

Nume Prenume: CODREAN MARIUS.

Gradul didactic: Șef de lucrări.

Instituția unde este titular: UNIVERSITATEA DIN ORADEA

Facultatea: DE INGINERIE ELECTRICĂ ȘI TEHNOLOGIA INFORMAȚIEI

Departamentul: INGINERIE ELECTRICĂ

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

“Contribuții privind modelarea numerică a procesului de încălzire prin inducție în volum. Aspecte privind proiectarea optimă a echipamentelor electrotermice inductive.” Conducător științific: Prof. univ. dr. ing. Teodor LEUCA ORADEA **Universitatea din Oradea**, Domeniul: **Inginerie Electrică**

Perioada: **1 Octombrie. 2013 – 22 Decembrie 2016**

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B. Cărți și capitole în cărți publicate în ultimii 10 ani

1. *„Elemente fundamentale privind modelarea numerică a procesului de încălzire inductivă : rezultate numerice „*, Marius Codrean, Teodor Leuca. - Oradea : Editura Universității din Oradea, 2017
Conține bibliografie ISBN 978-606-10-1885-7
2. *Măsurări și traductoare*, (suport de curs electronic)
<https://e.uoradea.ro/mod/folder/view.php?id=64840> Gordan Mircea Ioan **Codrean Marius** Gordan Cornelia Emilia Universității din Oradea, 2020 Conține note de curs.
3. *Măsurări electrice și sisteme de măsurare*, <https://e.uoradea.ro/mod/folder/view.php?id=64880>
Gordan Mircea Ioan **Codrean Marius** Gordan Cornelia Emilia Universității din Oradea, 2020
Conține note de laborator.

C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

1. Cornelia-Mihaela Novac, **Marius Codrean**, Mihaela Codrean, Ovidiu-Constantin Novac, Cornelia Emilia Gordan and Radu Sebesan 98 Development of an AI-Enhanced Arduino-Based Photovoltaic Tracking System for Optimized Energy Efficiency of the 17th International Conference on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE – **ECAI-2025 DOI: 10.1109/ECAI65401.2025.11095470**
2. Ovidiu Constantin Novac, Cornelia-Mihaela Novac, Ioan Mircea Gordan, Mircea Danut Pantea, **Marius Codrean**, Gyongyi Bujdoso, Andreea-Milena Suba, Catalin-Daniel Morar Comparative Study of Two Web Applications Developed Using MERN and MEAN Stacks 2025 17th International Conference on Electronics, Computers and Artificial Intelligence (ECAI) **DOI: 10.1109/ECAI65401.2025.11095516**
3. **Marius Codrean**, M. C. Novac, M. Codrean, O. C. Novac, C. E. Gordan and R. Sebesan, **"Employing the simulation platforms Flux 2D and FEMM4.2 to numerically optimize the eddy current phenomenon during the edge-hardening process,"** 2024 16th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), Iasi, Romania, 2024, pp. 1-5,
doi: 10.1109/ECAI61503.2024.10607489.

4. M. C. Novac, **Marius Codrean**, O. C. Novac, M. Codrean, I. M. Gordan and T. O. Gal, **"Comparative study of experimental data and numerical simulations using 2D FLUX for hardening the teeth edges in a portable inductor gear,"** 2024 16th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), Iasi, Romania, 2024, pp. 1-6, doi: 10.1109/ECAI61503.2024.10607451.
5. Pantea Mircea Dănuț, Codrean Mihaela Fekete-Nagy Luminița **Codrean Marius**, Burca Adrian Onadi Robert Pancu Rareș, Study on the Implementation of Heat Pumps for Home Heating with the Help of Solar Energy, **(ISI Web of Science indexed proceedings), the 2023 17th International Conference on Engineering of Modern Electric Systems – ICEMES**
6. Francisc Slovak , **Marius Codrean**, Livia Bandici Faculty, Radu Dimitrie Sebesan **Aspects Regarding the Microwave Drying of Oak Wood Chips (ISI Web of Science indexed proceedings),** the 2023 17th International Conference on Engineering of Modern Electric Systems – ICEMES
7. Francisc Slovak Radu Dimitrie Sebesan Bandici Bianca Șimon **Marius Codrean** Adrian Szoke **Comparative Study on the Drying of Wood Chips with Different Humidities and Sizes in a Microwave Field the 2023 17th International Conference on Engineering of Modern Electric Systems – ICEMES**
8. **Mihaela Cornelia Novac, Mihaela Codrean, Francisc Slovak, Marius Codrean, Mihai Oproescu, Mircea Gordan, Ovidiu Constantin Novac. The Optimal Shape of the Surface Hardening Head Obtained by Numerical Modeling** ECAI 2023 15th Edition INTERNATIONAL CONFERENCE on Electronics, Computers and Artificial Intelligence 29 June - 30 June 2023 Bucharest, ROMANIA, Conference Record Number: 58194X with technical sponsorship of IEEE IAS and IEEE Romania
9. Marius Codrean, **Cornelia Emilia Gordan**, Mihaela Codrean, **Francisc Slovak, Mihaela Cornelia Novac, Ovidiu Constantin Novac, , Gyongyi Bujdoso Numerical solution of the problem of turbulent currents that occur in the case of edge hardening** ECAI 2023 15th Edition INTERNATIONAL CONFERENCE on Electronics, Computers and Artificial Intelligence 29 June - 30 June 2023 Bucharest, ROMANIA, Conference Record Number: 58194X with technical sponsorship of IEEE IAS and IEEE Romania
10. Lehel Szabolcs Csokmai, Cornelia Mihaela Novac, Ovidiu Constantin Novac, Gyongyi Bujdoso, Mihai Oproescu and **Marius Codrean** , Comparative study about data speed acquisition and recording in a MySQL database of LabVIEW, MATLAB and Python programming languages **13 th INTERNATIONAL CONFERENCE on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE ECAI 2021, July 1– July 3, 2021**
Date of Conference: 1-3 July 2021 Date Added to IEEE Xplore: 23 August 2021
ISBN Information: INSPEC Accession Number: 21104065
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11. **CODREAN Marius¹, SLOVAC Francisc¹, GORDAN Cornelia Emilia², HATHAZI Francisc Ioan², CODREAN Mihaela³** Correlation of catalytic temperature and liquid organics using the catalytic microwave pyrolysis method for low density polyethylene (LDPE) ^{1,2}University of Oradea, Romania, Faculty of Electrical Engineering and Information Technology, 1 Universitaiistreet, 410087 Oradea, Romania ³National Geothermal Research Center Universitaiistreet, 410087 Oradea, Romania **JOURNAL OF ELECTRICAL AND ELECTRONICS ENGINEERING, Vol. 14, no. 1, May 2021**
http://electroinf.uoradea.ro/images/articles/CERCETARE/Reviste/JEEE/JEEE_V14_N1_MAY_2021/5%20JEEE%20Codrean%20Marius.pdf
12. SLOVAC Francisc¹, **CODREAN Marius¹**, GORDAN Mircea Ioan², HATHAZI Francisc Ioan² SEBESAN Radu² CODREAN Mihaela³

Correlation of catalytic temperature and bio-oil using the catalytic microwave pyrolysis method for cellulosic biomass ^{1,2}University of Oradea, Romania, Faculty of Electrical Engineering and Information Technology, 1 Universitaiistreet, 410087 Oradea, Romania ³National Geothermal

13. Mircea Gordan, Dorina Mioara Purcaru, **Marius Codrean**, Mihaela Cornelia Novac, Ovidiu Constantin Novac and Mihaela Codrean *Aspects regarding the numerical simulation of the inductive heating process, using the flux2d and femm software* of the 11th International Conference on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE–ECAI-2019 <http://ecai.ro/Arhiva/Book%20of%20Abstracts%202019.pd>
14. Mihaela Codrean, **Marius Codrean**, Mihaela Cornelia Novac, Ovidiu-Constantin Novac, Cornelia Gordan, Valentin Ioan Farcas *Analyzing the Process of Tempering a Semifinished Product Using the FLUX2D and FEMM Software*
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15. Teodor Leuca, Simina Coman, Nistor Daniel Trin, Livia Bandici, **Marius Codrean**, Marcel Perte *Neural Network Modeling of a Drying Process in Radio Frequency Field*
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16. Mihaela Cornelia Novac, **Marius Codrean**, Ovidiu Constantin Novac, Mihaela Codrean, Mihai Oproescu and Gyöngyi Bujdosó *The numerical modeling of the inductive heating process at different frequencies, using the flux2d software*
 of the 11th International Conference on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE ECAI-2019 , <http://ecai.ro/Arhiva/Book%20of%20Abstracts%202019.pdf>
17. VasileDarieSoproni, Carmen Otilia Molnar, FranciscIoanHathazi, MirceaNicolae Arion, **Marius Codrean**, Liviu Moldovan - *Experimental Research on Microwave Field and Hot Air Drying of Barley Seeds*, 13-14 June 2019, 15th International Conference on Engineering of Modern Electric Systems (EMES), Oradea, Romania, ISBN: 978-1-7281-0774-5, Electronic ISBN: 978-1-7281-0773-8, DOI: 10.1109/EMES.2019.8795175, Document Type: Proceedings Paper, WOS: 000503434500029
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18. Mihaela Covaciu, Vasile-DarieSoproni, Francisc-IoanHathazi, Carmen Otilia Molnar, Mircea-Nicolae Arion, **Marius Codrean** - *Decontamination, Drying and Sterilization Assisted by the High Frequency Electromagnetic Field for the Processing of Construction Waste Used on Driveways*, 13-14 June 2019, 15th International Conference on Engineering of Modern Electric Systems (EMES), Oradea, Romania, ISBN: 978-1-7281-0774-5 , Electronic ISBN: 978-1-7281-0773-8, DOI: 10.1109/EMES.2019.8795175, Document Type: Proceedings Paper, WOS: 000503434500023
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19. Mihaela Cornelia Novac, **Marius Codrean**, Ovidiu Constantin Novac, Cornelia Gorda *Current Aspects and Trends in the Numerical Modeling of Induction Heating Equipments* , n Faculty of Electrical Engineering and Information

Technology University of Oradea , Romania Mihaela Codrean CNCG-CCT University of Oradea, Oradea, Romania ECAI 2018 - International Conference – 10th Edition Electronics, Computers and Artificial Intelligence 28 June -30 June, 2018, Iasi, ROMÂNIA WOS:000467734100116, <http://apps.webofknowledge.com.am.e->

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20. **Marius Codrean**, Mihaela Cornelia Novac, Ovidiu Constantin Novac Mihaela Codrean CNCG-CCT University of Oradea *Considerations on the Numerical Modeling of the Induction Heating Process Using the Elta and Flux 2D Software* , Faculty of Electrical Engineering and Information Technology University of Oradea

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21. Teodor Leuca; Mihai Maricar; Ioan Florea Hăntilă; George Marian Vasilescu; **Marius Codrean**; Livia Bandici; Adrian Burcă *Heating of nonlinear ferromagnetic bars* 2017 14th International Conference on Engineering of Modern Electric Systems (EMES) Year: 2017 Pages: 225-228 IEEE Conferences WOS000414507000001,

http://revue.elth.pub.ro/upload/32819501_MMariaru_RRST_3_2017_pp_225-228.pdf

22. Mircea – Nicolae Arion, Francisc – Ioan Hathazi, Molnar Carmen Otilia, Darie Soproni Vasile, **Marius Codrean** – *About the extraction in microwave field of the essential oils and beta-carotene from carrots*, 2017 14TH INTERNATIONAL CONFERENCE ON ENGINEERING OF MODERN ELECTRIC SYSTEMS (EMES), Pages: 75-78, Published: **2017**, JUN 01-02, 2017, ORADEA, ROMANIA, ISBN:978-1-5090-6073-3, Document Type: Proceedings Paper,

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23. Țelea, D.aEmail Author, Vicaș Coman, S., Bandici, L., **Codrean, M.**, Leuca, T., *Aspects concerning the process of induction heating using design of experiments* Journal of Electrical and Electronics EngineeringOpen Access

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24. D. ȚELEA, Livia BANDICI, **Marius CODREAN**, Teodor LEUCA *The Analysis of the Electromagnetic Field in the Induction Heating of Flat Workpieces*, -. Journal of Electrical and Electronics, Engineering, vol. XI, nr.2 octombrie, 2018, pp.37-42. ISSN 1844 – 6035.

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25. **Codrean, Marius.**, Coman, S., Popa, M., Codrean, Mihaela *Optimizing the process of inductive heating in volume using numerical simulations* .2017 Journal of Electrical and Electronics Engineering ,

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26. Maricar, M., **Codrean, M.**, Leuca, T., Bandici, L., Vasilescu *Thermal treatment of ferromagnetic bars*, G.M.Revue Roumaine des Sciences Techniques Serie Electrotechnique et Energetique 2017, https://www.researchgate.net/publication/320539422_Thermal_treatment_of_ferromagnetic_bars

27. **Codrean, M.**, Nagy, Ș., Bandici, L., Gordan, M *Modeling and simulating the process of superficial heat treatment, by induction*. 2016 Journal of Electrical and Electronics Engineering , https://ietu.uoradea.ro/images/articles/CERCETARE/Reviste/JEEE/JEEE_V9_N2_OCT_2016/03paper0809Codrean_Modeling_v9n2oct2016.pdf

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29. **Codrean, M.**, Coman Simina, Popa, M., Leuca, T., Giurgiu, N.C *Modelling the process of induction heating in volume of a bar strip using flux 2D software, coupled with minitab experimental design software*
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31. Neamțu, O., Roșca, M., Bendea, C., **Codrean, M** *Ground source heat pump in heating system with electronics monitoring* 2013 Journal of Electrical and Electronics Engineering
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D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

- Reviste

1. NU

E. Brevete obținute în întreaga activitate

1. NU

Data:

24.09.2025

E – Brevete (pentru întreaga activitate)

Semnătura:

