Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Štěpán Ožana**
Address(es)	VŠB – Technical University of Ostrava, Faculty of Electrical Engineering and Computer Science, Department of Cybernetics and Biomedical Engineering,17.listopadu 15, 708 33 Ostrava–Poruba Czech Republic
Permanent residence address	U Studia 2856/3, 700 30 Ostrava-Zábřeh, Czech Republic
Nationality	Czech
Date of birth	May 16, 1977
Telephone(s)	+420 597 325 998
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E-mail	stepan.ozana@vsb.cz stepan.ozana@seznam.cz
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FB	https://www.facebook.com/stepan.ozana

Work experience

Dates	04/2015 onwards
Occupation or position held	Associate Professor
Main activities and responsibilities	Lectures and tutorials in the field of Technical Cybernetics, guarantee of education, research and development, scientific investigation and co-investigation, scientific publication, solution of the projects for industrial partners, supervision of PhD student(s)
Name and address of employer	VŠB -Technical University of Ostrava, 17.listopadu 15, 708 33 Ostrava-Poruba, Czech Republic
Type of business or sector	Professional, scientific and technical activities Education
Dates	2006 – 03/2015
Occupation or position held	Assistant Professor
Main activities and responsibilities	Tutorials in the field of Technical Cybernetics, guarantee of education, Research and Development, scientific investigation and co-investigation, scientific publication, solution of the projects for industrial partners
Name and address of employer	VŠB -Technical University of Ostrava, 17.listopadu 15, 708 33 Ostrava-Poruba, Czech Republic
Type of business or sector	Professional, scientific and technical activities Education
Dates	2004 – 2006
Occupation or position held	Project engineer
Main activities and responsibilities	Design and processing of project documentation in the field of measurement and control in petrochemical and waterworks industry
Name and address of employer	Vaecontrols, s.r.o., nám. J.Gagarina 1, 710 00, Ostrava 10
Type of business or sector	Professional, scientific and technical activities

Education and training

Dates	2014 – 03/2015
Title of qualification awarded	doc. (equivalent of Assoc. Prof.)
Principal subjects/occupational skills covered	Associate professor's degree. Habilitation thesis in Technical Cybernetics. Thesis Title: „Modeling, simulation and control of technological units of industrial energy plants with distributed parameters“
Name and type of organization providing education and training	VŠB -Technical University of Ostrava, Faculty of Electrical Engineering and Computer Science, Department of Cybernetics and Biomedical Engineering
Level in international classification (ISCED 2011)	ISCED 8
Dates	2000 – 2003
Title of qualification awarded	Ph.D.
Principal subjects/occupational skills covered	Doctor's degree in Technical Cybernetics. Dissertation Thesis in Technical Cybernetics. Thesis Title: „Measurement and modeling of dynamic phenomena at plants consisting of flexible pipelines“
Name and type of organization providing education and training	VŠB -Technical University of Ostrava, Faculty of Electrical Engineering and Computer Science, Department of Measurement and Control
Level in international classification (ISCED 2011)	ISCED 8
Dates	1996 – 2000
Title of qualification awarded	Ing. (equivalent of MSc.)
Principal subjects/occupational skills covered	Master of Science in Measurement and Control. Diploma thesis in Measurement and Control. Thesis Title: „Database of case studies for education of Signals and Systems“
Name and type of organization providing education and training	VŠB -Technical university of Ostrava, Faculty of Electrical Engineering and Computer Science, Department of Measurement and Control
Level in international classification	ISCED 7

Personal skills and competences

Professional orientation	Technical cybernetics - modeling and simulation of dynamic systems - control theory - automation, design and implementation of control algorithms (μPC/PC/softPLC systems)
Mother tongue(s)	**Czech**
Other language(s)	**English**

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	B2	Independent user	C1	Proficient user	B2	Independent user	B2	Independent user	C2	Proficient user

(*) Common European Framework of Reference for Languages

Computer skills and competences	- MATLAB & Simulink, COMSOL Multiphysics, Autodesk Inventor Professional, AutoCAD - C# (Visual Studio 2013), PHP+MySQL+JS - LaTex, Corel Draw, Adobe Photoshop -MS Office
Driving license	B

Annexes

PUBLICATIONS

GOOGLE SCHOLAR: h-index: 11, citations: 414
SCOPUS: h-index: 9, citations: 238 (171 without self-citations)
ISI WoK: h-index: 6, citations: 105 (79 without self-citations)

IF journals

1. Š. Ožana, T. Dočekal, "PID Controller Design Based on Global Optimization Technique with Additional Constraints," Journal of Electrical Engineering, vol. 67, pp. 1-9, 2016. IF: 0,378 (2014). ISSN 1335-3632. DOI: 10.1515/jee-2016-002X
2. Š. Ožana, M. Pieš, R. Hájovský, and T. Dočekal, "Use of rex control system for the ball on spool model," Journal of Electrical Engineering, vol. 66, pp. 214-219, 2015. IF: 0,378 (2014). ISSN 1335-3632. DOI: 10.2478/jee-2015-0034
3. PIES, M., HAJOVSKY, R., OZANA, S. Autonomous Monitoring System for Measurement of Parameters of Heat Collection Technology at Thermal Active Mining Dumps, In Electronics and Electrical Engineering (ELEKTRONIKA IR ELEKTROTECHNIKA), Volume 19, No. 10, 2013, ISSN 1392-1215, doi: http://dx.doi.org/10.5755/j01.eee.19.10. IF: 0,411 (2012)
4. OZANA, S., PIES, M., VAZQUES, L. Use of Methods of Statistic Dynamics Applied for Analysis of Steam Superheater. *PRZEGLAD ELEKTROTECHNICZNY*. 2011, Vol. 87, Issue. 8, pp. 154-158. ISSN 0033-2097. IF: 0,242
5. OZANA, S., PIES, M. Modeling the flow of compressible media in a vessel by means of Simulink S-functions. *PRZEGLAD ELEKTROTECHNICZNY*. 2012, Vol. 88, Issue. 5B, pp. 183-186. ISSN 0033-2097. IF: 0,242 (2010)

Publications indexed in ISI-Web of Knowledge or Scopus

1. Ozana, S., Docekal, T. The concept of virtual laboratory and PIL modeling with REX control system (2017) Proceedings of the 2017 21st International Conference on Process Control, PC 2017, art. no. 7976196, pp. 98-103.
2. Docekal, T., Ozana, S. Advanced PID tuning based on the modulus optimum method for real systems (2017). AIP Conference Proceedings, 1836, art. no. 020060.
3. Golembiovsky, M., Dedek, J., Ozana, S. Multicopter control with Navio using REX control system (2017). AIP Conference Proceedings, 1836, art. no. 020062.
4. Ozana, S. , Pies, M. , Docekal, T. , "Dynamic optimization case studies in DYNOPT tool". In PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON NUMERICAL ANALYSIS AND APPLIED MATHEMATICS 2015 (ICNAAM-2015), Book Series: AIP Conference Proceedings, Volume: 1738, 2016. Dostupný z WWW: < http://aip.scitation.org/doi/abs/10.1063/1.4952354>. ISBN: 978-073541392-4.
5. Ozana, S. , Pies, M. , Docekal, T. , "Case studies on design, simulation and visualization of control and measurement applications using REX control system". In PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON NUMERICAL ANALYSIS AND APPLIED MATHEMATICS 2015 (ICNAAM-2015), Book Series: AIP Conference Proceedings, Volume: 1738, 2016. Dostupný z WWW: < http://aip.scitation.org/doi/abs/10.1063/1.4952353>. ISBN: 978-073541392-4.
6. Ozana, S. , Pies, M. , Docekal, T. , "Case studies on optimization problems in MATLAB and COMSOL multiphysics by means of the livelink". In PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON NUMERICAL ANALYSIS AND APPLIED MATHEMATICS 2015 (ICNAAM-2015), Book Series: AIP Conference Proceedings, Volume: 1738, 2016. Dostupný z WWW: < http://aip.scitation.org/doi/abs/10.1063/1.4952151>. ISBN: 978-073541392-4.
7. R. Hajovsky, M. Pies, S. Ozana, and J. Hajovsky, "Heat energy collection from thermally active mining dump Hedvika," in IEEE International Conference on Automation Science and Engineering, 2014, pp. 44-49.
8. M. Pies, R. Hajovsky, S. Ozana, and J. Haska, "Wireless sensory network based on IQRF technology," in 2014 the 4th International Workshop on Computer Science and Engineering-Winter, WCSE 2014, 2014.
9. S. Ozana, M. Pies, R. Hajovsky, and J. Haska, "Design and implementation of LQR controller for Ball on Spool educational model with REX control system," in *2014 the 4th International Workshop on Computer Science and Engineering - Summer, WCSE 2014*, 2014.
10. M. Pies, R. Hajovsky, and S. Ozana, "Wireless measurement of carbon monoxide

concentration," in *International Conference on Control, Automation and Systems*, 2014, pp. 567-571.
11. M. Pies, R. Hajovsky, M. Latocha, and S. Ozana, "Radio telemetry unit for online monitoring system at mining dumps," in *Applied Mechanics and Materials* vol. 548-549, ed, 2014, pp. 736-743.
12. S. Ozana, P. Vojcinak, M. Pies, and R. Hajovsky, "Control design of mixed sensitivity problem for educational model of helicopter," *Advances in Electrical and Electronic Engineering,* vol. 12, pp. 488-500, 2014.
13. S. Ozana, M. Pies, R. Hajovsky, J. Koziorek, and O. Horacek, "Application of PIL approach for automated transportation center," in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* vol. 8838, ed, 2014, pp. 501-513.
14. S. Ozana, M. Pies, and R. Hajovsky, "Computation of swing-up signal for inverted pendulum using dynamic optimization," in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* vol. 8838, ed, 2014, pp. 301-314.
15. S. Ozana, M. Pies, and R. Hajovsky, "Using MATLAB and COMSOL multiphysics for optimization of the model of underground thermal processes at old mining dumps," in *Applied Mechanics and Materials* vol. 548-549, ed, 2014, pp. 571-578.
16. M. Pies, S. Ozana, R. Hajovsky, and P. Vojcinak, "Measurement and simulation of underground heat collecting processes with COMSOL multiphysics," in *Lecture Notes in Engineering and Computer Science*, 2013, pp. 1026-1029.
17. M. Pies, S. Ozana, R. Hajovsky, and P. Vojcinak, "Modeling and simulation of partial blocks of flexible energy system in Matlab & Simulink for temperature control of steam/air mixture," in *Lecture Notes in Engineering and Computer Science*, 2013, pp. 874-878.
18. S. Ozana, P. Vojcinak, M. Pies, and R. Hajovsky, "Mixed sensitivity H-∞ control for helicopter model," in *IFAC Proceedings Volumes (IFAC-PapersOnline)*, 2013, pp. 104-109.
19. S. Ozana, M. Pies, O. Horacek, and J. Zidek, "Concept of automated transportation center and its PIL Model," in *Lecture Notes in Engineering and Computer Science*, 2013, pp. 992-996.
20. S. Ozana, M. Pies, R. Hajovsky, and J. Nowakova, "Swing-up problem of inverted pendulum designed by DYNOPT Toolbox," in *Lecture Notes in Engineering and Computer Science*, 2013, pp. 972-976.
21. J. Kocian, S. Ozana, and J. Koziorek, "An approach to optimization of takagi-sugeno type fuzzy regulator parameters by genetic algorithm from mamdani regulation surface," in *Applied Mechanics and Materials* vol. 248, ed, 2013, pp. 545-550.
22. R. Hajovsky, S. Ozana, M. Pies, and J. Lossmann, "Experience with a long-term monitoring of natural gas leakage during transportation tunnels construction," in *Lecture Notes in Engineering and Computer Science*, 2013, pp. 931-934.
23. S. Ozana, P. Wagner, and M. Pies, "Dynamic Optimization Case Studies in Matlab&Simulink and Dynopt," *11th Ifac/Ieee International Conference on Programmable Devices and Embedded Systems (Pdes 2012),* 2012.
24. S. Ozana, M. Pies, and P. Wagner, "Dynamic Optimization of Guided Missile Trajectory by Use of Matlab and Dynopt Toolbox," *2012 12th International Conference on Control, Automation and Systems (Iccas),* pp. 908-912, 2012.
25. S. Ozana, M. Pies, Z. Slanina, and R. Hajovsky, "Design and Implementation of LQR controller for Inverted Pendulum by use of REX Control System," *2012 12th International Conference on Control, Automation and Systems (Iccas),* pp. 343-347, 2012.
26. S. Ozana, M. Pies, and R. Hajovsky, "Design of Deadbeat Controller by Polynomial Approach," *2012 12th International Conference on Control, Automation and Systems (Iccas),* pp. 902-907, 2012.
27. Z. Machacek, M. Pies, and S. Ozana, "Simulation of MIT rule-based adaptive controller of a power plant superheater," in *Advances in Intelligent and Soft Computing* vol. 133 AISC, ed, 2012, pp. 473-479.
28. Z. Machacek, S. Ozana, M. Pies, and P. Nevriva, "Mathematical Modeling of Turbine as a Part of Flexible Energy System," *Frontiers in Computer Education,* vol. 133, pp. 465-472, 2012.
29. J. Kocian, M. Tutsch, S. Ozana, and J. Koziorek, "Application of modeling and simulation techniques for technology units in industrial control," in *Advances in Intelligent and Soft Computing* vol. 133 AISC, ed, 2012, pp. 491-499.
30. J. Kocian, S. Ozana, and J. Koziorek, "Fuzzy knowledge adaptation mechanism for PID controllers implemented in PLC S7-300/400," in *Advances in Intelligent and Soft Computing* vol. 133 AISC, ed, 2012, pp. 481-489.
31. J. Kocian, J. Koziorek, and S. Ozana, "An Approach to Identification Procedures for PID Control with PLC Implementation," *2012 Ieee 17th Conference on Emerging Technologies &*

