LISTA DE LUCRĂRI

A. Lista celor maxim 10 lucrări considerate a fi cele mai relevante pentru realizările profesionale proprii articole relevante, incluse şi în format electronic:

1. **Both, R.,** Eva-Henrietta Dulf, Clement Festila, "Robust control of a catalytic 2 ethyl-hexenal hydrogenation reactor", Chemical Engineering ScienceVolume 74, 28 May 2012, Pages 300-309, 2012, DOI: 10.1016/j.ces.2012.02.033
2. **Both, R.,** Ana Maria Cormoş, Paul Şerban Agachi, Clement Feştilă, "Dynamic modeling and validation of 2-ethyl-hexenal hydrogenation process", Computers and Chemical Engineering, Volume 52, May 2013, Pages 100-111, 2013
3. **Both, R.,** Dulf, EH, Cormoş AM, "Advanced control of a complex chemical process", Brazilian Journal of Chemical Engineering 33 (1), 155-168, 2016
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6. Muresan, C.I. Dulf, E.H. **Both, R.,** "Comparative Analysis of Different Control Strategies for a Train of Cryogenic 13C Separation Columns", Chemical Engineering and Technology Volume 38, Issue 4, 1 April 2015, Pages 619-631, 2015
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10. **Roxana, Rusu-Both**; Eva-Henrietta, Dulf, " Fault-tolerant Control of a Cyber-physical System", IOP Conference Series: Materials Science and EngineeringVolume 261, Issue 1, 6 November 2017, Article number 0120032017 International Conference on Artificial Intelligence Applications and Technologies, AIAAT 2017

B. Teza de doctorat

Roxana Both, *Algoritmi evoluaţi de conducere a unor procese petro-chimice*, Universitatea Tehnică din Cluj-Napoca, 165 pagini, 2011, Cond.şt. prof.dr.ing. Clement Feştilă şi Cond.şt. prof.dr.ing. Paul-Şerban Agachi.

C. Brevete de invenție și alte titluri de proprietate industrială

D. Cărți și capitole în cărți

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2. **Rusu-Both R**, "Dynamic Mathematical Modelling and Advanced Control Strategies for Complex Hydrogenation Process", New Advances in Hydrogenation Processes - Fundamentals and Applications, (Ed.), InTech, 2017, DOI: 10.5772/65336, https://www.intechopen.com/books/new-advances-in-hydrogenation-processes-fundamentals-and-applications/dynamic-mathematical-modelling-and-advanced-control-strategies-for-complex-hydrogenation-process
3. **Rusu-Both R**, Feştilă C, " Electronică de Putere în Automatică: Îndrumător de laborator", Editura Mediamira, Cluj-Napoca, 2018, ISBN: 978-973-713-363-2

E. Articole/studii in extenso, publicate în reviste din fluxul științific internațional principal

1. **Both, R.,** Eva-Henrietta Dulf, Clement Festila, "Robust control of a catalytic 2 ethyl-hexenal hydrogenation reactor", Chemical Engineering ScienceVolume 74, 28 May 2012, Pages 300-309, 2012, DOI: 10.1016/j.ces.2012.02.033
2. **Both, R.,** Ana Maria Cormoş, Paul Şerban Agachi, Clement Feştilă, "Dynamic modeling and validation of 2-ethyl-hexenal hydrogenation process", Computers and Chemical Engineering, Volume 52, May 2013, Pages 100-111, 2013
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6. **Both, R.,** Feştilă, C., Dulf, EH (2011), "Distributed parameter model of the 2 ethyl-hexenal hydrogenation process", Chem. Listy 105, s871 – s1072 (2011), s910, http://www.chemicke-listy.cz/docs/full/2011_18_s871-s1072.pdf
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F. Publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate

Conferințe ISI-Proceedings:

1. Dulf, E., **Both, R.** Dumitrache, D.C., "Fractional order models for a cryogenic separation column", 2010 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2010 - Proceedings , 2010
2. **Both, R.** Festila, C. Dulf, E.H. Neaga, A.O., "Modeling and simulation of the liquid phase 2-ethyl-hexenal hydrogenation", 2010 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2010 - Proceedings , 2010
3. Huzau, M. **Both, R.** Dulf, E.H. Tulbure, V., " Non-conventional supplying system for induction traction motors from Diesel locomotives", 2010 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2010 - Proceedings, 2010
4. Neaga, A.O. Festila, C. Dulf, E.H. Szelitzky, T. **Both, R.** Inoan, I. Gligan, M., " Operational model of the 13C isotope separation column", 2012 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2012 - Proceedings, 2012
5. Tulbure, M., **Both, R.,** "Models for the AC locomotives regenerative braking", 2012 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2012 - Proceedings, 2012
6. Neaga, A.O. Festila, C. Dulf, E.H. **Both, R.** Szelitzky, T. Gligan, M., " A simplified mathematical model of the cryogenic distillation with application to the (13C) isotope separation column", AIP Conference ProceedingsVolume 1425, 2012, Pages 189-192Processes in Isotopes and Molecules, PIM 2011; Cluj Napoca; Romania; 29 September 2011 through 1 October 2011, published 2012
7. CI Muresan, **R Both**, EH Dulf, A Neaga, C Ionescu, " HIL real-time simulation of a digital fractional order PI controller for time delay processes", IEEE AFRICON Conference , 2013
8. Muresan, C.I. Dulf, E.H. **Both, R**. Palfi, A. Caprioru, M., "Microcontroller implementation of a multivariable fractional order PI controller", Proceedings - 19th International Conference on Control Systems and Computer Science, CSCS 2013
9. Dulf, E.-H. **Both, R.** Festila, C. Gretinger, M.I., " Non-conventional techniques for Frequency Response Function measurements and analysis", 2013 17th International Conference on System Theory, Control and Computing, ICSTCC 2013; Joint Conference of SINTES 2013, SACCS 2013, SIMSIS 2013 - Proceedings, 2013
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13. **Both, R.** Dulf, E.-H., " Multi-agent control of an isotope separation columns cascade", 2014 International Conference on Fractional Differentiation and Its Applications, ICFDA 2014
14. Dulf, E.H. Muresan, C.I. **Both, R.** Dulf, F.V., " Fractional order controller design for a large class of process models", 2014 International Conference on Fractional Differentiation and Its Applications, ICFDA 2014
15. Muresan, C.I. Dulf, E.H. Ionescu, C.M. **Both, R.** Nascu, I., " Improving performance for a 13C isotope separation plant using multivariable fractional order controllers", 2014 International Conference on Fractional Differentiation and Its Applications, ICFDA 2014
16. Cioloca, A. **Both, R.** Festila, R., " Advanced models for cryogenic distillation columns", Proceedings of 2014 IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2014
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20. Muntean, I. **Both, R**. Crisan, R. Nascu, I., " RGA analysis and decentralized control for a wastewater treatment plant", Proceedings of the IEEE International Conference on Industrial Technology, 2015
21. Ionescu, C. **Both, R.** Fustos, C. Festila, C. Gligan, M. Keyser, R.D., " Control of a train of high purity distillation columns for efficient production of 13C isotopes", Proceedings - 2015 20th International Conference on Control Systems and Computer Science, CSCS 2015
22. **Both, R.** Dulf, E.-H. Muresan, C.-I. Secara, M., " Fractional order PD control of an isotope separation columns cascade", SACI 2015 - 10th Jubilee IEEE International Symposium on Applied Computational Intelligence and Informatics, Proceedings, 2015
23. Festila, C. **Both, R.** Dulf, E.-H. Secara, M. Chetan, S., " Original Extremum control method implemented in MPP photovoltaic systems", 2015 19th International Conference on System Theory, Control and Computing, ICSTCC 2015 - Joint Conference SINTES 19, SACCS 15, SIMSIS 19 , 2015
24. Festila, C. Dulf, E.-H. **Both, R.,** " Analysis, modeling and simulation of a DC supply with load power control", Joint International Conference - ACEMP 2015: Aegean Conference on Electrical Machines and Power Electronics, OPTIM 2015: Optimization of Electrical and Electronic Equipment and ELECTROMOTION 2015: International Symposium on Advanced Electromechanical Motion Systems , 2015
25. Dulf, E.-H. Muresan, C.I. **Both, R.** Fustos, C. Dulf, F.-V., " Auto-tuning fractional order velocity control of a DC motor", Joint International Conference - ACEMP 2015: Aegean Conference on Electrical Machines and Power Electronics, OPTIM 2015: Optimization of Electrical and

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29. **Roxana, Rusu-Both**; Eva-Henrietta, Dulf, " Auto-tuning Fractional Order Control of a Laboratory Scale Equipment", Proceedings of the 2016 International Conference on Mechatronics, Control and Automation Engineering (MCAE) Book Series: AER-Advances in Engineering Research Volume: 58 Pages: 46-50, 2016
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31. **Rusu-Both, R.** Dulf, E.-H. Festila, C., " Fractional order model reference boiler control for a isotope separation column", 2016 20th IEEE International Conference on Automation, Quality and Testing, Robotics, AQTR 2016 - Proceedings, 2016
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34. **Roxana, Rusu-Both**; Eva-Henrietta, Dulf, " Fault-tolerant Control of a Cyber-physical System", IOP Conference Series: Materials Science and EngineeringVolume 261, Issue 1, 6 November 2017, Article number 0120032017 International Conference on Artificial Intelligence Applications and Technologies, AIAAT 2017

