

Denumire teme de cercetare propuse și bibliografie pentru poziții vacante de student doctorand în anul universitar 2025-2026

Domeniul de doctorat	Conducător științific	Nr. crt	Denumire teme scoase la concurs	Bibliografie selectivă, recomandată
Inginerie electrică	Popescu Mihaela	1	Sisteme bazate pe electronică de putere pentru creșterea eficienței energetice	1. Bitoleanu Alexandru, Popescu Mihaela, Suru Constantin Vlad, Filtre active de putere. Fundamente și aplicații. Ed. Matrix, București, 2021, ISBN 978-606-25-0635-3; 2. Bitoleanu A., Mihai D., Popescu Mihaela, Constantinescu C., Convertoare statice și structuri de comandă performante, Editura SITECH Craiova, 2000, ISBN: 973-657-016-9. 3. Popescu, Mihaela, Alexandru Bitoleanu, Constantin Vlad Suru, Mihaita Linca, and Laurentiu Alboteanu. 2024. "Shunt Active Power Filters in Three-Phase, Three-Wire Systems: A Topical Review" Energies 17, no. 12: 2867; 4. Mihaela Popescu, Energy Efficiency in Electric Transportation Systems, Energies 2022, 15(21), 8177, https://doi.org/10.3390/en15218177 ; 5. Mihaela Popescu, Alexandru Bitoleanu, Mihaita Linca and Constantin Vlad Suru, Improving Power Quality by a Four-Wire Shunt Active Power Filter: A Case Study, Energies 2021, 14, 1951
Inginerie electrică	Popescu Mihaela	2	Sisteme cu convertoare statice cu performanțe energetice superioare pentru aplicații speciale	1. Mihaela Popescu, Alexandru Bitoleanu, Energy Efficiency Improvement in DC Railway Systems: The State of the Art, Newest Updates in Physical Science Research Vol. 5, 26 May 2021, Page 66-106, Ch.4; 2. Bitoleanu A., Mihai D., Popescu Mihaela, Constantinescu C., Convertoare statice și structuri de comandă performante, Editura SITECH Craiova, 2000, ISBN: 973-657-016-9. 3. Mihaela Popescu, Energy Efficiency in Electric Transportation Systems, Energies 2022, 15(21), 8177; https://doi.org/10.3390/en15218177 ; 4. Mihaela Popescu, Alexandru Bitoleanu, Mihaita Linca and Constantin Vlad Suru, Improving Power Quality by a Four-Wire Shunt Active Power Filter: A Case Study, Energies 2021, 14, 1951; 5. Mihaela Popescu and A. Bitoleanu, A Review of the Energy Efficiency Improvement in DC Railway Systems, Energies 2019, 12, 1092.
Inginerie electrică	Popescu Mihaela	3	Sisteme de electronică de putere pentru energie regenerabilă	1. T. E. K. ZIDANE, A. S. AZIZ, Y. Z. H. KOTB, K. M. ABORAS, K. 5 și Y. B. JEMBER, „Grid-Connected Solar PV Power Plants Optimization: A Review,” vol. VOLUME 11, 2023; 2. S. M. Moosavian, N. A. Rahim și J. Selvaraj, „Photovoltaic Power Generation: A Review,” 2011; 3. J. Jaeger, „Explaining the Exponential Growth of Renewable Energy,” vol. Clean Energy, 2022; 4. F. Vatra și A. Poida, Integrarea și functionarea centralelor eoliene și a instalațiilor fotovoltaice în sistemul electroenergetic, Editura SIER, 2012; 5. E. Maican, „SISTEME DE ENERGII REGENERABILE,” București, 2015
Inginerie electrică	Popescu Mihaela	4	Cercetări privind utilizarea izolațiilor compozite în echipamentele electrotehnice	1. Degeratu Sonia, Materiale electrotehnice. Structura, proprietati, aplicatii, Editura Universitaria Craiova, 2012, SBN: 978-606-14-0396-7; 2. Degeratu Sonia, Materiale inteligente. Editura Universitaria, 2019, ISBN: 978-606-14-1574-8; 3. Degeratu Sonia, Degeratu B., Popescu Mihaela, Aspects Concerning the Performances of a New Insulation System for Low Voltage Asynchronous Motors. The 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON'06), Paris, France, November 7-10, 2006, ISSN 1553-572X, ISBN:978-1-4244-0135-2, pp. 3277; 4. Degeratu Sonia, Popescu Mihaela, Bîzdoaca N.G., Aspects Regarding the Performances of a New Insulation System for the 6kV Induction Motors. WSEAS Transactions on Circuits and Systems Journal, Issue 7, Volume 5, July 2006, ISSN 1109 – 2734, pp. 1009-1015