Factory Automation (Etfa), 2012.
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33. M. Pies, S. Ozana, and P. Nevriva, "Control Circuit of the Heat Exchanger and its Verification on Real Operation Data," *2011 Ieee 16th Conference on Emerging Technologies and Factory Automation (Etfa),* 2011.
34. S. Ozana, M. Pies, L. Skovajsa, and R. Hajovsky, "Modeling Heat Exchanger by FDM and FEM in C# and Comsol Multiphysics," *2011 Ieee 16th Conference on Emerging Technologies and Factory Automation (Etfa),* 2011.
35. S. Ozana, M. Pies, and P. Nevriva, "Design and Implementation of Model Reference Adaptive Controller of a Superheater in Matlab&Simulink Environment," *4th International Conference on Advanced Computer Theory and Engineering (Icacte 2011),* pp. 235-238, 2011.
36. P. Nevriva, S. Ozana, and M. Pies, "Simulation of power plant superheater using advanced Simulink Capabilities," *International Journal of Circuits, Systems and Signal Processing,* vol. 5, pp. 86-93, 2011.
37. J. Kocian, M. Tutsch, S. Ozana, and J. Koziorek, "Modeling and Simulation of Controlled Systems and Technologies in Industrial Control," *4th International Conference on Advanced Computer Theory and Engineering (Icacte 2011),* pp. 213-217, 2011.
38. J. Kocian, S. Ozana, and J. Koziorek, "The Concept of Knowledge Adaptation of Pid Controller with Plc Implementation," *4th International Conference on Advanced Computer Theory and Engineering (Icacte 2011),* pp. 219-223, 2011.
39. Machacek, Z., Ozana, S., Pies, M, "Mathematical Models for Turbine Simulation of Flexible Energy System," 4th International Conference on Advanced Computer Theory and Engineering (Icacte 2011), pp. 229-233, 2011
40. R. Hajovsky and S. Ozana, "Long term temperature monitoring and thermal processes prediction within mining dumps," in *Proceedings of the 6th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications, IDAACS'2011*, 2011, pp. 522-526.
41. S. Ozana, Z. Slanina, and M. Pies, "Std approach for simulation, control and visualization of color-sorting machine," in *IFAC Proceedings Volumes (IFAC-PapersOnline)*, 2010, pp. 276-279.
42. S. Ozana and M. Pies, "Simulation of Power Plant Superheater by Simulink S-functions," *2010 Ieee Conference on Emerging Technologies and Factory Automation (Etfa),* 2010.
43. S. Ozana and M. Pies, "Modeling and Simulation of Power Plant Superheater in Simulink," *Recent Advances in Circuits, Systems and Signals,* pp. 180-183, 2010.
44. S. Ozana and M. Pies, "Application of H-infinity robust controller on PAC," in *IFAC Proceedings Volumes (IFAC-PapersOnline)*, 2010, pp. 126-131.
45. P. Nevriva, S. Ozana, and L. Vilimec, "Verification of the dynamical model of a power plant superheater," in *6th WSEAS International Conference on Dynamical Systems and Control, CONTROL '10*, 2010, pp. 54-59.
46. P. Nevriva, S. Ozana, M. Pies, and L. Vilimec, "Dynamical model of a power plant superheater," *WSEAS Transactions on Systems,* vol. 9, pp. 774-783, 2010.
47. S. Ozana and M. Pies, "Design and Implementation of Embedded Systems in Matlab&Simulink Environment," *Ifac Workshop on Programmable Devices and Embedded Systems (Pdes 2009), Proceedings,* pp. 73-79, 2009.
48. S. Ozana and M. Pies, "Using Simulink S-Functions with Finite Difference Method Applied for Heat Exchangers," *Proceedings of the 13th Wseas International Conference on Systems,* pp. 210-215, 2009.
49. S. Ozana and Z. Machacek, "Implementation of the Mathematical Model of a Generating Block in Matlab&Simulink Using S-functions," *Second International Conference on Computer and Electrical Engineering, Vol 1, Proceedings,* pp. 431-435, 2009.
50. P. Nevriva, S. Ozana, and L. Vilimec, "The Finite Difference Method Applied for the Simulation of the Heat Exchangers Dynamics," *Proceedings of the 13th Wseas International Conference on Systems,* pp. 109-114, 2009.
51. P. Nevriva, S. Ozana, and L. Vilimec, "Simulation of the heat exchangers dynamics in MATLAB&Simulink," *WSEAS Transactions on Systems and Control,* vol. 4, pp. 519-530, 2009.
52. S. Ozana, "Visualization of active suspension by robust controller in Virtual Reality Toolbox," *Icseng 2008: International Conference on Systems Engineering,* pp. 38-42, 2008.
53. Z. Machacek, R. Hajovsky, S. Ozana, and J. Krnavek, "Experiments of Thermal Fields of Sensors Supported by Digital Image Processing," *2008 Mediterranean Conference on Control Automation, Vols 1-4,* pp. 960-965, 2008.
54. B. Filipova, P. Nevriva, and S. Ozana, "Propagation of the hydraulic head in an elastic

pipeline," *Computational Science - Iccs 2003, Pt Ii, Proceedings,* vol. 2658, pp. 585-592, 2003.
55. P. Gelnar, R. Hajovsky, P. Nevriva, and S. Ozana, "Using Matlab for supporting courses of dynamic control systems," *Programmable Devices and Systems,* pp. 255-258, 2000.

Publication in proceedings of international conferences (not in ISI WoK/Scopus)

1. OZANA, S. Možnosti řízení a vizualizace výukových fyzikálních modelů pomocí řídicího systému REX. Automa 1/2015, s. 12-13. ISSN 1210-9592.
2. PIES, Martin, Stepan OZANA and Radovan HAJOVSKY. Modeling, Simulation and Design of Control Circuit for Flexible Energy System in MATLAB&Simulink. In: Latest Advances in Information Science, Circuits&Systems: Proceedings of the 1st International Conference on Circuits, Systems, Communications, Computers and Applications (CSCCA'12). Iasi, Romania: Wseas Press, 2012, s. 219-224. Recent Advances in Computer Engineering Series, 4. ISBN 978-1-61804-099-2.ISSN 1790-5109.
3. PIES, Martin, Stepan OZANA. Mathematical Model of Steam Injected into Steam/air Mixture Determined for Temperature Control of Flexible Energy System. In: Latest Advances in Information Science, Circuits&Systems: Proceedings of the 1st International Conference on Circuits, Systems, Communications, Computers and Applications (CSCCA'12). Iasi, Romania: Wseas Press, 2012, s. 214-218. Recent Advances in Computer Engineering Series, 4. ISBN 978-1-61804-099-2.ISSN 1790-5109.
4. HAJOVSKY, Radovan, Martin PIES and Stepan OZANA. Embedded systems for monitoring of temperatures and gases at large areas. In: Latest Advances in Information Science, Circuits&Systems: Proceedings of the 1st International Conference on Circuits, Systems, Communications, Computers and Applications (CSCCA'12). Iasi, Romania: Wseas Press, 2012, s. 209-213. Recent Advances in Computer Engineering Series, 4. ISBN 978-1-61804-099-2.ISSN 1790-5109.
5. FILIPOVA, Blanka, Radovan HAJOVSKY and Stepan OZANA. Processing and Visualization of Measured Data on the Mining Dump. In: Advances in Systems Theory, Signal Processing&Computational Science: Proceedings of the 12th WSEAS International Conference on Systems Theory and Scientific Computation (ISTASC'12). Istanbul, Turkey: WSEAS Press, 2012, s. 57-61. Recent Advances in Electrical Engineering Series, 5. ISBN 978-1-61804-115-9 ISSN 1790-5117.
6. OZANA, Stepan, Radovan HAJOVSKY, Martin PIES and Blanka FILIPOVA. Modeling and Measurement of Thermal Process in Experimental Borehole in Matlab&Simulink and Comsol Multiphysics. In: Advances in Systems Theory, Signal Processing&Computational Science: Proceedings of the 12th WSEAS International Conference on Systems Theory and Scientific Computation (ISTASC'12). Istanbul, Turkey: WSEAS Press, 2012, s. 84-89. Recent Advances in Electrical Engineering Series, 5. ISBN 978-1-61804-115-9. ISSN 1790-5117.
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8. OŽANA, Štěpán, PIEŠ, Martin: Modeling, Simulation and Design of Control Circuit for Flexible Energy System in MATLAB&Simulink. In Humusoft, s.r.o.. Technical Computing Prague 2011 : Sborník příspěvků 19. ročníku konference. Praha : Humusoft, s.r.o, 2011. s. 90. 1x CD-ROM. Kongresové centrum ČVUT, Praha, November 8, 2011. Dostupný z WWW:< http://dsp.vscht.cz/konference_matlab/MATLAB11/prispevky/090_OZANA.pdf >. ISBN 978-80-7080-794-1.
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10. PIES, Martin; OZANA, Stepan; NEVRIVA, Pavel. Variations in flue gas of power plant heat exchanger and their determination with the assistance of the mathematical model. In DEMIRALP, Metin; BOJKOVIC, Zoran; REPANOVICI, Angela. Mathematical Methods and Techniques in Engineering&Environmental Science : Proceedings of the 13th WSEAS International Conference on Mathematical and Computational Methods in Science and Engineering (MACMESE) . Catania,Sicily,Italy : WSEAS Press, 2011. s. 79-84. ISBN 978-1-61804-046-6.

