

Nume Prenume: Roman Monica

Gradul didactic: Profesor

Instituția unde este titular: Universitatea din Craiova

Facultatea de Automatică, Calculatoare și Electronică

Departamentul de Automatică și Electronică

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Doctorat în **Domeniul fundamental: Științe ingineresti, Domeniul: Automatică**, titlul tezei “*Aplicații ale modelării prin Bond Graph*”. Data susținerii tezei de doctorat: 29.09.2009. Calificativ: *Foarte bine*. Distincție: *Cum Laude*.

B. Cărți și capitole în cărți publicate în ultimii 10 anii (selecție)

1. **Roman M.**, Contribution to modelling, simulation and control of chemical reaction based processes, Ed. Universitaria, Ed. Universitaria, Craiova, ISBN 978-606-14-1481-9, 127p., 2019.
2. Selișteanu D., Popescu I.M., Petre E., **Roman M.**, Șendrescu D., Popa B., Distributed Control Systems for a Wastewater Treatment Plant: Architectures and Advanced Control Solutions, in: Wastewater and Water Quality, Chapter 9, pp. 153-181, IntechOpen, DOI: 10.5772/intechopen.74827, 2018.
3. **Roman M.**, Modelarea Bond Graph a proceselor biotehnologice, Ed. Universitaria, Ed. Universitaria, Craiova, ISBN 978-606-14-0622-7, 206 p., 2013.
4. **Roman M.**, Metodologia Bond Graph în modelarea sistemelor cu structură complexă, Ed. Universitaria, Craiova, ISBN 978-606-510-800-4, 203 p., 2010.
5. Bobașu E., **Roman M.**, Șendrescu D., Identificarea sistemelor. Îndrumar de laborator., Ed. Universitaria, Craiova, ISBN: 978-606-510-977-3, 170 pag., 2010.
6. Selișteanu, D., E. Petre, D. Șendrescu, **Roman M.**, High-Gain Observers for Estimation of Kinetics in Batch and Continuous Bioreactors, in: Mathematical Chemistry, Series: Chemistry Research and Applications (W.I. Hong Ed.), 38 p., pp. 376-416, Nova Science Publishers, USA, ISBN 978-1-60876-894-3, 2010.
7. Popescu D., Selișteanu D., Ionete C., **Roman M.**, Popescu L., Neural and Adaptive Control Strategies for a Rigid Link Manipulator, in: Robot Manipulators, Trends and Development (A. Jimenez, B.M. Al Hadithi Eds.), Chapter 11, pp. 249-266, In-Tech Publ., Vukovar, Croatia, ISBN 978-953-307-073-5, 2010.

