Technical University of Cluj-Napoca
Faculty of Electronics, Telecommunications and Information Technology
Applied Electronics Department
Prof. Dorin PETREUȘ, Ph.D.

LIST
of scientific papers

A – Ph.D. Thesis

„Experimental and Theoretical Research Regarding Performance Improvements of Switch-Mode Power Supplies"
Scientific advisor: Prof. Șerban LUNGU, Ph.D.
Field: Electronics and Telecommunications Engineering
Technical University of Cluj-Napoca
Thesis defense: *1998.*

B – Books

1. **D. Petreus**, Eniko Szilagyi, R. Etz, T. Patarau Microcontrolere-Aplicatii, U.T.Press, Cluj-Napoca, 2021, 143 pages, ISBN: 978-606-737-495-7.
2. N. Palaghita, **D. Petreus**, C. Farcas, I. Ciocan System control technique, Risoprint, Clu-Napoca, 2021, ISBN: 978-973-53-2646-3.
3. I. Ciocan, N. Palaghita, **D. Petreus**, C. Farcas, Electronica de putere – între teorie și practică, Risoprint, Cluj-Napoca an 2017, ISBN: 978-973-53-1933-5, 200 pages.
4. **D. Petreus**, T. Patarau, R. Etz – *Power supplies – A practical approach.* Mediamira, Cluj-Napoca an 2016, ISBN: 978-973-713-333-5, 110 pages.
5. A. Vlaicu (editor coordonator), **D. Petreus,** N. Palaghita, C. Farcas – *Managementul energiei electrice/Cladiri inteligente-Sisteme Tehnologii Solutii Integrate IT&C,* , UT Press*,* Cluj-Napoca, an 2008, ISBN: 978-973-662-397-4, 416 pages.
6. N. Palaghita, **D. Petreus**, C. Farcas – *Electronica de comanda si reglaj.* Mediamira*,* Cluj-Napoca, an 2006, ISBN: 973-713-109-6, nr pagini 348.
7. **D. Petreus**, G. Muntean, Z. Juhos, N. Palaghita – *Aplicatii cu microcontrolere din familia 8051,* Mediamira*,* Cluj-Napoca, an 2005, ISBN: 973-713-014-6, 167 pages.
8. N. Palaghita, **D. Petreus**, C. Farcas– *Electronica de putere partea a II-a, Circuite electronice de putere,* Mediamira*,* Cluj-Napoca, an 2004, ISBN: 973-713-039-1, 310 pages.
9. C. Farcas, **D. Petreus**, N. Palaghita – *Imbunatatirea factorului de putere in sistemele moderne de alimentare,* Risoprint*,* Cluj-Napoca, an 2003, ISBN: 973-656-507-6, 164 pages.
10. **D. Petreus** – *Electronica surselor de alimentare,* Mediamira*,* Cluj-Napoca, an 2002, ISBN: 973-9358-92-6, 201 pages.
11. **D. Petreus**, S. Lungu – *Surse stabilizate in comutatie. Indrumator de laborator,* Mediamira*,* Cluj-Napoca, an 1999, ISBN, nr pagini 134.
12. S. Lungu, **D. Petreus**, S. Plesa – *Microcontrolere Familia Intel 8051,* Comprex*,* Cluj-Napoca, an 1994, ISBN 973-96041-1-0, 99 pages.

C – ISI/BDI indexed papers published in the last 10 years

c1) Papers published in international ISI journals

1. A. Ignat-Balaci, E. Szilagyi, **D. Petreus**, "Day-Ahead Scheduling, Simulation, and Real-Time Control of an Islanded Microgrid," Advances in Electrical and Computer Engineering, vol.21, no.4, pp.89-98, 2021, doi:10.4316/AECE.2021.04010
2. Ferencz, I., & **Petreus, D**. (2021). A power electronic traction transformer model for a new medium voltage DC electric railway. Advances in Electrical and Computer Engineering, 21(3), 99-108. doi:http://dx.doi.org/10.4316/AECE.2021.03012. ISSN 1582-7445, WOS:000691632000012.
3. Angyus SB, Levei E, **Petreus D**, Etz R, Covaci E, Moldovan OT, Ponta M, Darvasi E, Frentiu T. Simultaneous Determination of As, Bi, Sb, Se, Te, Hg, Pb and Sn by Small-Sized Electrothermal Vaporization Capacitively Coupled Plasma Microtorch Optical Emission Spectrometry Using Direct Liquid Microsampling. *Molecules*. 2021; 26(9):2642. https://doi.org/10.3390/molecules26092642, WOS:000650668500001.
4. Angyus, SB; Darvasi, E; Ponta, M; **Petreus, D**; Etz, R; Senila, M; Frentiu, M; Frentiu, T, Interference-free, green microanalytical method for total mercury and methylmercury determination in biological and environmental samples using small-sized electrothermal vaporization capacitively coupled plasma microtorch optical emission spectrometry, TALANTA, vol. 217, 2020, ISSN: 0039-9140, DOI: 10.1016/j.talanta.2020.121067, WOS:000537880200060.
5. Gherman, T; **Petreus, D**; Cirstea, MN, A Real Time Simulator of a Phase Shifted Converter for High Frequency Applications, ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING, Vol. 20, Issue: 3, pp. 11-22, 2020, ISSN: 1582-7445, DOI: 10.4316/AECE.2020.03002, WOS:000564453800002.
6. **Dorin Petreus**, R. Etz, T. Patarau, I. Ciocan, Comprehensive Analysis of a High-Power Density Phase-Shift Full Bridge Converter Highlighting the Effects of the Parasitic Capacitances†, Energies, vol. 13, issue 6, 2020, eISSN: 1996-1073, DOI: 10.3390/en13061439, WOS:000528727500144.
7. **Dorin Petreus**, Radu Etz, Toma Patarau, Marcian Cirstea, An islanded microgrid energy management controller validated by using hardware-in-the-loop emulators, International Journal of Electrical Power & Energy Systems, vol. 106, pp. 346-357, 2019, ISSN: 0142-0615, WOS:000454377000032.
8. Dan-Sebastian Filip, **Dorin Petreus**, Study And Implementation of an Atmospheric Pressure Plasma Generator Based on Helical Coil, Revue Roumaine des Sciences Techniques-Serie Electrotechnique et Energetique, vol. 64, no. 1, pp. 9-15, 2019, ISSN: 0035-4066, WOS:000464302300002.
9. Eniko Lazar, **Dorin Petreus**, Radu Etz, Toma Patarau, Software Solution for a Renewable Energy Microgrid Emulator, Advances in Electrical and Computer Engineering, vol. 18, no. 1, pp. 89-95, 2018, ISSN: 1582-7445, WOS:000426449500011.
10. Marius Ovidiu Neamtu, Mugur Balan, **Dorin Petreus**, Teodor Leuca, Nistor Daniel Trip, Considerations on a geothermal electric power generator based on organic rankine cycle as a part of a smart-grid, *Revue roumaine des sciences techniques Série Électrotechnique et Énergétique*, no. 4, 2017, pp. 431-435, ISSN: 0035-4066.
11. P.V. Unguresan, R.A. Porumb, **D. Petreuș**, A.G. Pocola, O.G. Pop, M.C. Balan, Orientation of Facades for Active Solar Energy Applications in Different Climatic

Conditions *JOURNAL OF ENERGY ENGINEERING*, vol. 143, no. 6, 2017, ISSN: 0733-9402.