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16. OŽANA, Štěpán, PIEŠ, Martin. Modelování souproudého výměníku tepla v Simulinku s využitím s-funkcí. In Humusoft, s.r.o.. Technical Computing Prague 2009 : Sborník příspěvků 17.ročníku konference. Praha : Humusoft, s.r.o, 2009. s. 81. 1x CD-ROM. Kongresové centrum ČVUT, Praha, November 14, 2009. Dostupný z WWW: <http://dsp.vscht.cz/konference_matlab/MATLAB09/prispevky/081_PIES.pdf>. ISBN 978-80-7080-733-0.
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27. ČÍŽ, Pavel, NEVŘIVA, Pavel, OŽANA, Štěpán. Modeling and Simulation of Electronic Sensors Temperature Field. In GRZECH, Adam. Proceedings of the 16th International Conference on Systems Science : Volume III. Wroclaw (Poland) : Oficyna Wydawnicza Politechniki Wroclawskiej, 2007. Applications of Systems Analysis to Technical Systems. s. 61-66. September 4-6, Wroclaw. ISBN 978-83-7493-341-4.
28. OŽANA, Štěpán. S-Funkce využívající nízkoúrovňový přístup k funkcím měřicí karty MF624. In Humusoft, s.r.o.. Technical Computing Prague 2007 : Sborník příspěvků 15.ročníku konference. Praha : Humusoft, s.r.o, 2007. s. 106. 1x CD-ROM. Kongresové centrum ČVUT, Praha, November 14, 2007. Dostupný z WWW: <http://dsp.vscht.cz/konference_matlab/MATLAB07/prispevky/OZANA_s/OZANA_s.pdf>. ISBN 978-80-7080-658-6.
29. HÁJOVSKÝ, Radovan, OŽANA, Štěpán. Měření a modelování teplotní závislosti elektroniky snímačů. In Humusoft, s.r.o.. Technical Computing Prague 2006 : Sborník příspěvků 14.ročníku konference. Praha : Humusoft, s.r.o, 2006. s. 42. 1x CD-ROM. Kongresové centrum ČVUT, Praha, October 26, 2006. Dostupný z WWW: <http://dsp.vscht.cz/konference_matlab/MATLAB06/prispevky/HAJOVSKY_OZANA/HAJOVSKY_OZANA.pdf>. ISBN 80-7080-616-8.
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33. OŽANA, Štěpán, BERNATÍK, Radim, ŠTULA, Tomáš, PENHAKER, Marek. Využití MATLABu ve výuce signálů a soustav a v biomedicínském inženýrství na katedře měřicí a řídicí techniky na VŠB - TU Ostrava. In Technical Computing 2002 : Sborník příspěvků 10.ročníku konference, Vol. II. Praha : Humusoft, s.r.o., 2002. s. 419-425. Kongresové centrum ČVUT, Praha, November 2002. ISBN 80-7080-500-5.
34. NEVŘIVA, Pavel, OŽANA, Štěpán, SLANINA, Zdeněk, SROVNAL, Vilém. Interactive Tool for Simulation and Signal Analysis. In International Workshop Control and Information Technology IWCIT Ostrava : VŠB-TU Ostrava, Department of Measurement and Control, Faculty of Electrical Engineering and Computer Science, 2001. Section 3 - Signal Processing. s. 297-301. September 19th-20th, Ostrava. ISBN 80-7078-907-7.
35. OŽANA, Štěpán. Interactive System for Simulation of Linear Systems and Signals Analysis. In Proceedings of XXIIIrd International Autumn Colloquium ASIS 2001 : Advanced Simulation of Systems. Ostrava : Jan Štefan - MARQ, 2001. Education of Modelling and Simulation in Education. s. 191-196. September 11-13, Velké Losiny. ISBN 80-85988-61-5.

TEXTBOOKS, LEARNING MATERIALS

1. DEMČÁKOVÁ, Blanka, OŽANA, Štěpán. Signály a soustavy : Sbírka příkladů do cvičení. Ostrava : VŠB-TU Ostrava, Fakulta elektrotechniky a informatiky, 2003. 80 s. ISBN 80-248-0352-6.
2. OŽANA, Štěpán. Navrhování a realizace regulátorů. Studijní materiály pro studijní obor Měřicí a řídicí techniky Fakulty Elektrotechniky a informatiky. Operační program Vzděláváním pro

konkurenceschopnost “Personalizace výuky prostřednictvím e-learningu CZ.1.07/2.2.00/07.0339“. ISBN 978-80-248-2605-9

