announced hand washing,** Mc Donald's restarurant, June 2004.

International cooperation projects

- 2013-2015 "High speed and high precision robots - path planning, dynamics and control (HIGH-SP ROBOTS)", Serbian-Chinese Science & Technology cooperation, Institute Mihailo Pupin and University of Anhui, School of Mechanical Engineering.
- 2012-2014 "Creative Alliance in Robotics Research and Education Focused on Medical and Service Robotics (CARE-robotics)", Project ID: IZ74Z0_137361/1, SNSF SCOPES IP, tri lateral project Switzerland-Serbia-Romania
- FLIRT HORIZON2020, Funded by the European Commission's Research and Innovation Framework Programme H2020 (2014-2020) by the Marie Skłodowska-Curie actions. Directorate-General for Education and Culture. European Commission under Grant Agreements No. 633398, 633369 and 633376.

Patents

Novaković B., Frolov K. V., Mirkin A.S., Jovanović M., Mihajlović D.; "Apparatus for applying vibration biomechanics ", Patent Document 48877 B, Int. Cl. A 61 H 23/02, Intellectual Property Office, Belgrade, Serbia and Montenegro.

Novaković B., Frolov K. V., Mirkin A.S., Jovanović M., Mihajlović D.; Apparatus for application method vibrational analgesia", Patent Document 48906 B, Int. Cl. A 61 H 1/00, H 03 B 5/00, Intellectual Property Office, Belgrade, Serbia and Montenegro.

Novaković B., Frolov K. V., Mirkin A.S., Jovanović M., Šćekić V.; "Automatic trainer", Patent Document 48943 B, Int. Cl. A 61 H 1/00, Intellectual Property Office, Belgrade, Serbia and Montenegro.