12. E. Covaci, M. Senila, M. Ponta, E. Darvasi, **D. Petreuș**, M. Frentiu, T. Frentiu, Methylmercury determination in seafood by photochemical vapor generation capacitively coupled plasma microtorch optical emission spectrometry, *TALANTA*, vol. 170, 2017, pp. 464-472, ISSN: 0039-9140.
13. T. Frentiu, S. Butaciu, E. Darvasi, M. Ponta, M. Frentiu, **D. Petreuș**, A microanalytical method based on electrothermal vaporization capacitively coupled plasma microtorch optical emission spectrometry for multielemental determination: comparison with inductively coupled plasma optical emission spectrometry, *CHEMICAL PAPERS*, vol. 71, no. 1, 2017, pp. 91–102, ISSN: 2585-7290.
14. S. Butaciu, T. Frentiu, M. Senila, E. Darvasi, S. Cadar, M. Ponta, **D. Petreus**, R. Etz, M. Frentiu, Determination of Cd in food using an electrothermal vaporization capacitively coupled plasma microtorch optical emission microspectrometer: Compliance with European legislation and comparison with graphite furnace atomic absorption spectrometry, *Food Control*, vol. 61, 2016, pp. 227-234, ISSN: 0956-7135.
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17. T. Frentiu, E. Darvasi, S. Butaciu, M. Ponta, **D. Petreus**, R. Etz, M. Frentiu, Application of low-cost electrothermal vaporization capacitively coupled plasma microtorch optical emission spectrometry for simultaneous determination of Cd and Pb in environmental samples, *Microchemical Journal*, vol. 121, 2015, pp. 192–198, ISSN: 0026-265X.
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22. S. Daraban, **D. Petreus**, C. Morel, A novel MPPT (maximum power point tracking) algorithm based on a modified genetic algorithm specialized on tracking the global maximum power point in photovoltaic systems affected by partial shading, in *ENERGY*, vol. 74, 2014, pp. 374-388, ISSN: 0360-5442.

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24. D. Robu, F. Sandu, **D. Petreus**, A. Nedelcu, A. Balica, Social Networking of Instrumentation - a Case Study in Telematics, in *ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING*, vol. 14, no. 2, 2014, pp. 153-160, ISSN: 1582-7445.
25. C. Morel, R. Vlad, J. Morel, **D. Petreus**, Synchronization of chaotic attractors with different equilibrium points, in *International Journal of Computer Mathematics*, vol. 91, no. 6, 2014, pp. 1255-1280, ISSN: 0020-7160.
26. A. Zsigmond, T. Frentiu, M. Ponta, M. Frentiu, **D. Petreus**, Simple and robust method for lithium traces determination in drinking water by atomic emission using low-power capacitively coupled plasma microtorch and microspectrometer, in *FOOD CHEMISTRY*, vol. 141, no. 4, 2013, pp. 3621-3626, ISSN: 0308-8146.
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28. A. Mihaltan, T. Frentiu, M. Ponta, **D. Petreus**, M. Frentiu, E. Darvasi, C. Marutoiu, Arsenic and antimony determination in non- and biodegradable materials by hydride generation capacitively coupled plasma microtorch optical emission spectrometry, in *TALANTA*, vol. 109, 2013, pp. 84-90, ISSN: 0039-9140.
29. F. Hrebenciuc, D. Moga, **D. Petreus**, Z. Barabas, R. Moga, Combined Analytical and Numerical Approach to Study Coil Arrays for Contactless Charging of Batteries in Active Transponders, in *ELEKTRONIKA IR ELEKTROTECHNIKA*, no. 7, 2012, pp. 37-42, ISSN: 1392-1215.
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33. C. Morel, **D. Petreus**, A. Rusu, Application of the Filippov Method for the Stability Analysis of a Photovoltaic System, in *ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING*, vol. 11, no. 4, 2011, pp. 93-98, ISSN: 1582-7445.
34. T Patarau, A Rusu, D Moga, **D Petreus**, Mihai Munteanu, Photovoltaic system with smart tracking of the optimal working point, *ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING*, vol. 10, no. 3, 2010, pp. 40-47, ISSN: 1582-7445.