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1. **Both, R.** Festila, C. Dulf, E. Szelitzky, T. Neaga, A.O., " 2 ethyl-hexanol output temperature control in hydrogenation process", SACI 2011 - 6th IEEE International Symposium on Applied Computational Intelligence and Informatics, Proceedings , 2011
2. Neaga, A.O. Festila, C. Dulf, E.H. **Both, R.** Szelitzky, T. Gligan, M., " Monitoring and control of liquid nitrogen level of the 13C separation column using NI PXI-1031", SACI 2011 - 6th IEEE International Symposium on Applied Computational Intelligence and Informatics, Proceedings , 2011

3. Dulf, E.-H. Festila, C. Dulf, F.-V. Pop, C.-I. **Both, R.,** " Fractional order controller design for13C separation column", 2011 19th Mediterranean Conference on Control and Automation, MED 2011

4. **Both, R.** Dulf, E.-H. Neaga, A.O. Darab, C.P., " Robust control of the 15N isotope separation column", SACI 2012 - 7th IEEE International Symposium on Applied Computational Intelligence and Informatics, Proceedings , 2012

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6. Muresan, C.I. **Both, R**. Ionescu, C.M. Dulf, E.H., " Fractional order control for the temperature loop in a chemical reactor", 2012 16th International Conference on System Theory, Control and Computing, ICSTCC 2012 - Joint Conference Proceedings , 2012

7. Dulf, E.H. **Both, R**. Munteanu, R. Festila, C. Secara, M., " Variable DC power sources for 13C isotope separation column boiler supply", 2014 18th International Conference on System Theory, Control and Computing, ICSTCC 2014

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9. CI Muresan, EH Dulf, **R Both**, " A novel tuning algorithm for fractional order IMC controllers for time delay processes", International Journal of Mechanical Engineering and Robotics Research 4 (3), 218, 2015

10. Dulf Eva-Henrietta, **Roxana Both**, Cristina-I. Muresan, " Fractional order PIλDμ controller design for mechatronic systems", SIAM Conference Proceedings, DOI: http://dx.doi.org/10.1137/1.9781611974072.64, 2015

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12. Székely, L. Dulf, E.-H. **Rusu-Both, R.**, " Alarm monitoring and safety control system for a13C isotope separation cascade system", Proceedings - 2017 International Conference on Optimization of Electrical and Electronic Equipment, OPTIM 2017 and 2017 Intl Aegean Conference on Electrical Machines and Power Electronics, ACEMP 2017

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G. Alte lucrări şi contribuţii ştiinţifice sau, după caz, din domeniul creaţiei artistice

1. **Both, R.**, Dulf, EH., Cristea, VM. (2009), Outlet Gas Temperature Control for Acetylene Hydrogenation Reactor, Proceedings of the 17th International Conference on Control Systems and Computer Science, Vol.1., pp.559-552, Bucureşti
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4. **Both, R**, Festilă, C, Dulf, E.H. (2011), Catalytic Hidrogenation of 2 Ethyl-Hexenal. Modeling and Simulation, *Automation, Computers and Applied Informatics* ACAM, B+
5. Tulbure, M., **Both., R**, Festila, R. , (2012), Analysis of the induction railway traction motor in AC regenerative braking, 11th International Conference on **DEVELOPMENT AND APPLICATION SYSTEMS,** Mai 17 - 19, Suceava, Romania
6. Mesarosiu, A.R., Porumb I., **Both R.**, (2012), Servomechanism with Reduced Sensitivity by Uncertainty, 11th International Conference on **DEVELOPMENT AND APPLICATION SYSTEMS,** Mai 17 - 19, Suceava, Romania
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8. Dulf, EH, Festila, C, Muresan, CI, **Both, R**, Dulf, F.V., "Fractional Order Model of the 13C Isotope Separation Column, 21st Annual International Conference on Composites or Nano Engineering ICCE, 2013, Tenerife, Spain
9. Eva H. Dulf, **Roxana Both**, Cristina I. Muresan, Networked Control of a Fractional Order PI Controller for the 13C Isotope Separation Column, The European Nonlinear Dynamics Conference, ISBN: 978-3-200-03433-4, 6-11 July, Wien, Austria, 2014
10. **Roxana Both**, E.H. Dulf, C.I. Muresan, Fractional order PD controller applied to the Boiler of a 13C Cryogenic Isotope Separation Column, The European Nonlinear Dynamics Conference, ISBN: 978-3-200-03433-4, 6-11 July, Wien, Austria, 2014
11. **R. Both-Rusu**, E.H. Dulf and C.N.Hadjicostis, FRACTIONAL ORDER CONTROLLERS IN FAULT TOLERANT DISTRIBUTED CONTROL OF AN ISOTOPE SEPARATION COLUMNS CASCADE, FSS 2015, Cluj-Napoca

02.06.2018 Sl.Dr.Ing. Rusu-Both Roxana