UNIVERSITATEA TEHNICĂ "GHEORGHE ASACHI" IAŞI

Facultatea Construcții de Mașini și Management Industrial
Domeniul de masterat: Inginerie Industrială
Programul de studii universitare de masterat: Sisteme Micromecanice
Forma de învăţământ *(zi/seral/fără frecvenţă/la distanţă):* zi
Durata studiilor: 4 semestre

Anexa B.9.5 Rezultatele activităţii de cercetare desfăşurate de personalul didactic şi de cercetare (ultimii 5 ani)

Nr. crt.		Rezulatele activității de cercetare (2020-2025)
1.	Cărți	1. Nistrean A.Z., Ciupina L.A., Severincu M., C. Dumitraş *Scule aşchietoare*,Editura Ştiinţa, Chişinău, 1999, 359p., ISBN 9975-67-149-7, (34 rinduri/pag) 2. C.G.Dumitras, V.Ghizdovat, C.M.Rusu, E.Nazaretian, Fl. Nedeff, V.Nedeff, I. Ioja, M.Agop *Dynamical Systems - Latest Developments and Applications,* Edited by Mohammad Shamsuzzoha, chapter *Holographic-Type Behaviours in Complex Systems Dynamics from a Multifractal Perspective of* Motion, IntechOpen Ltd., London, United Kingdom, 2025, ISBN 978-1-83634-368-4 3. C.G. Dumitraş, M.Horodincă, A.Munteanu, Fl.Chifan, D.Fl.Chitariu, G.G.Chiriac*, Vibration Engineering - Analysis, Control and Utilization,* Edited by Ming Yuan, chapter *Vibration in Metal Cutting Process* IntechOpen Ltd., London, United Kingdom, 2025, ISBN 978-1-83634-806-1 4. M. Horodinca, Fl. Chifan, E. Paduraru, C.G. Dumitras, A. Munteanu, D.-Fl. Chitariu, *Cutting Processes for Materials in Manufacturing,* edited by JianWeng, Kejia Zhuang, Dongdong Xu, Benkai Li, Hongguang Liu, GangWang, chapter *A Study of 2D Roughness Periodical Profiles on a Flat Surface Generated by Milling with a Ball Nose End Mill,* MDPI AG, Basel, Switzerland, 2025 ISBN 978-3-7258-4077-9 5. C. Dumitraș, Enachi M., *Sisteme de scule modulate - o nouă abordare*, Editura Performantica, Iași, 2021, ISBN 978-606-685-825-0, 263 pag. (41 rânduri/pag) 6. Chitariu Dragoș-Florin, Munteanu Adriana, Ciobanu Bogdan , Boca Mihai, Țugui Catalin Andrei, *Antreprenoriat Inovativ 2*, Ed. Performantica, Iași, 2020 7. Chitariu Dragoș-Florin, *Acționare și Comanda Hidraulica a Mașinilor –unelte*, , Ed. Performantica, Iași, 2020 8. Munteanu Adriana, Cioata Florentin, Sisteme de tolerante in constructia de masini, Editura Performantica, 281 pag, ISBN 978-630-328-145-2, 2025 9. Munteanu Adriana, Calitatea in sisteme de fabricație, Editura Performantica, 241 pag. , ISBN 978-630-328-146-9, 2025 10. Slătineanu, L., Nagit Gh., Dodun O., Coteaţă, M., Munteanu A., Besliu-Bancescu I., Gherman L, Hrituc A., Chimesta F., Goncales-Coelho A., Teixeira J.P, San Juan M., Santo L., Santos F. Non-traditional Manufacturing Processes Editura Tehnica-Info, Chisinau, 2020, ISBN 978-9975-63-454-0, 406 pag. 11. SEGHEDIN N. (ed.), Gheorghe Asachi-Un spirit enciclopedic. Ed. Universității Tehnice „Gheorghe Asachi" din Iași, 2023, 500 pag., ISBN 978-973-621-533-9. 12. D.C. Fodor, D.F. Chitariu, N.E. Seghedin, Modern Limb Prosthetics: Classifications, Innovations, Challenges, and the Future of Human Augmentation, In Bioinspired Technology and Biomechanics – Annual Volume 2024. IntechOpen, 2025 (ISBN 978-1-80355-247-7), https://www.intechopen.com/online-first/89818;

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2.	Reviste/ Jurnale ISI	**1.** V. Ghizdovat, E. Nazaretian, C. G. Dumitras, M. Agop, C. Placinta, C. Buzea, C. M. Rusu, D. Vasincu, Z. Borsos,*Correlative Dynamics of Complex Systems: A Multifractal Perspective of Motion Based on SL (2R) Symmetry*, Symmetry, 17(1), 27, 2024, DOI: 10.3390/sym17010027 **2.** M. Sha'at, M. Ignat, L. Sacarescu, A. Fl. Spac, Al. Barsan, V. Ghizdovat, E. Nazaretian, C. G. Dumitras, M. Agop, C. M. Rusu, L. Ochiuz ,*Multifractal Analysis and Experimental Evaluation of MCM-48 Mesoporous Silica as a Drug Delivery System for Metformin Hydrochloride,* Biomedicines, 12(12), 2838, 2024, DOI: 10.3390/biomedicines12122838 **3.** *D.Fl. CHITARIU, T.M. AGACHE, C.G. DUMITRAS, M. HORODINCĂ, Fl.D. EDUTANU, George-Gabriel CHIRIAC, Experimental Research On Positioning Accuracy Of Educational Robots,* ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, And ENGINEERING, vol. 67, Issue 2s, 595-602, 2024, **4.** D.-Fl. Chitariu, M. Horodinca, C.-Gh. Mihai, N.-E. Bumbu, C. G. Dumitras, N.-E. Seghedin, Fl.-D. Edutanu, *Condition Monitoring of a Three-Phase AC Asynchronous Motor Based on the Analysis of the Instantaneous Active Electrical Power in No-Load Tests*, *Appl. Sci.* , *14*(14), 6124, 2024; https://doi.org/10.3390/app14146124 **5.** D.-Fl. Chitariu, M. Ilhan, C.G. Dumitras, Fl.-D. Edutanu, F.-V. Hrib, M. Horodincă, *Research On Measurement Of Elastic Roller Deformations In Roller Bearings By Image Correlation Method,* ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, And ENGINEERING, vol. 67, Issue 1s, 267-274, 2024, **6.** M. Horodinca, Fl. Chifan, E. Paduraru, C. G. Dumitras, A. Munteanu, D.-Fl. Chitariu, *A Study of 2D Roughness Periodical Profiles on a Flat Surface Generated by Milling with a Ball Nose End Mill, Materials* , *17(*6), 1425, 2024; https://doi.org/10.3390/ma17061425 **7.** St Agop, M-Al. Paun, C. Bejinariu, T.-C. Petrescu, C. M. Rusu, A. M. Cazac, C. G. Dumitras, A. C. Hanganu, V.-Al. Paun, M. Agop, V.-P. Paun, *Constitutive Material Laws In The Multifractal Theory Of Motion (Part II),* UPB Scientific Bulletin, Series A: Applied Mathematics and Physics, vol 86, Issue 1, pp 137-150, 2024, ISSN 1223-7027 **8.** G-G Chiriac, C G Dumitraș, D Fl Chitariu, P Vizureanu, A V Sandu, *Influence of Gravity on Passively Cooled Heat Sink Using Experimental Data and Finite Element Analysis, Processes,* , *11*(3), 896, 2023; https://doi.org/10.3390/pr11030896 (revista cotată ISI - factor de impact: 3,352– zona galbenă) **9.** M. Horodinca, N-E Bumbu, D-Fl. Chitariu, A. Munteanu, C.G. Dumitras, Fl. Negoescu, C-Gh. Mihai, *On The Behaviour Of An AC Induction Motor As Sensor For Condition Monitoring Of Driven Rotary Machines*, *Sensors*, *23*(1), 488, 2023; https://doi.org/10.3390/s23010488(revista cotată ISI - factor de impact: 3,847– zona galbenă) **10.** Șt. Agop, M-Al. Paun, C.G Dumitras, M. Frasila, V-Al. Paun, M. Agop, V-P. Paun, G. Ștefan, *On A Special Symmetry In The Dynamics Of Complex Systems In A Holographic-Type Perspective*, U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 1, pp. 178-188, 2023, ISSN 1223-7027 **11.** M. Frasila, M.-Al. Paun, C.G. Dumitras, V. Ghizdovat, C. M. Rusu, V.-Al. Paun, M. Agop, V.-P. Paun, *Some Physical Implications Of Absolute Geometries In The Description Of Complex Systems Dynamics,* U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 2, p. 125-138, 2023, ISSN 1223-7027 **12.** E. Paduraru, C.G.Dumitras, D. Fl. Chitariu, M. Horodinca, Fl. Chifan, *Research on Additive Technique Parameter Optimization for Robotic Gripper Construction,* Machines, 11(6),

		13. V. Ghizdovat, E. Nazaretian, C. G. Dumitras, M. Agop, C. Placinta, C. Buzea, C. M. Rusu, D. Vasincu, Z. Borsos,*Correlative Dynamics of Complex Systems: A Multifractal Perspective of Motion Based on SL (2R) Symmetry*, Symmetry, 17(1), 27, 2024, DOI: 10.3390/sym17010027 **14.** M. Sha'at, M. Ignat, L. Sacarescu, A. Fl. Spac, Al. Barsan, V. Ghizdovat, E. Nazaretian, C. G. Dumitras, M. Agop, C. M. Rusu, L. Ochiuz ,*Multifractal Analysis and Experimental Evaluation of MCM-48 Mesoporous Silica as a Drug Delivery System for Metformin Hydrochloride,* Biomedicines, 12(12), 2838, 2024, DOI: 10.3390/biomedicines12122838 **15.** *D.Fl. CHITARIU, T.M. AGACHE, C.G. DUMITRAS, M. HORODINCĂ, Fl.D. EDUTANU, George-Gabriel CHIRIAC, Experimental Research On Positioning Accuracy Of Educational Robots,* ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, And ENGINEERING, vol. 67, Issue 2s, 595-602, 2024, **16.** D.-Fl. Chitariu, M. Horodinca, C.-Gh. Mihai, N.-E. Bumbu, C. G. Dumitras, N.-E. Seghedin, Fl.-D. Edutanu, *Condition Monitoring of a Three-Phase AC Asynchronous Motor Based on the Analysis of the Instantaneous Active Electrical Power in No-Load Tests*, *Appl. Sci.* , *14*(14), 6124, 2024; https://doi.org/10.3390/app14146124 **17.** D.-Fl. Chitariu, M. Ilhan, C.G. Dumitras, Fl.-D. Edutanu, F.-V. Hrib, M. Horodincă, *Research On Measurement Of Elastic Roller Deformations In Roller Bearings By Image Correlation Method,* ACTA TECHNICA NAPOCENSIS - Series: APPLIED MATHEMATICS, MECHANICS, And ENGINEERING, vol. 67, Issue 1s, 267-274, 2024, **18.** M. Horodinca, Fl. Chifan, E. Paduraru, C. G. Dumitras, A. Munteanu, D.-Fl. Chitariu, *A Study of 2D Roughness Periodical Profiles on a Flat Surface Generated by Milling with a Ball Nose End Mill, Materials* , *17(*6), 1425, 2024; https://doi.org/10.3390/ma17061425 **19.** St Agop, M-Al. Paun, C. Bejinariu, T.-C. Petrescu, C. M. Rusu, A. M. Cazac, C. G. Dumitras, A. C. Hanganu, V.-Al. Paun, M. Agop, V.-P. Paun, *Constitutive Material Laws In The Multifractal Theory Of Motion (Part II),* UPB Scientific Bulletin, Series A: Applied Mathematics and Physics, vol 86, Issue 1, pp 137-150, 2024, ISSN 1223-7027 **20.** G-G Chiriac, C G Dumitraș, D Fl Chitariu, P Vizureanu, A V Sandu, *Influence of Gravity on Passively Cooled Heat Sink Using Experimental Data and Finite Element Analysis, Processes,* , *11*(3), 896, 2023; https://doi.org/10.3390/pr11030896 (revista cotată ISI - factor de impact: 3,352– zona galbenă) **21.** M. Horodinca, N-E Bumbu, D-Fl. Chitariu, A. Munteanu, C.G. Dumitras, Fl. Negoescu, C-Gh. Mihai, *On The Behaviour Of An AC Induction Motor As Sensor For Condition Monitoring Of Driven Rotary Machines*, *Sensors*, *23*(1), 488, 2023; https://doi.org/10.3390/s23010488(revista cotată ISI - factor de impact: 3,847– zona galbenă) **22.** Șt. Agop, M-Al. Paun, C.G Dumitras, M. Frasila, V-Al. Paun, M. Agop, V-P. Paun, G. Ștefan, *On A Special Symmetry In The Dynamics Of Complex Systems In A Holographic-Type Perspective*, U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 1, pp. 178-188, 2023, ISSN 1223-7027 **23.** M. Frasila, M.-Al. Paun, C.G. Dumitras, V. Ghizdovat, C. M. Rusu, V.-Al. Paun, M. Agop, V.-P. Paun, *Some Physical Implications Of Absolute Geometries In The Description Of Complex Systems Dynamics,* U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 2, p. 125-138, 2023, ISSN 1223-7027 **24.** E. Paduraru, C.G.Dumitras, D. Fl. Chitariu, M. Horodinca, Fl. Chifan, *Research on Additive Technique Parameter Optimization for Robotic Gripper Construction,* Machines, 11(6),

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		26. C. G. Lates, C G Dumitras, P. Vizureanu, A. V. Sandu, *Heat Transfer Optimization of an Electronic Control Unit Immersed in Forced Liquid Coolant*, Applied Sciences, 13(9), 5310, (2023), https://doi.org/10.3390/app13095310 (revista cotată ISI - factor de impact: 2,7– zona galbenă) **27.** I. Craciun, T. Agache, C. G. Dumitras, *Analysis and economic strategies regarding the reduction of preventive maintenance costs*, Acta Technica Napocensis-Series: Applied Mathematics, Mechanics, and Engineering, Vol 65, No 4S, (2022), (revista cotată ISI - factor de impact: 0,07– zona gri **28.** C.G. Chiriac, C.G. Dumitraș, D. F. Chitariu , P. Vizureanu, S.V. Andrei, *Influence of Gravity on Passively Cooled Heat Sink Using Experimental Data and Finite Element Analys,* Processes, 11(3), 896, (2023), https://doi.org/10.3390/pr11030896 (revista cotată ISI - factor de impact: 3,352– zona galbenă) **29.** M. Horodinca, N.-E. Bumbu, D.-F. Chitariu, A. Munteanu, C.G. Dumitras, F. Negoescu, C.G. Mihai, *On the Behaviour of an AC Induction Motor as Sensor for Condition Monitoring of Driven Rotary Machines*, Sensors, 23 (1), 488, (2023), doi.org/10.3390/s23010488, (revista cotată ISI - factor de impact: 3,847– zona galbenă) **30.** Șt. Agop, M.-Al. Paun, C.G. Dumitras, M. Frasila, V.-Al. Paun, M. Agop, V.-P. Paun, G. Ștefan , *On A Special Symmetry In The Dynamics Of Complex Systems In A Holographic-Type Perspective*, U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 1, 2023, ISSN 1223-7027 **31.** M. Frasila, M.-Al. Paun, C.G. Dumitras, V. Ghizdovat, C. M. Rusu, V.-Al. Paun, M. Agop, V.-P. Paun, *Some Physical Implications Of Absolute Geometries In The Description Of Complex Systems Dynamics,* U.P.B. Sci. Bull., Series A, Vol. 85, Iss. 2, 2023, ISSN 1223-7027 **32.** C.G.Dumitraș, D. F. Chitariu, F. Chifan, C.G. Lateș, M.Horodincă, *Surface Quality Optimization in Micromachining with Cutting Tool Having Regular Constructive Geometry*, Micromachines, 13(3), 422, (2022), //doi.org/10.3390/mi13030422, (revista cotată ISI - factor de impact: 3,523– zona galbenă) **33.** I.A. Roșu, D.-C. Nica, C.G. Dumitraș, D.F. Chitariu, L. Bibire, A. S. Ghenadi, V.-S. Dragan, M. Agop, *The Search for Atmospheric Laminar Channels: Experimental Results and Method Dissemination* Sensors, 22(1), 158, (2022), /doi.org/10.3390/s22010158, (revista cotată ISI - factor de impact: 3,847– zona galbenă) **34.** M Ciorap, D Andrițoi, R Ciorap, C.G. Dumitraș, *Study on the implementation of the Industry 4.0 concept in medical device manufacturing*, IOP Conference Series: Materials Science and Engineering, vol 1254, International Conference on Electromagnetic Fields, Signals and BioMedical Engineering (ICEMS-BIOMED 2022) 18/05/2022 - 20/05/2022 Sibiu, Romania, 2022, 10.1088/1757-899X/1254/1/012041 (lucrare indexata ISI) **35.** L. Ciurca, M. A. Paun, M. Barhalescu, M. Jarcau, C. G. Dumitras, A. Corabieru, V. A. Paun, Agop M., Paun V.P., *Non-linear Behaviors in the Dynamics of Complex Systems Through a Multifractal Hydrodynamic Model*, UPB Scientific Bulletin, series A, Applied Mathematics and Physics, vol 84 (4), 149-168, 2022, revista cotată ISI - factor de impact:1,160) **36.** I-A. Rosu, M.-A. Paun, M. Barhalescu, A. I. Saviuc, M. Jarcau, C.G. Dumitras, C. Placinta, V.-A. Paun, M. Agop, V.-P. Paun, *Bistable-Type Interactions Of Complex Systems In A Fractal Paradigm Of Motion*, UPB Scientific Bulletin, series A, Applied Mathematics and Physics, vol 84 (3), 167-176, 2022, revista cotată ISI - factor de impact:1,160) **37.** V. S. Dragan, M. A. Paun, M. Jarcau, C. G. Dumitras, C. Placinta, V. A. Paun, Agop M., Paun V. P., Rosu I. A., *Conductive-type behaviors in the dynamics of complex systems through scale relativity theory*, UPB Scientific Bulletin, series A, Applied Mathematics and Physics, vol 84 **38.** (2), 203-212, 2022, revista cotată ISI - factor de impact:1,160) **39.** S.D. Ionesi, L. Ciobanu, C.G. Dumitraș, M. Avădanei, I. Dulgheriu, I. Ionescu, M.C. Loghin , *FemAnalysis of Textile Reinforced Composite Materials Impact Behavior*

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