Inginerie electrică	Popescu Mihaela	5	Cercetări privind optimizarea performanțelor în rețelele moderne de distribuție a energiei electrice	1. Claeys, Sander & Vanin, Marta & Geth, Frederik & Deconinck, Geert. (2021). Applications of optimization models for electricity distribution networks. Wiley Interdisciplinary Reviews: Energy and Environment. 10. 10.1002/wene.401.; 2. Gallegos, J.; Arévalo, P.; Montaleza, C.; Jurado, F. Sustainable Electrification—Advances and Challenges in Electrical-Distribution Networks: A Review. Sustainability 2024, 16, 698. https://doi.org/10.3390/su16020698 ; 3. Sander Claeys, Marta Vanin, Frederik Geth, Geert Deconinck, Applications of optimization Saini, K., Saini, M., Kumar, A. et al. Performance analysis and optimization in renewable energy systems: a bibliometric review. Discov Appl Sci 7, 178 (2025). https://doi.org/10.1007/s42452-025-06585-2 ; 4. Nicolae Golovanov, Stefan Gheorghe, Ion Lungu, Radu Porumb, Ion Tristiu, Sisteme de distributie inteligente pentru alimentarea utilizatorilor de energie electrica, Editura: A.G.I.R. Seria: Electrotehnica – Electroenergetica, 2024
Inginerie electrică	Nicolae Petre Marian	6	Contribuții la eficientizarea unui sistem de tracțiune electric privind îmbunătățirea calității energiei electrice și reducerea interferențelor electromagnetice	(1) Nicolae P. M.; Nicolae, I.D., Nicolae M.Ș., "Powers and Power Factor in Non-Sinusoidal and Non-Symmetrical Regimes in Three-Phase Systems", ENERGIES, Vol.15, Issue14, Article Number 5130, DOI10.3390/en15145130, Published JUL 2022; (2) P. - M. Nicolae, I. -D. Nicolae, I. Nuca and M. -S. Nicolae, "Determination of Electromagnetic Noise from a Power Supply Substation of Railway Traction Systems," 2022 IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Spokane, WA, USA, 2022, pp. 619-624; (3) W. Song, S. Jiao, Y. W. Li, J. Wang and J. Huang, "High- frequency harmonic resonance suppression in high-speed railway through single-phase traction converter with LCL filter," IEEE Trans. on Transportation Electrification, vol. 2, no. 3, pp. 347-356, 2016; (4) B. Hemmer, A. Mariscotti and D.Wuergler, "Recommendations for the calculation of the total disturbing return current from electric traction vehicles", IEEE Trans. on Power Delivery, vol. 19, issue 3, 2004, pp. 1190–1197; (5) A. Hurezeanu, I. Nucă, I.D. Nicolae, L.C. Scărlătescu, P.M. Nicolae, "About the Distorting Regime Induced by an Electronic Induction Heating System", Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC), Nusa Dua - Bali, Indonesia; (6) P.M. Nicolae, M.Ș. Nicolae, R.F. Marinescu, R.C. Nicolae, I.D. Nicolae, V. Kese, A. Nețoiu, "Theoretical and Practical Aspects of Harmonics from a Railway Traction System Supplying Line", IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Reno, NV, USA, 2020, pp. 488-493; (7) Nicolae PM; M.S. Nicolae; Nicolae I.D. D.; Sacerdotianu P.A. Nicoleanu; „Diminishing the Conducted Emissions at a Monitoring and Diagnosis Equipment”, 2018 IEEE Symposium on Electromagnetic Compatibility, Signal Integrity and Power Integrity (EMC, SI & PI), Long Beach, CA, USA, July 30-Aug. 03, 2018, pp. 339-344; (8) Nicolae I.D.; Nicolae P. M.; Smarandescu I.D. "Denoising Highly Distorted Small Currents in an Environment with Variable Levels of Noise" 2017 IEEE International Symposium on Electromagnetic Compatibility and Signal/Power AUG 07-11, 2017 Pag: 299-304; (9) Voicu V.; Patru I.; Nicolae P. M.; Dina L.A.; „Analyzing the Attenuation of Electromagnetic Shielding Materials for Frequencies under 1 GHz” MAR 23-25, 2017 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) pag: 336-339; (10) Nicolae P. M.; Stanescu D.G.; Bojoi I.R.; „On the Optimization of the Rotor Flux Vector Control used in Induction Motors Drive Systems”, 2014, 16th International Power Electronics and Motion Control Conference and Exposition (PEMC), SEP 21-24, 2014, pag: 143-148.