3. OŽANA, Štěpán, KŘEČEK, Antonín, ČECH, Václav : Projektování měření a regulace. Studijní materiály pro studijní obor Měřicí a řídicí techniky Fakulty Elektrotechniky a informatiky. Operační program Vzděláváním pro konkurenceschopnost “Inovace oboru měřicí a řídicí technika na FEI, VŠB-TU Ostrava CZ.1.07/2.2.00/15.0113“
4. OŽANA, Štěpán, SROVNAL, Vilém : Analýza regulačních systémů. Studijní materiály pro studijní obor Měřicí a řídicí techniky Fakulty Elektrotechniky a informatiky. Operační program Vzděláváním pro konkurenceschopnost “Inovace oboru měřicí a řídicí technika na FEI, VŠB-TU Ostrava CZ.1.07/2.2.00/15.0113“
5. OŽANA, Štěpán. Syntéza regulačních obvodů. Studijní materiály pro studijní obor Měřicí a řídicí techniky Fakulty Elektrotechniky a informatiky. Operační program Vzděláváním pro konkurenceschopnost Inovace oboru měřicí a řídicí technika na FEI, VŠB-TU Ostrava CZ.1.07/2.2.00/15.0113

R&D PROJECTS (co-investigator)

1. OP VVV CZ.02.1.01/0.0/0.0/16_019/0000867 “Research Centre of Advanced Mechatronic Systems project” (2018-2022)
2. ESF OP PIK CZ.01.1.02/0.0/0.0/15_019/0004919 “Ultrasonic measurement of level and concentration of UREA liquid” (2017-2019)
3. TAČR TA04021687 "Research and development of a heater of steam-air mixture for the Flexible Energy System" (2014-2017)
4. MPO TIP-FR-TI4/327 "Research into the possibility of a comprehensive revitalization of industrial waste landfills, incl. the use of their potential, develop measuring systems for remote monitoring, creation of guidelines and sample projects for revitalizing and optimizing" (2012-2015)
5. TAČR TA01020282 "Enhancement of quality of environment with respect to occurrence of endogenous fires in mine dumps and industrial waste dumps, including its modeling and spread prediction" (2011-2013)
6. MPO TIP-TI1/073 "Research and development of a flexible energy system transforming primary energy of biomass and alternative fuels by their combustion, or waste heat from different heat units, to electric energy with possible co-generation of higher efficiency" (2009-2012)
7. GAČR 102/09/1003 "Simulation of heat exchangers with the high-temperature working media and application of models for optimal control of heat exchangers" (2009-2011)
8. GAČR 102/06/0498 "Simulation of Modern Sensors' Electronics Thermal Load" (2006-2008)
9. GAČR 102/02/0017 "Measurement and control of dynamic medium on flexible pipelines systems that transmit elastic media" (2002-2004)

EDUCATIONAL PROJECTS (EUROPEAN FUNDS / CZECH NATIONAL FUNDS)

1. FRVŠ 910/2013 "Innovation of laboratories at the Department of Cybernetics and Biomedical Engineering" (2013)
2. ESF-CZ.1.07/2.2.00/15.0113 "Innovation of study programs of Measurement and Control at FEI, VŠB-TU Ostrava" (2010-2013)
3. ESF-CZ.1.07/2.2.00/07.0339 "Education Personalization by means of e-learning" (2009-2012)

PROJECTS IN COOPERATION WITH INDUSTRIAL PARTNERS

1. "Development of parking systems" (2013)
2. "Realization of software application processing the data from mechanical testing laboratories" - research project for Bonatrans Group a.s. (2007)
3. "Realization of automatic data export from testing machine at mechanical testing laboratory" - research project for Bonatrans Group a.s. (2007)
4. "Design and implementation of complex security system of methane detection in the objects

above the Kralovopolsky Tunnel of Brno" (2008 – 2010)

PATENTS AND UTILITY MODELS (Industrial Property Office Database Report)

1. (P) "Apparatus for measuring temperature fields in rock massif" (appl. no. 2013-936, reg. no. 305396)
2. (UM) "Measuring apparatus for electronic detection of fault of inflammable gas occurrence sensor" (appl. no. 2011-24365, reg. no. 23436)
3. (UM) "Device to determine liquid flow using control substance" (appl. no. 2013-28957, reg. no. 26717)

OTHER R&D INTELLECTUAL PROPERTIES (indexed Government of the Czech Republic Section for Science, Research and Innovation database RIV)

1. (Z/B-verified technology) "Autonomous monitoring system for measuring the temperature and the concentration of dangerous gases" (RIV/61989100:27240/13:86088576)
2. (G/B-functional specimen) "Laboratory model of linear inverted pendulum" (RIV/61989100:27240/12:86082793)
3. (G/B-functional specimen) "Embedded system for non-electrical variables measurement" (RIV/61989100:27240/11:86079260)
4. (F/U-utility model) "Measurement system for electronic detection of failure of flammable gases sensor" (RIV/61989100:27240/12:86084704)
5. (R-software) "The automated database system for documents and data administration from testing machines" (RIV/61989100:27240/09:00021387)
6. (G/B-functional specimen) "The mobile unit for monitoring of methane occurrence including wireless data transfer" (RIV/61989100:27240/09:00021355)

EDUCATION

Supervisor of PhD studies:

Study program: Electrical Engineering, field of study: Technical Cybernetics

Garance a zajištění výuky v doktorském studiu:

450-6013/02	TŘ	Control Theory
450-6002/02	MTŘ	Modern Control Theory

Guarantee, lectures, tutorials:

450-2019/02	KYB	Cybernetics
450-4018/02	NRR	Design and Implementation of Control Systems
450-4001/02	RS	Control Systems

Supervision and development of laboratory: EB306 – Laboratory of Control Systems

Supervision of diploma and bachelor thesis:

1. Possibilities of Implementation of Control Algorithms on MCU Arduino with the Use of IDE, Matlab&Simulink and SciLab (2016/2017)
2. Design and Implementation of PIL and SIL Simulators for Educational Physical Model of Inverted Pendulum (2016/2017)
3. Implementation of Educational Model of Control System using REXduino Platform (2016/2017)
4. Modeling and Simulation of Cardiorespiratory System (2015/2016)
5. Modeling and Simulation of Respiratory System (2014/2015)
6. Possibilities of Use of COMSOL Multiphysics in Biomedical Engineering (2014/2015)
7. Control and Visualization of Rotary Inverted Pendulum using REX Control System and I/O Modules B-R X20 (2012/2013)
8. Implementation of Remote Control in Virtual Laboratory Based on Modern Control Theory with the use of HTML5 Technology (2012/2013)

9. Modeling and Analysis of Computation of Cardiac Output by Glucose Dilution (2012/2013)
10. Modeling and Analysis of Cardiovascular and Respiratory Systems (2012/2013)
11. Modeling and Analysis of Continuous and Discrete Population Models (2012/2013)
12. Hardware in the Loop Simulator of Inputs and Outputs of Control System (2012/2013)
13. Inverted Pendulum Regulation (2011/2012)
14. Design and Implementation of PID Controller on Magnetic Levitation Model using Programmable Compact Controller WinPac-8000 (2010/2011)
15. Design and Implementation of PID Controller on Air Levitation Model using Programmable Compact Controller WinPac-8000 (2010/2011)
16. Design and Implementation of PID Controller on Ball&Beam Model using Programmable Compact Controller WinPac-8000 (2010/2011)
17. Design and Implementation of PID Controller for DC Motor on Programmable Automation Controller WinPAC-8000 (2010/2011)
18. Design and Implementation of Control Circuit on Three Tanks Model Using Programmable Compact Controller WinPac-8000 (2010/2011)
19. Upgrade of the Control of Automatic Diecutter During the Quality Tests using PLC Simatic S7-200 (2010/2011)
20. Design and Implementation of the Measurement and Control System for Water Plant (2010/2011)
21. Design, control and visualization of robotic arm L601-KT with .NET framework (2008/2009)
22. Design and Realization of Robust Controller for Laboratory Model of the Helicopter with Use of .NET Framework, Matlab&Simlunik+.NET Builder (2008/2009)
23. Simulation and visualization of a vehicle control with the use of Matlab&Simulink environment+Virtual Reality Toolbox (2008/2009)
24. Regulation of ball levitation with the use of Matlab&Simulink environment(2008/2009)
25. Design, control and visualization of color-sorting machine with the use of Matlab&Simulink environment (2008/2009)

MOBILITY / SCIENCE COMMUNITY CREDIT

1. Best Paper Award: 21st International Conference on Process Control, 6-9 June, 2017, Štrbské Pleso, Slovak Republic. “The Concept of Virtual Laboratory and PIL Modeling with REX Control System“
2. Scientific lecture within Erasmus program: OŽANA, Š. Concepts and Approaches of Control Design and Education of Automation: from Classical Methods towards Implementation of Modern Control Theory Algorithms. Anadolu, Turkey, (05/2009).
3. Scientific lecture within Erasmus program: OŽANA, Š. Concepts and Approaches of Control Design and Education of Automation: from Classical Methods towards Implementation of Modern Control Theory Algorithms. Mugla University, Teknik Eğitim Fakültesi Elektronik in Bilgisayar Eğitimi Bölümü, Turkey, (05/2009).
4. Innovation and Creativity for Complex Engineering Systems" (ICCES 2012). Venue: Porto, Efacec Capital, Portugal, Date: 31.1.2012 to 17.2.2012
5. Engineering internship TAURID Ostrava, s.r.o. (supported by OPVK CZ.1.07/2.4.00/31.0031 NETFEI, 2013)
6. Membership in International Program Committee: International conference PDES 2012, PDES 2013, PDES 2015
7. Membership in Technical Committee: 2014 WORLD CONGRESS ON ELECTRONICS AND ELECTRICAL ENGINEERING