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35. Alexandru Lodin, Daniel Moga, Nicoleta Stroia, **Dorin Petreus**, Vlad Muresan, Radu Adrian Munteanu, Luige Vladareanu, Modelling and simulation of a remote controlled mechatronic device, Periodicals of Engineering and Natural Sciences, vol. 7, no. 1, pp. 255-260, 2019. ISSN: 23034521, DOI: http://dx.doi.org/10.21533/pen.v7i1.372. [Scopus]

36. Cristian Orian, **Dorin Petreus**, Radu Etz, Sliding mode control of buck converters for improved transient response, Acta Technica Napocensis, Volume 57, no, 2, 2016, pp 23, ISSN: 1221-6542, [ProQuest].
37. Serge Maxime Fonou, **Dorin Petreus**, Martin Kamta, Khalil Kassmi, Supervision of a photovoltaic system for making it transparent in unpredictable weather, Acta Technica Napocensis, vol. 57, no. 1, 2016, pp. 31, ISSN: 1221-6542, [ProQuest].
38. Alin Grama, Toma Patarau, Eniko Lazar, **Dorin Petreus**, Estimating the size of the renewable energy generators in an isolated solar-biodiesel microgrid with lead-acid battery storage, Journal of Electrical and Electronics Engineering, vol. 8, no. 2, 2015, pp. 15, ISSN: 1844-6035, [Scopus].
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40. Cristian Orian, **Dorin Petreus**, The design and implemntation of a pid controller in an fpga circuit, Acta Technica Napocensis, vol. 56, no. 2, 2015, pp. 26, ISSN: 1221-6542, [ProQuest].
41. **Dorin Petreus**, Radu Etz, Toma Patarau, Cristian Orian, Microgrid concept based on distributed renewable generators for a greenhouse, Acta Technica Napocensis, vol. 56, no. 2, 2015, pp. 31, ISSN: 1221-6542, [ProQuest].
42. R. Joian, M. Horgos, **D. Petreus**, N. Palaghita, Using Low Power Turbines in Areas with Low Wind Potential, Journal of Sustainable Energy, vol. 4, no. 3, 2013, pp. 1-6, ISSN: 2067-5534, [DOAJ - Directory of Open Access Journals].
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47. Dorin Cadar, **Dorin Petreus**, Toma Patarau, Niculaie Palaghita, Active balancing method for battery cell equalization, Acta Technica Napocensis, vol. 51, no. 2, 2010, pp. 1, ISSN: 1221-6542, [ProQuest].
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c2) Papers published at international conferences in the field of Electronics and Telecommunications Engineering (ISI WOS, IEEE, Science Direct/ Springer, SCOPUS)

1. **D. Petreuș**; I. Ferencz; Z. Orbán, Design of Regenerative Active Clamping Snubber for a Phase-Shift Converter, 2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging (SIITME), Cluj-Napoca, Romania, 23-26 Oct. 2019, pp. 329-332, ISSN: 2642-7036, DOI: 10.1109/SIITME47687.2019.8990755, WOS:000564733700070, **[ISI WOS]**
2. A. Grama; **D. Petreus**; O. Coca; G. Petrasuc; E. Stetco; B. Bia; V. Socaciu, Personal Assistant Based on Internet of Things, 2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging (SIITME), Cluj-Napoca, Romania, 23-26 Oct. 2019, pp. 248-251, ISSN: 2642-7036, DOI: 10.1109/SIITME47687.2019.8990799, WOS:000564733700051, **[ISI WOS]**
3. **D. Petreus**; I. Ciocan; T. Patarau; R. Etz; Z. Orban, The effect of parasitic capacitances on the phase-shift full bridge converter, IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society, Lisbon, Portugal, 14-17 Oct. 2019, pp. 2068-2075, ISSN: 2577-1647, DOI: 10.1109/IECON.2019.8927532, WOS:000522050602012, **[ISI WOS]**
4. T. Gherman; **D. Petreus**; R. Teodorescu, A Method for Accelerating FPGA Based Digital Control of Switched Mode Power Supplies, 2019 International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) & 2019 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), Istanbul, Turkey, 27-29 Aug. 2019, pp. 322-328, ISSN: 1842-0133, DOI: 10.1109/ACEMP-OPTIM44294.2019.9007156, WOS:000535884900048, **[ISI WOS]**
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6. A. Ignat; E. Lazar; **D. Petreuș**, Real-Time Scheduling for an Islanded Microgrid, 2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging (SIITME), Cluj-Napoca, Romania, 23-26 Oct. 2019, ISSN: 2642-7036, DOI: 10.1109/SIITME47687.2019.8990861, WOS:000564733700075 **[ISI WOS]**
7. Vladimir Voicu, **Dorin Petreus**, Radu Etz, Data Acquisition System for Solar Panels, 2019 42nd International Spring Seminar on Electronics Technology (ISSE), Wroclaw, Poland, May 2019, ISSN: 2161-2536, DOI: 10.1109/ISSE.2019.8810289. WOS:000507501000061 **[ISI WOS]**
8. Andreea Ignat, **Dorin Petreuș**, Eniko Lazar, Cost Optimization and Day-Ahead Scheduling for a Renewable Energy Microgrid, 2019 42nd International Spring Seminar on Electronics Technology (ISSE), Wroclaw, Poland, May 2019, ISSN: 2161-2536, DOI: 10.1109/ISSE.2019.8810290. WOS:000507501000062 **[ISI WOS]**
9. Izsák Ferencz, **Dorin Petreuș**, Current Mode Control of a Solar Inverter with MPPT Algorithm, 2019 42nd International Spring Seminar on Electronics Technology (ISSE), Wroclaw, Poland, May 2019, ISSN: 2161-2536, DOI: 10.1109/ISSE.2019.8810278. WOS:000507501000050 **[ISI WOS].**
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13. Alin Grama, **Dorin Petreus**, Calin Baciu, Beniamin Bia, Octavian Coca, Vlad Socaciu, Smart Bike Improvement Using Embedded Systems, 2018 41st International Spring Seminar on Electronics Technology (ISSE), Zlatibor, SERBIA, MAY 2018, ISSN: 2161-2536, WOS:000449866600090. **[ISI WOS]**
14. Eniko Lazar, Andreea Ignat, **Dorin Petreus**, Radu Etz, Energy Management for an Islanded Microgrid Based on Harmony Search Algorithm, 2018 41st International Spring Seminar on Electronics Technology (ISSE), Zlatibor, SERBIA, MAY 2018, ISSN: 2161-2536, WOS:000449866600047. **[ISI WOS]**
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16. T Patarau, **D Petreus**, R Etz, E Lazar, Techno-Economic Feasibility Study on an Off-Grid Renewable Energy Microgrid for an Isolated Greenhouse in Romania, 2018 IEEE 18th International Power Electronics and Motion Control Conference (PEMC), pp. 445-450, Budapest, HUNGARY, AUG 2018, ISSN: 2473-0165, WOS:000462062900069. **[ISI WOS]**
17. A Ignat, E Lazar, **D Petreus**, Energy Management for an Islanded Microgrid Based on Particle Swarm Optimization, 2018 IEEE 24th International Symposium for Design and Technology in Electronic Packaging(SIITME), pp. 213-216, Iasi, Romania, Oct. 2018, ISBN: 978-1-5386-5577-1, DOI: 10.1109/SIITME.2018.8599272. WOS:000466960400044 **[ISI WOS]**
18. **Dorin Petreuş**, Mugur Bălan, Octavian Pop, Radu Etz, Toma Patărău, Evaluation of the PV energy production determined by measurements, simulation and analytical calculations, E3S Web of Conferences,, Sustainable Solutions For Energy And Environment vol. 85, 2019, ISSN: 2267-1242, WOS:000468021200035. **[ISI WOS]**
19. R. Etz, **D. Petreuş**, T. Pătărău, E. Lazar, An islanded renewable energy microgrid emulator for geothermal, biogas, photovoltaic and lead acid battery storage*, IEEE 26th International Symposium on Industrial Electronics*, 19 Jun - 21 Jun 2017, Edinburgh, pp. 2109-2114, ISBN: 978-1-5090-1412-5, WOS:000426794000329 **[ISI WOS].**
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20. Best poster award for the paper: The Input Power Control of an Electron Beam Evaporation Equipment, at the conference: INTERNATIONAL SYMPOSIUM FOR DESIGN AND TECHNOLOGY IN ELECTRONIC PACKAGING (SIITME)

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