

Anexa B.9.11 - Rezultatele activității de cercetare desfășurate de personalul didactic și de cercetare (ultimii cinci ani)

UNIVERSITATEA TEHNICĂ "GHEORGHE ASACHI" DIN IAȘI

FACULTATEA DE INGINERIE ELECTRICĂ, ENERGETICĂ ȘI INFORMATICĂ APLICATĂ

Domeniul de licență: INGINERIE ENERGETICĂ

Programul de studii: Energetică și Tehnologii Informatice

Rezultatele activității de cercetare științifică desfășurată de personalul didactic și de cercetare propriu

Nume și prenume cadru didactic/ cercetător științific (grad didactic, titlu științific)	Publicații în reviste de specialitate sau edituri din țară, ISI, BDI, comunicări științifice prezentate la sesiuni, simpozioane, seminarii etc. din țară și/ sau străinătate, contracte, expertiză, consultanță etc, pe bază de contracte sau convenții încheiate cu parteneri din țară și/sau străinătate, cu evaluare atestată de către comisii de specialitate etc.
Prof. dr. ing. Gheorghe Grigoraș	Cărți publicate în străinătate, în țară, pe plan local și pe web 1. Gheorghe Grigoraș, Bogdan Neagu, Florina Scarlatache, Data Mining-Based Approaches in the Power Quality Analysis, Capitolul 5 in cartea Smart Grids 3.0, Editori: Bhargav Appasani si Nicu Bizon, Springer International Publishing, Switzerland, 2023,ISBN: ISBN-13: 9783031385056 2. Bogdan Neagu, Gheorghe Grigoraș, Florina Scarlatache, Engineering Applications of Crowdsourcing Concept in Active Distribution Grids, Capitolul 3 in cartea Smart Grids 3.0, Editori: Bhargav Appasani si Nicu Bizon, Springer International Publishing, Switzerland, 2023,ISBN: ISBN-13: 9783031385056 3. Gheorghe Grigoras, Bogdan-Constantin Neagu Livia Noroc, Ecaterina Chelaru, New Smart Devices-Based Strategies for Optimal Planning and Operation of Active Electric Distribution Networks, Capitolul 10 in cartea Power System Strength Evaluation methods, best practice, case studies, and applications, Editori: Hassan Haes Alhelou, Nasser Hosseinzadeh, Behrooz Bahrani, The Institution of Engineering and Technology (IET), UK, 2023, ISBN-13: 978-1-83953-807-0 4. Bogdan Neagu, Mihai Gavrilas, Ovidiu Ivanov, Gheorghe Grigoraș, The Crowdsourcing Concept-Based Data Mining Approach Applied in Prosumer Microgrids, Capitol in cartea The Future of Data Mining, Editor: Cem Ufuk Baytar, Nova Science Publishers, USA, 2022, 77–94 ISBN: 979-8-88697-315-0 5. Gheorghe Grigoraș, Bogdan Neagu, Regression Analysis-Based Load Modelling for Electric Distribution Networks, Capitol in cartea Numerical Methods for Energy Applications, Editori: Naser

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	Lucrări publicate în reviste WoS și BDI 1. Grigoras Gheorghe, Bogdan Livadariu, Bogdan-Constantin Neagu, Data Clustering-Driven Fuzzy Inference System-Based Optimal Power Flow Analysis in Electric Networks Integrating Wind Energy, Processes 13, no. 3, 676, 2025, WOS:001452140000001 (Q2) 2. Dandea Vasilica, Stefania Galbau, Mihai-Alexandru Baci, Gheorghe Grigoras, Three-Layer Framework Integrating Optimal Placement of Supervisory, Control, and Acquisition System Measurements with Clustering-Based Electric Substations Selection for State Estimation of Medium-Voltage Distribution Networks, Applied Sciences, 15, no. 4, 1942, 2025, WOS:001429918800001 (Q1) 3. Grigoras Gheorghe, Gârbea Răzvan, Neagu Bogdan Constantin, Toward Smart SCADA Systems in the Hydropower Plants through Integrating Data Mining-Based Knowledge Discovery Modules. Applied Sciences. 2024; 14(18):8228. WOS:001323830500001 (Q1) 4. Ovidiu Ivanov, Mihai-Andrei Luca, Bogdan-Constantin Neagu, Gheorghe Grigoras, Mihai Gavrilaș. Flexible Energy Storage for Sustainable Load Leveling in Low-Voltage Electricity Distribution Grids with Prosumers, Sustainability, Vol. 16, Nr. 10, 3905. WOS:001231408300001 5. Vasilica Dandea, Gheorghe Grigoras, Expert System Integrating Rule-Based Reasoning to Voltage Control in Photovoltaic-Systems-Rich Low Voltage Electric Distribution Networks: A Review and

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6.	Gheorghe Grigoraş, Maria Simona Raboaca, Catalin Dumitrescu, Daniela Lucia Manea, Traian Candin Mihaltan, Violeta-Carolina Niculescu, and Bogdan Constantin Neagu. Contributions to Power Grid System Analysis Based on Clustering Techniques, Sensors, vol. 23, nr. 4: 1895. 2023, WOS:000942301200001 Q2)
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13.	Ovidiu Ivanov, Bogdan Neagu, Mihai Gavrilas, Gheorghe Grigoraş, A Phase Generation Shifting Algorithm for Prosumer Surplus Management in Microgrids using Inverter Automated Control, Electronics, vol. 10, nr. 22, 2740, 2021, Accession Number: WOS:000727513800001 (Q2)
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32.	Livia Noroc, Gheorghe Grigoras, Vasilica Dandea, Ecaterina Chelaru, Bogdan-Constantin Neagu, An Efficient Voltage Control Methodology in LV Networks Integrating PV Prosumers Using Distribution Transformers with OLTC, 2022 IEEE 20th International Power Electronics and Motion Control Conference, Brasov, Romania, 25-29 septembrie, 2022. (IEEE Xplore)
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34.	Constantin Zetu, Bogdan-Constantin Neagu, Gheorghe Grigoras, Ovidiu Ivanov, Mihai Gavrilas, Overhead Transmission Lines Capacity Management Based On Different Weather Conditions, The 16th International Conference Interdisciplinarity in Engineering(INTER-ENG 2022), Tg. Mures, Romania, 6 -7 octombrie, 2022. (Springer)
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36.	Razvan Garbea, Gheorghe Grigoras, Clustering-Using Data Mining-based Application to Identify the Hourly Loading Patterns of the Generation Units from the Hydropower Plants, 2022 International Conference on Electrical and Power Engineering (EPE 2022), Iași, Romania, 20-22 octombrie 2022. (IEEE Xplore)
37.	Ovidiu Ivanov, Bogdan Neagu, Nicusor Toma, Grigoras Gheorghe; Paul Ghilan, Mihai Gavrilas,, Metaheuristic Approaches for Distributed Generation Placement Optimization in Electrical Grids - A comparison between PSO, Tiki-Taka and Archimedes Optimzation Algorithms, 2022 International Conference on Electrical and Power Engineering (EPE 2022), Iași, Romania, 20-22 octombrie 2022. (IEEE Xplore)
38.	Bogdan Neagu, Mihai Gavrilas, Ovidiu Ivanov, Gheorghe Grigoraș, The Crowdsourcing Concept-Based Data Mining Approach Applied in Prosumer Microgrids, Capitol in cartea The Future of Data Mining, Editor: Cem Ufuk Baytar, Nova Science Publishers, USA, 2022, 77–94 (Scopus)
39.	Gheorghe Grigoras, Vasilica Dandea, Bogdan-Constantin Neagu, Florina Scarlatache, Load Estimation with the Clustering-Based Selection of the Electric Distribution Substations Integrated in SCADA System, 10th International Conference on ENERGY and ENVIRONMENT (CIEM), 14 – 15 Octombrie, 2021, Bucuresti, Romania. DOI: 10.1109/CIEM52821.2021.9614718 (IEEE Xplore)
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	Invenții și brevete
	Contracte de cercetare / granturi
Ș.L. dr. ing. Scarlatache Vlad Andrei	Cărți publicate în străinătate, în țară, pe plan local și pe web
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	Brevet de invenție nr. 135946/2022 cu titlul " Procedeu de evaluare a contaminării cu biomolecule a suporturilor pe bază de polierilen tereftalat reciclat", inventatori: Dodi Gianina, Cojocar Florina Daniela, Popescu Diana, Mihaai Cosmin Teodor, Mihaela Arădoaei, Romeo Cristian Ciobanu
	Contracte de cercetare / granturi
	1. Director proiect - <i>Tehnologia de fabricare a filmelor conductive anizotropice nanostructurate cu arhitectură adaptabile sub acțiunea câmpului electromagnetic, pentru aplicații electronice și biomedicale</i>- Contract de finanțare 19/2018, Program PN III - Cooperare Europeană și Internațională - Subprogram 3.2 - Orizont 2020, Tip Proiect - ERANET, COFUND-MANUNET III-AniConFilm-2, durată 24 luni, , buget 388.270 lei 2. Membru - <i>Danube Wetlands and flood plains Restoration through systemic, community engaged and sustainable innovative actions</i>, DaWetRest, Contract nr. 101113015/2023, din cadrul HorizonEurope, finanțat prin CE HORIZON Action Grant Budget-Based, durata 36 luni, buget 88.062,50 euro 3. Membru - <i>Grant pentru susținerea capacității de publicare</i>, grant intern GI/P10/2021, buget 45.000 lei 4. Membru - <i>Grant pentru idei de proiect</i>, grant intern GI/P1/2021_IDEI, , buget 40.000 lei 5. Membru - <i>Biosenzori bazati pe arhitecturi nanofluidice pentru detectia proteinelor umane (MINaFBioS)</i>, PN III - ERANET, MANUNET-III, Contract nr. 149/2020, durata 24 luni, buget 432.250 lei 6. Membru - <i>Membrane nanoporoase pentru pseudolivrarea intratecala a medicamentelor (INTREPIDUS)</i>, PN III ERANET-EURONANOMED, Contract nr. 193/2020, durata 36 luni, buget 535.700 lei 7. Membru - <i>Sisteme software cu arhitecturi versatile de management al energiei și de optimizare a indicatorilor de performanță energetică a clădirilor inteligente, dezvoltate în cadrul clusterului euronest IT&C HUB</i>, Programul Operațional Competitivitate, Contract nr. 70/221_ap2/14.08.2020, My SMIS 130052, durată 27 luni, buget 4.474.125 lei

	8. Director proiect - Transfer de cunoștințe privind realizarea de noi metode de diagnosticare a panourilor din parcuri fotovoltaice, Programul Operațional Competitivitate, Contract subsidiar nr. 126/D10/2022, My SMIS 105567, durată 8 luni, buget 580.000 lei 9. Director proiect - Analize Fizico-Chimice, Materiale Nanostructurate Si Dispozitive Pentru Aplicatii In Domeniul Farmaceutic Si Medical Din Romania – AMD-FARMA-MED-RO, Programul Operațional Competitivitate, Contract subsidiar nr. 62/13.04.2022, My SMIS 105725, durată 11 luni, buget 448.605 lei 10. Membru - Mitigarea riscului pentru sănătatea publică privind contaminanții biochimici ai ambalajelor farmaceutice și alimentare reciclate printr-o nouă metodologie bazată pe analiza spectrală în domeniul THz (THzPET), PN-III-P2-2.1-657PED/2020, durată 18 luni, buget 250.000 lei 11. Membru - Analize Fizico-Chimice, Materiale Nanostructurate Si Dispozitive Pentru Aplicatii In Domeniul Farmaceutic Si Medical Din Romania – AMD-FARMA-MED-RO, Programul Operațional Competitivitate, Contract subsidiar nr. 636/16.03.2020, My SMIS 105725, durată 15 luni, buget 630.199 lei
Conf. dr. ing. Oana Maria Asiminicesei	Cărți publicate în străinătate, în țară, pe plan local și pe web 1. Constantin Sărmășanu – coordonator-Seria: Antreprenariat pentru ingineri și arhitecți, Coordonator Vol.3 Oana-Maria Asiminicesei-Afaceri digitale – Capitole: 1.1. Capitolul 1- Oana-Maria Asiminicesei,” Antreprenariat-trecut și prezent. Economia digitală-Societatea informațională. Antreprenor/Antreprenariat-Concepte generale”- Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.14-pag.39 (25 pagini) 1.2. Capitolul 2- Oana-Maria Asiminicesei – ”Calitățile și abilitățile unui antreprenor de succes. Gândire și comportament antreprenorial” - Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.40-pag.46 (6 pagini) 1.3. Capitolul 3- Oana-Maria Asiminicesei- ”Sursele de finanțare pentru o idee de afaceri. Etapele autorizării unei afaceri în România” - Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.47-pag.59 (12 pagini) 1.4. Capitolul 10- Oana-Maria Asiminicesei – ”Concepte e-Business. Stadiile și caracteristicile unei afaceri electronice” Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.199- pag. 207 (8 pagini) 1.5. Capitolul 11- Oana-Maria Asiminicesei – ”Noțiuni generale e-Commerce. Modele/Infrastructură/tipuri de site-uri/Modalități de plată on-line” - Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.208- pag. 220 (12 pagini) 1.6. Capitolul 11- Oana-Maria Asiminicesei – ”Securitatea în sistemele de tip E-Business. Politici, servicii și mecanisme de securitate” - Editura Performantica, 2022, ISBN 978-606-685-932-5, pag.221-pag. 238 (17 pagini) 1.7. Capitolul 14- Oana-Maria Asiminicesei, Sebastian-Teodor Arădoae- ”Ghid pentru elaborarea lucrării de diplomă cu privire la evaluarea potențialului de valorizare a produsului/tehnologiei sau serviciului

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	4. Aplicații Măsurări în ecologie și biomedică, 2021, format electronic word (pretabil pentru expunerea în modul on-line-5 teme - 40 de pagini).
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	C. -F. Acsinte, C. -M. Nemes and F. C. Baiceanu , "Impact of Distributed Generation on the Performance of Electrical Networks," <i>2022 International Conference and Exposition on Electrical And Power Engineering (EPE)</i> , Iasi, Romania, 2022, pp. 601-604, doi: 10.1109/EPE56121.2022.9959757. F. C. Baiceanu , C. Nemes, F. Munteanu and C. F. Acsinte, "Controlled Switching Taking Into Account the Standard Deviation of Switching Time," <i>2022 International Conference and Exposition on Electrical And Power Engineering (EPE)</i> , Iasi, Romania, 2022, pp. 617-621, doi: 10.1109/EPE56121.2022.9959770.

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Prof. dr. ing. Bălănescu Dan-Teodor	Cărți publicate în străinătate, în țară, pe plan local și pe web <u>D.T. Bălănescu</u>, V.M. Homutescu, <i>Construcția și calculul cazanelor și turbinelor</i>, Ed. Performantica, ISBN 978-606-685-813-7, Iași, 2021, 209 pagini V.M. Homutescu, <u>D.T. Bălănescu</u>, T.M. Ulian, <i>Compresoare cu piston. Îndrumar de proiect</i>, Ed. Performantica, ISBN 978-606-685-962-2, Iași, 2022, 186 pagini <u>D.T. Bălănescu</u>, V.M. Homutescu, M.V. Atanasiu, <i>Generatoare de abur – Aplicații în Mathcad</i>, Ed. Performantica, ISBN 978-630-328-055-4, Iași, 2023, 259 pagini D.T. Bălănescu, <i>Propulsia prin motoare cu turbină</i>, 107 pagini, suport curs, 2021 – format electronic, http://www.dan-balanescu.mec.tuiasi.ro/ și https://drive.google.com/drive/folders/1r2-9E5mkVOOumhr4nCkA6rxjpxAPOpPd Lucrări publicate în reviste WoS și BDI Bălănescu D.T., Homutescu V.M., <i>Effects of hydrogen-enriched methane combustion on latent heat recovery potential and environmental impact of condensing boilers</i>, Applied Thermal Engineering, Vol. 197, October 2021, 117411, ISSN: 1359-4311, https://doi.org/10.1016/j.applthermaleng.2021.117411. Impact factor: 6,9 (2024), 6,6 (5 years) Lucrări publicate în volumele conferințelor

	<u>Bălănescu D.T.</u> , Homutescu V.M., Atanasiu M.V., <i>Performance and environmental impact analysis of a gas-steam combined cycle power plant with bottoming ORC unit</i> , International Conference on Advanced Concepts in Mechanical Engineering – ACME 2024, S07 – 0010
Conf. dr. ing. Beniugă Oana Cristina	Cărți publicate în străinătate, în țară, pe plan local și pe web Oana Cristina Beniugă, Protecția prin relee – note de curs, editura PIM, ISBN: 978-606-13-7838-8, 176 pag., 2023 Oana Cristina Beniugă, Florin Băiceanu - Protecția prin relee – îndrumar de laborator, editura PIM, ISBN: 978-606-13-7837-1, 180 pag., 2023 Beniugă Oana Cristina, Automatizarea procesului de măsurare folosind procesarea numerică a imaginilor, editura PIM, format academic, ISBN 978-606-13-7985-9, 186 pag., 2023 Oana-Maria Asiminicesei, Oana-Cristina Beniugă, Alin Dragomir, Ciprian-Romeo Comșa, Cristian-Gyözö Haba, Constantin-Cătălin Dosoftei, Sebastian-Teodor Arădoaei, Marius-Ciprian Brânzilă, AFACERI DIGITALE 3, seria: Antreprenoriat pentru ingineri și arhitecți, editura PERFORMANTICA, ISBN 978-606-685-932-5, 308 pag., 2022 Lucrări publicate în reviste WoS și BDI Beniugă, D. Machidon, P. S. Popa, O. Beniugă, F. Băiceanu and M. Istrate, Cost-effectiveness and sustainability analysis of a NZEB house, 2024 IEEE International Conference And Exposition On Electric And Power Engineering (EPEi), Iasi, Romania, 2024, pp. 187-192, doi: 10.1109/EPEi63510.2024.10758113 O. Beniugă, R. Beniugă, F. Băiceanu, House heating system thermal dynamics assessment using Petri Net approach, 2023 10th International Conference on Modern Power Systems (MPS), Cluj-Napoca, Romania, 2023, pp. 01-05, doi: 10.1109/MPS58874.2023.10187544 R. Beniugă, O. Beniugă, D. Machidon, F. Băiceanu, M. Istrate, NZEB compliance principles in Romania for residential buildings, 2023 10th International Conference on Modern Power Systems (MPS), Cluj-Napoca, Romania, 2023, pp. 01-06, doi: 10.1109/MPS58874.2023.10187523. B. A. Pingescu, V. D. Asmarandei, D. G. Astanei, O. C. Beniugă, C. R. Beniugă and R. Burlică, High conductivity solution treatment by non-thermal plasma T-shaped mini electrochemical reactors, 2024 IEEE International Conference And Exposition On Electric And Power Engineering (EPEi), Iasi, Romania, 2024, pp. 616-619, doi: 10.1109/EPEi63510.2024.10758144 Bogdan, Pingescu, Astanei Dragos, Burlică Radu, Asmarandei Vasile Daniel, Beniugă Oana Cristina and Gheorghe Veronica. "Capacitive Power Supplies for Non-Thermal Plasma Electrochemical Mini-Reactors." 2024 IEEE International Conference And Exposition On Electric And Power Engineering (EPEi) (2024): 632-635. R. Burlica, D.E. Crețu, O. Beniugă, D. Astanei, Nonthermal Plasma Multi-Reactor Scale-Up Using Pulse Capacitive Power Supplies, Applied Sciences – Basel, vol. 12, issue 20, Art. number 10403, WOS: 000872282100001, 2022.

	D. Astanei, R. Burlică, D.E. Crețu, M. Olariu, I. Stoica, O. Beniugă, Treatment of Polymeric Films Used for Printed Electronic Circuits Using Ambient Air DBD Non-Thermal Plasma, Materials, vol. 15, issue 5, art. number 1919, 2022. R. Burlică, D. Astanei, D.E. Cretu, D. Dirlau, O. Beniugă, S. Padureanu, V. Stoleru, A. Patras, Non-thermal plasma T-shaped reactor for activated water production, Environmental Engineering and Management Journal, vol. 20, issue 3, pp. 397-404, WOS:000637746900009, 2021.
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	R. Burlică, D. Astanei, I.D. Dirlău, O. Beniugă, M. Andrușcă, M. Adam, Minireactor electrochimic cu plasma non-termica cu geometrii în forma de T pentru producerea apei activate, Brevet nr. 134206/29.03.2024, RO 134206 B1 Cerere de brevet – R. Burlică, D. Astanei, O. Beniugă, A. Dragomir, R. Beniuga, Sistem de panouri fotovoltaice cu dispersie optică a luminii solare pentru aplicații în agricultură, Cerere de brevet nr. nr. A00557/ 06.10.2023. Cerere de brevet – R. Burlică, D. Astanei, O. Beniugă, D.E. Crețu, C.C. Rusu, Dispozitiv cu plasma non-termica DBD-Corona pentru tratamentul substraturilor polimerice destinate ambalării produselor alimentare, Cerere de brevet nr. A00493/12.08.2022. Cerere de brevet – R. Burlică, D. Astanei, O. Beniugă, M.A. Olariu, D.E. Crețu, Dispozitiv cu plasma non-termica DBD pentru tratamentul substraturilor polimerice destinate imprimării circuitelor electronice flexibile, Cerere de brevet nr. nr. A00117/11.03.2022.
	Contracte de cercetare / granturi

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2. Machidon, Dragos, Marcel Istrate, and Razvan Beniuga, *Wind Shear Coefficient Estimation Based on LIDAR Measurements to Improve Power Law Extrapolation Performance*, Remote Sensing 17, no. 1: 23. <https://doi.org/10.3390/rs17010023>, WOS:001393632700001, 2025

3. Baiceanu, Florin-Constantin, Ovidiu Ivanov, Razvan-Constantin Beniuga, Bogdan-Constantin Neagu, and Ciprian-Mircea Nemes, *A Continuous Multistage Load Shedding Algorithm for Industrial Processes Based on Metaheuristic Optimization*, Mathematics 11, no. 12: 2684. <https://doi.org/10.3390/math11122684>, WOS:001017561300001, 2023

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5. O. C. Beniugă, C. R. Beniugă, D. G. Astanei and R. Burlică, *Thermostat Behavior Analysis in Smart Home Environment Using Petri Nets*, 2024 IEEE International Conference And Exposition On Electric And Power Engineering (EPEi), Iasi, Romania, 2024, pp. 390-393, doi: 10.1109/EPEi63510.2024.10758167

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8. R. Beniugă, O. Beniugă, D. Machidon, F. Băiceanu, M. Istrate, *NZEB compliance principles in Romania for residential buildings*, Proceedings of 10th International Conference on Modern Power Systems (MPS), Cluj-Napoca, Romania, 2023, pp. 01-06, doi: 10.1109/MPS58874.2023.10187523
9. D. Machidon, M. Istrate, R. Oprea and R. Beniuga, *Performance analysis of double-axis orientating Low Concentration Photovoltaic Systems*, 2021 9th International Conference on Modern Power Systems (MPS), Cluj-Napoca, Romania, 2021, pp. 1-5, doi: 10.1109/MPS52805.2021.9492623, WOS:000941563300054
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Conf. dr. ing. Livia Cociu	Cărți publicate în străinătate, în țară, pe plan local și pe web
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Decan,
Prof. dr. ing. Dorin Lucache



Responsabil program,
Prof. dr. ing. Gheorghe Grigoraș