Inginerie electrică	Nicolae Petre Marian	7	Contribuții la îmbunătățirea calității energiei electrice și a compatibilității electromagnetice la convertoare statice	(1) Nicolae P. M.; Nicolae, I.D., Nicolae M.Ș., "Powers and Power Factor in Non-Sinusoidal and Non-Symmetrical Regimes in Three-Phase Systems", ENERGIES, Vol.15, Issue14, Article Number 5130, DOI10.3390/en15145130, Published JUL 2022; (2) P. - M. Nicolae, I. -D. Nicolae, I. Nuca and M. -S. Nicolae, "Determination of Electromagnetic Noise from a Power Supply Substation of Railway Traction Systems," 2022 IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Spokane, WA, USA, 2022, pp. 619-624; (3) W. Song, S. Jiao, Y. W. Li, J. Wang and J. Huang, "High- frequency harmonic resonance suppression in high-speed railway through single-phase traction converter with LCL filter," IEEE Trans. on Transportation Electrification, vol. 2, no. 3, pp. 347-356, 2016; (4) B. Hemmer, A. Mariscotti and D.Wuergler, "Recommendations for the calculation of the total disturbing return current from electric traction vehicles", IEEE Trans. on Power Delivery, vol. 19, issue 3, 2004, pp. 1190–1197; (5) A. Hurezeanu, I. Nucă, I.D. Nicolae, L.C. Scărlătescu, P.M. Nicolae, "About the Distorting Regime Induced by an Electronic Induction Heating System", Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC), Nusa Dua - Bali, Indonesia; (6) P.M. Nicolae, M.Ș. Nicolae, R.F. Marinescu, R.C. Nicolae, I.D. Nicolae, V. Kese, A. Nețoiu, "Theoretical and Practical Aspects of Harmonics from a Railway Traction System Supplying Line", IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Reno, NV, USA, 2020, pp. 488-493; (7) Nicolae PM; M.S. Nicolae; Nicolae I.D. D.; Sacerdotianu P.A. Nicoleanu; „Diminishing the Conducted Emissions at a Monitoring and Diagnosis Equipment”, 2018 IEEE Symposium on Electromagnetic Compatibility, Signal Integrity and Power Integrity (EMC, SI & PI), Long Beach, CA, USA, July 30-Aug. 03, 2018, pp. 339-344; (8) Nicolae I.D.; Nicolae P. M.; Smarandescu I.D. "Denoising Highly Distorted Small Currents in an Environment with Variable Levels of Noise" 2017 IEEE International Symposium on Electromagnetic Compatibility and Signal/Power AUG 07-11, 2017 Pag: 299-304; (9) Voicu V.; Patru I.; Nicolae P. M.; Dina L.A.; „Analyzing the Attenuation of Electromagnetic Shielding Materials for Frequencies under 1 GHz" MAR 23-25, 2017 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) pag: 336-339; (10) Nicolae P. M.; Stanescu D.G.; Bojoi I.R.; „On the Optimization of the Rotor Flux Vector Control used in Induction Motors Drive Systems", 2014, 16th International Power Electronics and Motion Control Conference and Exposition (PEMC), SEP 21-24, 2014, pag: 143-148.
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Inginerie electrică	Nicolae Petre Marian	8	Studii și cercetări privind protecția datelor și a semnalelor electrice/electronice la transmiterea la distanță în condiții de siguranță	(1) Nicolae P. M.; Nicolae, I.D., Nicolae M.Ș., "Powers and Power Factor in Non-Sinusoidal and Non-Symmetrical Regimes in Three-Phase Systems", ENERGIES, Vol.15, Issue14, Article Number 5130, DOI10.3390/en15145130, Published JUL 2022; (2) P. - M. Nicolae, I. -D. Nicolae, I. Nuca and M. -S. Nicolae, "Determination of Electromagnetic Noise from a Power Supply Substation of Railway Traction Systems," 2022 IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Spokane, WA, USA, 2022, pp. 619-624; (3) W. Song, S. Jiao, Y. W. Li, J. Wang and J. Huang, "High- frequency harmonic resonance suppression in high-speed railway through single-phase traction converter with LCL filter," IEEE Trans. on Transportation Electrification, vol. 2, no. 3, pp. 347-356, 2016; (4) B. Hemmer, A. Mariscotti and D.Wuergler, "Recommendations for the calculation of the total disturbing return current from electric traction vehicles", IEEE Trans. on Power Delivery, vol. 19, issue 3, 2004, pp. 1190–1197; (5) A. Hurezeanu, I. Nucă, I.D. Nicolae, L.C. Scărlătescu, P.M. Nicolae, "About the Distorting Regime Induced by an Electronic Induction Heating System", Asia-Pacific International Symposium on Electromagnetic Compatibility (APEC), Nusa Dua - Bali, Indonesia; (6) P.M. Nicolae, M.Ș. Nicolae, R.F. Marinescu, R.C. Nicolae, I.D. Nicolae, V. Kese, A. Nețoiu, "Theoretical and Practical Aspects of Harmonics from a Railway Traction System Supplying Line", IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Reno, NV, USA, 2020, pp. 488-493; (7) Nicolae PM; M.S. Nicolae; Nicolae I.D. D.; Sacerdotianu P.A. Nicoleanu; „Diminishing the Conducted Emissions at a Monitoring and Diagnosis Equipment”, 2018 IEEE Symposium on Electromagnetic Compatibility, Signal Integrity and Power Integrity (EMC, SI & PI), Long Beach, CA, USA, July 30-Aug. 03, 2018, pp. 339-344; (8) Nicolae I.D.; Nicolae P. M.; Smarandescu I.D. "Denoising Highly Distorted Small Currents in an Environment with Variable Levels of Noise" 2017 IEEE International Symposium on Electromagnetic Compatibility and Signal/Power AUG 07-11, 2017 Pag: 299-304; (9) Voicu V.; Patru I.; Nicolae P. M.; Dina L.A.; „Analyzing the Attenuation of Electromagnetic Shielding Materials for Frequencies under 1 GHz" MAR 23-25, 2017 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) pag: 336-339; (10) Nicolae P. M.; Stanescu D.G.; Bojoi I.R.; „On the Optimization of the Rotor Flux Vector Control used in Induction Motors Drive Systems", 2014, 16th International Power Electronics and Motion Control Conference and Exposition (PEMC), SEP 21-24, 2014, pag: 143-148.
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Inginerie electrică	Nicolae Petre Marian	9	Optimizarea parametrilor undelor electromagnetice utilizând programe specializate de protecție pentru echipamente electrice/electronice	(1) Nicolae P. M.; Nicolae, I.D., Nicolae M.Ș., "Powers and Power Factor in Non-Sinusoidal and Non-Symmetrical Regimes in Three-Phase Systems", ENERGIES, Vol.15, Issue14, Article Number 5130, DOI10.3390/en15145130, Published JUL 2022; (2) P. - M. Nicolae, I. -D. Nicolae, I. Nuca and M. -S. Nicolae, "Determination of Electromagnetic Noise from a Power Supply Substation of Railway Traction Systems," 2022 IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Spokane, WA, USA, 2022, pp. 619-624; (3) W. Song, S. Jiao, Y. W. Li, J. Wang and J. Huang, "High- frequency harmonic resonance suppression in high-speed railway through single-phase traction converter with LCL filter," IEEE Trans. on Transportation Electrification, vol. 2, no. 3, pp. 347-356, 2016; (4) B. Hemmer, A. Mariscotti and D.Wuergler, "Recommendations for the calculation of the total disturbing return current from electric traction vehicles", IEEE Trans. on Power Delivery, vol. 19, issue 3, 2004, pp. 1190–1197; (5) A. Hurezeanu, I. Nucă, I.D. Nicolae, L.C. Scărlătescu, P.M. Nicolae, "About the Distorting Regime Induced by an Electronic Induction Heating System", Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC), Nusa Dua - Bali, Indonesia; (6) P.M. Nicolae, M.Ș. Nicolae, R.F. Marinescu, R.C. Nicolae, I.D. Nicolae, V. Kese, A. Nețoiu, "Theoretical and Practical Aspects of Harmonics from a Railway Traction System Supplying Line", IEEE International Symposium on Electromagnetic Compatibility & Signal/Power Integrity (EMCSI), Reno, NV, USA, 2020, pp. 488-493; (7) Nicolae PM; M.S. Nicolae; Nicolae I.D. D.; Sacerdotianu P.A. Nicolescu, "Diminishing the Conducted Emissions at a Monitoring and Diagnosis Equipment", 2018 IEEE Symposium on Electromagnetic Compatibility, Signal Integrity and Power Integrity (EMC, SI & PI), Long Beach, CA, USA, July 30-Aug. 03, 2018, pp. 339-344; (8) Nicolae I.D.; Nicolae P. M.; Smarandescu I.D. "Denoising Highly Distorted Small Currents in an Environment with Variable Levels of Noise" 2017 IEEE International Symposium on Electromagnetic Compatibility and Signal/Power AUG 07-11, 2017 Pag: 299-304; (9) Voicu V.; Patru I.; Nicolae P. M.; Dina L.A.; „Analyzing the Attenuation of Electromagnetic Shielding Materials for Frequencies under 1 GHz” MAR 23-25, 2017 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) pag: 336-339; (10) Nicolae P. M.; Stanescu D.G.; Bojoi I.R.; „On the Optimization of the Rotor Flux Vector Control used in Induction Motors Drive Systems”, 2014, 16th International Power Electronics and Motion Control Conference and Exposition (PEMC), SEP 21-24, 2014, pag: 143-148.
Inginerie electrică	Enache Sorin	10	Contributii privind imbunatatirea sistemelor de tractiune electrica feroviara	1. NICOLA D., CISMARU D.: Tractiune electrică: Fenomene, Modele, Solutii, Editura Sitech, Craiova, 2006. 2. MIHAILESCU D.: Locomotive si trenuri electrice cu motoare asincrone, Editura Didactica si Pedagogica, Bucuresti, 1997. 3. ENACHE S., ENACHE M.A.: Noțiuni fundamentale de mașini și micromașini electrice, Editura Universitaria, Craiova, 2008. 4. CÂMPEANU A., Masini electrice - Probleme fundamentale, speciale și de funcționare optimală, Editura Scrisul Romanesc, Craiova, 1988.
Inginerie electrică	Enache Sorin	11	Cercetari privind imbunatatirea performantelor centralelor hidroelectrice	1. MIRCEA, P.M., RUIENEANU, L.: Producerea,transportul si distributia energiei electrice, Manual Universitar, Editura Universitaria , Craiova, 2017. 2. MIRCEA, I., BRATU, C.: Conversia Energiei si Energetica Generala, Vol. I, Ed. Universitaria, Craiova, 2009. 3. ENACHE S., ENACHE M.A.: Noțiuni fundamentale de mașini și micromașini electrice, Editura Universitaria, Craiova, 2008. 4. CÂMPEANU A., VLAD I.: Mașini electrice - Teorie, construcție și aplicații, Editura Universitaria Craiova, 2006.
Inginerie electrică	Enache Sorin	12	Contributii in proiectarea motoarelor electrice utilizate pentru actionarea autovehiculelor	1. ERDODI G. M., MUNCUT E., BABESCU M.: Autovehicule electrice și hibride - Ediția a II-a revizuită și adăugită, Editura Politehnica, Bucuresti, 2019. 2. ENACHE S., VLAD I.: Mașina de inductie - Noțiuni fundamentale - Procese dinamice, Editura Universitaria, Craiova, 2002. 3. CÂMPEANU A., VLAD I.: Mașini electrice - Teorie, construcție și aplicații, Editura Universitaria, Craiova, 2006. 4. VLAD, I.: Proiectarea optimala a masinilor electrice, Editura Universitaria, Craiova, 2008.
Inginerie electrică	Enache Sorin	13	Contributii in domeniul conducerii operative si operationale a Sistemului Energetic National	1. MIRCEA, I. – Instalații și echipamente electrice. Ghid teoretic și practic, Editura Didactica și Pedagogica, București, 2002. 2. MIRCEA, P.M., Securitatea In Instalatiile Electroenergetice, Editura SITECH, Craiova, 2015. 3. MIRCEA, P.M., RUIENEANU, L.: Producerea,transportul si distributia energiei electrice, Manual Universitar, Editura Universitaria , Craiova, 2017.