C. Lucrări indexate ISI/BDI publicate în ultimii 10 anii (selecție)**Reviste (selecție)**

1. Petre, E., D. Selișteanu, M. Roman, „Control schemes for a complex biorefinery plant for bioenergy and biobased products”, *Bioresource Technology*, Elsevier, Vol. 295, Art. no. 122245, Jan. 2020, DOI: 10.1016/j.biortech.2019.122245, ISSN 0960-8524. [WOS:000499718900019](#)
2. Tan J., Olaru S., **Roman M.**, Xu F., Liang B., “Invariant Set-Based Analysis of Minimal Detectable Fault for Discrete-Time LPV Systems With Bounded Uncertainties”, *IEEE ACCESS*, Vol., pp. 152564-152575, 2019. [WOS:000497163000175](#)
3. Petre E., **Roman M.**, Selișteanu D., Nonlinear Estimation and Control Schemes for a Complex Anaerobic Digestion of Microalgae with Unknown Kinetics and Inputs, *Bioresource Technology*, <https://doi.org/10.1016/j.biortech.2019.121429>, May 2019. [WOS:000469414500029](#)
4. Petre E., Selișteanu D., **Roman M.**, „Nonlinear Robust Adaptive Control Strategies for a Lactic Fermentation Process”, *Journal of Chemical Technology & Biotechnology*, Vol. 93, Issue 2, pp. 518-526, February 2018, ISSN 0268-2575. [WOS:000419377300023](#)
5. **Roman M.**, Selișteanu D., „Modeling of microbial growth bioprocesses: Equilibria and stability analysis”, *International Journal of Biomathematics*, Vol 9, Issue 5, Art. no. 1650067, 21 p., 2016, ISSN 1793-5245. [WOS:000378636900003](#)
6. Selișteanu D., Șendrescu D., Georgeanu V., **Roman M.**, „Mammalian cell culture process for monoclonal antibody production: Nonlinear modelling and parameter estimation”, *BioMed Research International*, ID 598721, 16 p., 2015, ISSN 2314-6133. [WOS:000349086600001](#)
7. **Roman M.**, Selișteanu D., „Modeling of fast reaction mechanisms for biomass conversion processes”, *Combustion Science and Technology*, Taylor and Francis, Vol. 188 Issue 2, pp. 290-305, 2016, ISSN 0010-2202. [WOS:000375478600009](#)
8. Selișteanu, D., S. Tebbani, **Roman M.**, Petre E., Georgeanu V., „Microbial production of enzymes: Nonlinear state and kinetic reaction rates estimation”, *Biochemical Engineering Journal*, Elsevier, Vol. 91, pp. 23-36, October 2014, Publ. online 21 July 2014, ISSN 1369-703X. [WOS:000343950800004](#)
9. **Roman M.**, Popescu D., Selișteanu D., „An interactive teaching system for bond graph modeling and simulation in bioengineering”, *J. Educ. Technology & Society*, ISSN 1436-4522, Vol. 16, No. 4, pp. 17-31, Oct. 2013. [WOS:000327764400002](#)
10. **Roman M.**, Selișteanu D., “Enzymatic Synthesis of Ampicillin: Nonlinear Modeling, Kinetics Estimation and Adaptive Control”, *Journal of Biomedicine and Biotechnology*, Volume 2012 (2012), Article ID 512691, 14 pages, doi:10.1155/2012/512691, ISSN: 1110-7243. [WOS:000301382100001](#)
11. **Roman M.**, Selișteanu D., „Nonlinear on-line estimation and adaptive control of a wastewater treatment bioprocess”, *Electronics and Electrical Engineering*, No. 1 (117), pp. 23-28, 2012, ISSN 1392-1215. [WOS:000300026100005](#)
12. Selișteanu D., Petre E., **Roman M.**, Șendrescu D., „Estimation of kinetic rates in a baker’s yeast fed-batch bioprocess by using nonlinear observers”, *IET Control Theory & Applications*, Vol. 6, Issue 2, pp. 243-253, January 2012, doi:10.1049/iet-cta.2011.0067, ISSN 1751-8644. [WOS:000299110800008](#)
13. **Roman M.**, D. Selișteanu, “Pseudo Bond Graph Modelling of Wastewater Treatment Bioprocesses”, *SIMULATION: Transactions of The Society for Modeling and Simulation International*, doi:10.1177/0037549711402100, Vol. 88, No. 2, pp. 233-251, Feb. 2012, ISSN 0037-5497. [WOS:000298961400006](#)
14. **Roman M.**, “Modelling and simulation of a fed-batch fermentation bioprocess via Bond Graph approach”, *Control Engineering and Applied Informatics Journal*, Vol. 13, No.4, pp. 74-81, 2011, ISSN 1454-8658. [WOS:000298777600010](#)
15. Selișteanu D., **Roman M.**, Șendrescu D., “Pseudo Bond Graph Modelling and On-line Estimation of Unknown Kinetics for a Wastewater Biodegradation Process”, *Simulation Modelling Practice and*

Theory, Elsevier, doi:10.1016/j.simpat.2010.05.004, Vol. 18, Iss. 9, pp. 1297–1313, 2010, ISSN 1569-190X, Accession Number: [WOS:000280689500010](#)

16. **Roman M.**, Bobașu E., Iancu E., Șendrescu D., “On Bond Graph modelling of thermo-chemical processes”, *Acta Montanistica Slovaca*, Ročník 15 (2010), číslo 1, pp. 33-37, 2010, ISSN 1335-1788, Accession Number: [WOS:000279345600008](#).
17. D. Popescu, C. Ionete, D. Sendrescu, **Roman M.**, “Remote Quanser Experiments”, *Electronics and Electrical Engineering*, No. 6 (102), pp. 163-167, 2010, ISSN 1392-1215, Accession Number: [WOS:000280221600041](#)

Conferințe (selecție)

18. Junbo T., Oлару S., **Roman M.**, Xu F., “Invariant-set based minimal detectable fault computation of discrete-time LPV systems with bounded uncertainties”, *2019 IEEE 58TH CONFERENCE ON DECISION AND CONTROL (CDC)* Book Series: IEEE Conference on Decision and Control, pp. 2940-2945, 2019. [WOS:000560779002114](#)
19. **Roman M.**, Oлару S., “Model-based design for biosystems. Control opportunities and discrete-time modelling challenges”, *IFAC-PapersOnLine*, ISSN: 2405-8963, Vol. 51, Issue 30, pp. 666-671, 2018. [WOS:000451096700126](#)
20. Constantinescu R.L., **Roman M.**, Selișteanu D., „Comparison of numerical integration methods on highly nonlinear biosystems models”, *2018 19th International Carpathian Control Conference (ICCC)*, pp. 55-60, 28-31 May, 2018, Szilvasvarad, Hungary. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000439260500015](#)
21. Selișteanu D., **Roman M.**, Șendrescu D., Petre E., Popa B., „A distributed control system for processes in food industry: Architecture and implementation”, *2018 19th International Carpathian Control Conference (ICCC)*, pp. 128-133, 28-31 May, 2018, Szilvasvarad, Hungary. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000439260500028](#)
22. Șendrescu D., Selișteanu D., **Roman M.**, Petre E., „Iterative learning control of depollution bioprocesses“, *Proc. 22nd Int. Conf. on System Theory, Control and Computing ICSTCC*, Oct. 10-12, 2018, Sinaia, Romania, pp. 207-211, ISBN: 978-1-5386-4444-7. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000465109800034](#)
23. Petre E., Selișteanu D., Popescu D., Șendrescu D., **Roman M.**, „An adaptive control scheme for a lactic acid production process with unknown inputs“, *Proc. 22nd Int. Conf. on System Theory, Control and Computing ICSTCC*, Oct. 10-12, 2018, Sinaia, Romania, pp. 379-384, ISBN: 978-1-5386-4444-7. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000465109800062](#)
24. Lyubenova V. Ignatova M., Kostov G., Shopska V., **Roman M.**, Petre E., „An Interactive Teaching System for Kinetics Modelling of Biotechnological Processes”, *Proc. 22nd Int. Conf. on System Theory, Control and Computing ICSTCC*, Oct. 10-12, 2018, Sinaia, Romania, pp.366-371, ISBN: 978-1-5386-4444-7. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000465109800060](#)
25. Marin C., Popescu D., Petre E., **Roman M.**, Mathematical Modelling of Belt Drying Plants with Several Temperature Zones, *Proc. Int. Carpathian Control Conf.*, Sinaia, Romania, 2017, pp.64-69, ISBN 978-1-5090-4862-5. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000426954400013](#)
26. Constantinescu R.L., **Roman M.**, Selișteanu D., „Simplified numerical methods used for the approximations of chaotic solutions of dynamical systems”, *Proc. Int. Carpathian Control Conf.*, Sinaia, Romania, 2017, pp.560-564, ISBN 978-1-5090-4862-5. [WOS:000426954400104](#) [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000426954400013](#)
27. Sendrescu D., Petre E., Bobasu E., **Roman M.**, „Parameter Estimation of Bioprocesses via Parallel Particle Swarm Optimization, 2016 20th International Conference On System Theory, Control And Computing (ICSTCC), pp. 336-341, 2016. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000391609900058](#)

28. Marin C., Selișteanu D., Popescu D., **Roman M.**, “Adaptive optimal control of a continuous stirred tank bioreactor”, *Proc. of 19th Int. Conf. System Theory, Control and Computing ICSTCC 2015*, Cheile Grădiștei, Romania, pp. 49-54, ISBN 978-1-4799-8481-7. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000382384100009](#)
29. **Roman M.**, Selișteanu D., Bobașu. E, Sendrescu D. „Modeling of culture cells for pharmaceutical industry applications”, in *Proc. of 17th International Conference on System Theory, Control and Computing*, pp. 459 – 464, ISBN: 978-1-4799-2227-7 October 11 - 13, 2013, Sinaia, Romania. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000330660500071](#)
30. Sendrescu D., **Roman M.**, „Parameter Identification of Bacterial Growth Bioprocesses using Particle Swarm Optimization”, in *Proc. of The 9th Asian Control Conference*, pp. 1-6, ISBN: 978-1-4673-5767-8, 23 - 26 June 2013, Istanbul, Turkey. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000333734900290](#)
31. Sendrescu D., **Roman M.**, Selișteanu D., „Interactive Teaching System For Simulation And Control Of Electropneumatic And Electrohydraulic Systems”, in *Proc. of The 24th EAAEIE Annual Conference*, pp. 151-156, ISBN: 978-1-4799-0042-8, 30-31 May 2013, Chania, Greece. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000332827800029](#)
32. Selișteanu D., Petre E., Sendrescu D., **Roman M.**, "Nonlinear Indirect Adaptive Control of a Fed-Batch Fermentation Bioprocess", *Proc. of 17th International Conference on Methods and Models in Automation and Robotics MMAR 2012*, ISBN 978-1-4673-2123-5, IEEE Catalog Number: CFP12MMA-CDR, pp. 367-372, August 27-30, 2012, Miedzyzdroje, Poland. [[Conf. IFAC/IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000312660400067](#)
33. **Roman M.**, „Modeling and On-line State Estimation of an Ethanol Production Bioprocess”, in *International Proceedings of Computer Science and Information Technology, Communication (2011 International Conference on Communication Engineering and Networks - ICCEN 2011)*, Vol. 19, pp. 149-158, ISSN 2010-460X, ISBN 978-981-07-0682-1, 25-27 November 2011, Hong Kong. [[EBSCO](#), [Engineering & Technology Digital Library](#)]
34. **Roman M.**, Şendrescu D., Bobașu E., Petre E., Popescu D., „Teaching System for Modelling and Simulation of Bioprocesses via Bond Graphs”, *22nd Annual Conference on Innovation in Education for Electrical and Information Engineering EAEEIE 2011*, ISBN 978-961-248-281-7, pp. 192-199, Maribor, Slovenia, 13 - 15 June 2011. [[Conf. cosp. IEEE](#)]
35. **Roman M.**, „Modelling Aspects and Structural Properties of a Fed-Batch Bioprocess”, *Proceedings of 13th International Conference on Computer Aided Systems Theory, EUROCAST 2011*, ISBN 978-84-693-9560-8, 8p., February 06-11, 2011, Las Palmas, Gran Canaria, Spain. [[Conf. IFAC](#), [SpringerLink](#), [ISI Proc.](#)] [WOS:000314461400014](#)
36. **Roman M.**, Bobașu E., Selișteanu D., „Modelling of biomass combustion process”, *Energy procedia (Impact of Integrated Clean Energy on the Future of the Mediterranean Environment*, 14-16 April 2011, Beirut, Lebanon), Vol. 6, 2011, pp. 432-440, ISSN: 1876-6102, doi:10.1016/j.egypro.2011.05.050. [[ELSEVIER](#), [ScienceDirect](#), [ISI Proc.](#)] [WOS:000298294900050](#)
37. **Roman M.**, „Modeling and Simulation of a Fed-batch Baker’s Yeast Bioprocess”, *Proceedings of 14th International Conference on System Theory and Control (Joint Conference of SINTES14, SACCS10, SIMSIS14)*, ISSN 2068-0465, pp. 473-479, October 17-19, 2010, Sinaia, Romania. [[Conf. cosp. IEEE](#)]
38. **Roman M.**, D. Selișteanu, E. Bobașu, D. Şendrescu, “Bond Graph Modeling of a Baker’s Yeast Bioprocess”, *Proc. of IEEE International Conference on Modelling, Identification and Control ICMIC 2010*, IEEE Catalog No.: CFP1090K-CDR, ISBN 978-0-9555293-3-7, pp. 82-87, July 17-19, 2010, Okayama, Japan. [[Conf. IEEE](#), [IEEE Xplore](#)]
39. Şendrescu D., Marin C, Petre E., Popescu D., **Roman M.** „Nonlinear Identification of a Rotating Flexible Beam”, *Proc. of the 2010 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR 2010), THETA 17th edition*, IEEE Catalog No.: CFP10AQT-CDR, ISBN 978-1-4244-6722-8, Tome I, pp. 208-213, May 28-30, 2010, Cluj-Napoca, Romania. [[Conf. IEEE](#), [IEEE Xplore](#), [ISI Proc.](#)] [WOS:000419281500031](#)

D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)**- Reviste**

1. **Roman M.**, “Nonlinear Modeling and Estimation Techniques for a Fed-batch Prototype Bioprocess”, *International Review of Automatic Control (I.R.E.A.CO.)*, Vol. 6, nr. 2, March 2013. [[EBSCO](#), [CSA – Cambridge Scientific Abstracts](#), [Index Copernicus](#)]
2. **Roman M.**, “Design Procedure of Sliding Mode Observers via Bond Graph”, *Annals of the University of Craiova, Series Automation, Computers, Electronics and Mechatronics*, Vol. 9(36), no. 2, 2012, ISSN: 1841-0626. [[Copernicus](#), [Inspec](#)]
3. **Roman M.**, “Modelling and Nonlinear Estimation Strategies for an Ethanol Production Bioprocess”, *Annals of the University of Craiova, Series Automation, Computers, Electronics and Mechatronics*, Vol. 9(36), no. 1, pp. 34-40, 2012, ISSN: 1841-0626. [[Copernicus](#), [Inspec](#)]
4. **Roman M.**, “Modelling of an activated sludge wastewater treatment bioprocess”. *Journal of Environmental Management and Tourism*, Vol. 1, Issue 2 (2), pp. 179-187, 2010, ISSN 2068 – 7729. [[EBSCO](#), [IndexCopernicus](#), [RePEC](#)]
5. **Roman M.**, Selișteanu D., “Modeling Issues and Structural Properties of a Class of Nonlinear Bioprocesses”. *International Review of Automatic Control*, Vol. 3, No. 6, pp. 578-587, November 2010, ISSN 1974-6059. [[EBSCO](#), [CSA – Cambridge Scientific Abstracts](#), [Index Copernicus](#)]

- Selecție cu maximum 20 lucrări în volume de conferințe

6. **Roman M.**, „Modeling of interconnected bioreactors: an activated sludge bioprocess case study”, in *Proc. of 16th International Conference on System Theory, Control and Computing (Joint Conference SINTES 16, SACCS 12, SIMSIS 16)*, October 12 - 14, 2012, 6p., Sinaia, Romania. [[Conf. IEEE](#), [IEEE Xplore](#)]
7. **Roman M.**, Bobașu E., Selișteanu D., „Wastewater treatment bioprocesses: modeling issues and simulation”, in *Proceedings of The Asian Conference on Sustainability, Energy and the Environment*, ISSN 2186-2311, pp. 210-221, May 3-6, 2012, Osaka, Japan.
8. **Roman M.**, Șendrescu D., Bobașu E., Petre E., Popescu D., „Teaching System for Modelling and Simulation of Bioprocesses via Bond Graphs”, *22nd Annual Conference on Innovation in Education for Electrical and Information Engineering EAEEIE 2011*, ISBN 978-961-248-281-7, pp. 192-199, Maribor, Slovenia, 13 - 15 June 2011. [[Conf. IEEE](#), [IEEE Xplore](#)]
9. Selișteanu D., **Roman M.**, Petre E., Șendrescu D., „Nonlinear Control of a Wastewater Treatment Process inside a Biological Sequencing Batch Reactor”, in *Proc. of Third Pacific-Asia Conf. on Circuits, Communications and System PACCS 2011 - China (and ICOICC 2011 - Thailand)*, IEEE Catalog Number: CFP1153G-ART, ISBN: 978-1-4577-0856-5, vol. 1, 4p., May 27-28, 2011, Bangkok, Thailand. [[Conf. IEEE](#), [IEEE Xplore](#)]
10. Șendrescu D., Petre E., Popescu D., **Roman M.**, „Neural Network Model Predictive Control of a Wastewater Treatment Bioprocess”, in *Proc. of 3rd International Conference on Intelligent Decision Technologies*, J. Watada et al. (Eds.): *Intelligent Decision Technologies - Smart Innovation, Systems and Technologies*, 2011, Volume 10, Part I, pp. 191-200, DOI: 10.1007/978-3-642-22194-1_20, 20-22 July 2011, Piraeus, Greece. [[SpringerLink](#)]
11. Selișteanu D., Petre E., **Roman M.**, Popescu D., Bobașu E., „On-Line Estimation of Unknown Kinetics for the Enzymatic Synthesis of Ampicillin”, *Proceedings of the 2011 12th International Carpathian Control Conference (ICCC)*, IEEE Catalog Number: CFP1142L-CDR, ISBN: 978-1-61284-359-9, pp. 335-340, 25 – 28 May 2011, Velké Karlovice, Czech Republic. [[Conf. IEEE](#), [IEEE Xplore](#)]

Data:

1.02.2021

Semnătura: