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Habilitation thesis title: Contributions to the Analysis of Multibody Systems and Composite Materials Properties

Domain: Mechanical Engineering

PUBLICATIONS LIST

RELEVANT PAPERS

1. **Mihălcică M**, Stanciu MD, Nastac SM, Dinulică F, Nauncef AM, Roșca IC, Savin A. Signature Modes of Old and New Violins with Symmetric Anatomical Wood Structure. *Applied Sciences*. 2021; 11(23):11297. <https://doi.org/10.3390/app112311297> (FI 2021=2.838)
2. Stanciu MD, **Mihălcică M.** (corresponding author), Dinulică F, Nauncef AM, Purdoi R, Lăcătuș R, Gliga GV. X-ray Imaging and Computed Tomography for the Identification of Geometry and Construction Elements in the Structure of Old Violins. *Materials*. 2021; 14(20):5926. <https://doi.org/10.3390/ma14205926> (FI 2021=3.748)
3. **Mihălcică M**, Stanciu MD, Vlase S. Frequency Response Evaluation of Guitar Bodies with Different Bracing Systems. *Symmetry*. 2020; 12(5):795. <https://doi.org/10.3390/sym12050795> (FI 2021=2.94)
4. Munteanu MV, **Mihălcică M.** (corresponding author), Itu C, Vlase S, Scutaru ML. Mechanical design of interaction chamber for the ELIADE array at ELI-NP. *AIP Advances*. 2020 Feb 1;10(2):025129. <https://doi.org/10.1063/1.5129317> (FI 2021=1.697)
5. **Mihălcică M**, Modrea A, Munteanu V, Burca I. Tracking Kinematic Gait Parameters During the Recovery of Motor Function After Total Knee Arthroplasty. *Procedia Technology*. 2016 Jan 1;22:670-6. <https://www.sciencedirect.com/science/article/pii/S2212017316001419>
6. **Mihălcică M**, Stanciu MD, Dinulica F, Savin A, Bucur V. The Effect of Resonance Wood Quality on Violins Vibration. In *Recent Trends in Wave Mechanics and Vibrations: Proceedings of WMVC 2022* 2022 Oct 7 (pp. 873-881). Cham: Springer International Publishing. https://link.springer.com/chapter/10.1007/978-3-031-15758-5_90
7. **Mihălcică M**, Nauncef AM, Gliga VG, Stanciu MD, Nastac SM, Campean M. Correlation Between Dynamic Features of Unvarnished and Varnished New Violins and Their Acoustic Perceptual Evaluation. In *Recent Trends in Wave Mechanics and Vibrations: Proceedings of WMVC 2022* 2022 Oct 7 (pp. 857-864). Cham: Springer International Publishing https://link.springer.com/chapter/10.1007/978-3-031-15758-5_88
8. Nastac SM, Gliga VG, **Mihălcică M**, Nauncef AM, Dinulica F, Campean M. Correlation between Acoustic Analysis and Psycho-Acoustic Evaluation of Violins. *Applied Sciences*. 2022; 12(17):8620. <https://doi.org/10.3390/app12178620> (FI 2021=2.838)

9. Modrea A, Vlase S, Teodorescu-Draghicescu H, **Mihălcică M**, Calin MR, Astalos C. Properties of advanced new materials used in automotive engineering. Optoelectronics and Advanced Materials–Rapid Communications. 2013 Jun 12;7(May-June 2013):452-5. <https://oam-rc.inoe.ro/articles/properties-of-advanced-new-materials-used-in-automotive-engineering/fulltext> (FI 2021=0.556)
10. Teodorescu-Draghicescu H, Vlase S, Stanciu MD, Curtu I, **Mihălcică M**. Advanced pultruded glass fibers-reinforced isophthalic polyester resin. Mater. Plast. 2015 Mar 1;52(1):62-4. <https://revmaterialeplastice.ro/pdf/TEODORESCU%20H.pdf%201%2015.pdf> (FI 2021=0.782)

PHD THESIS Contributions to the Identification of Individuals Using Motion Analysis

1. Contributions to the Identification of Individuals Using Motion Analysis

PATENTS

1. Proposal in evaluation: A06004/04.10.2022 STAND ȘI METODA DE TESTARE STATICĂ ȘI DINAMICĂ A VIORILOR, authors: Stanciu M.D., Gliga V.Gh., Mihălcică M., Cherdivar A., Năstac S., Câmpean M., Dinulică F.

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1. Stanciu MD (coordonator), **Mihalcica M** (coordonator), ș.a. Dinamica viorii, Ed. Universității Transilvania din Brașov, ISBN: 978-606-19-1517-0202 (2022)
2. Mihălcică M, Cristea M. Metode de captură și analiză a datelor în biomecanică, Ed. Universității Transilvania din Brașov, ISBN 978-606-19-1615-3 (2023)
3. Burcă I, Vlase S, Făgăraș PS, **Mihălcică M**. Biomecanica mișcărilor atletice, Ed. Universității Transilvania din Brașov, ISBN: 978-606-19-0306-1 (2013)
4. **Mihălcică M**. MATLAB si programare pentru viitori ingineri , Ed. Universitatii Transilvania din Brasov ISBN:978-606-19-1248-3 (2020)
5. **Mihălcică M**. Metode numerice cu MATLAB pentru ingineri, Ed Univ. Transilvania din Brasov ISBN: 978-606-19-1249-0 (2020)
6. Vlase S, Lache S, Theodorescu H, Scutaru ML, **Mihălcică M**, Munteanu MV. Probleme de mecanică statică, Ed. Univ. Transilvania din Brasov ISBN: 978-606-19-0684-0 (2015)
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JOURNAL ARTICLES

1. **Mihălcică M**, Stanciu MD, Nastac SM, Dinulică F, Nauncef AM, Roșca IC, Savin A. Signature Modes of Old and New Violins with Symmetric Anatomical Wood Structure. Applied Sciences. 2021; 11(23):11297. <https://doi.org/10.3390/app112311297> (FI 2021=2.838)
2. Stanciu MD, **Mihălcică M**. (corresponding author), Dinulică F, Nauncef AM, Purdoi R, Lăcătuș R, Gliga GV. X-ray Imaging and Computed Tomography for the Identification of Geometry and Construction Elements in the Structure of Old Violins. Materials. 2021; 14(20):5926. <https://doi.org/10.3390/ma14205926> (FI 2021=3.748)
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9. Vlase S, Danasel C, Scutaru ML, **Mihălcică M**. Finite element analysis of a two-dimensional linear elastic systems with a plane "rigid motion". Rom. J. Phys. 2014 Jan 1;59(5-6):476-87. https://rjp.nipne.ro/2014_59_5-6/RomJPhys.59.p476.pdf (FI 2021=1.662)
10. Vlase S, Purcarea R, Teodorescu-Draghicescu H, Calin MR, Szava I, **Mihălcică M**. Behavior of a new Heliopol/Stratimat300 composite laminate. Optoelectronics and Advanced Materials–Rapid Communications. 2013 Jul 1;7(7-8):569-72. <https://oam-rc.inoe.ro/articles/behavior-of-a-new-heliopolstratimat300-composite-laminate/fulltext> (FI 2021=0.556)

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13. Vlase S, **Mihălcică M**, Scutaru ML. Determining the Functional Parameters of a Simple Speed Regulator. RJA V 2019; 16, 10–14. <http://www.rjav.sra.ro/index.php/rjav/article/view/90> (FI 2021=0)

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1. **Mihălcică M**, Modrea A, Munteanu V, Burca I. Tracking Kinematic Gait Parameters During the Recovery of Motor Function After Total Knee Arthroplasty. Procedia Technology. 2016 Jan 1;22:670–6. <https://www.sciencedirect.com/science/article/pii/S2212017316001419>
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6. **Mihălcică M**, Nicoară D, Niculiță C, Căndea I, Pirnă I. Elder Monitoring Using Modern Data Transmission Technologies, Proceedings Of The 2nd International Conference On Environmental And Geological Science And Engineering: Advances In Environmental And Geological Science And Engineering 2009 https://intranet.unitbv.ro/Portals/0/UserFiles/User1122/WSEAS_2_BV2009.pdf



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11. Tofan MC, Burcă I, **Mihălcică M**, Secară E, Hisom R, Popa I. Mathematical models for the human body motions analysis. In *The 13th International Conference Modtech, Modern Technologies, Quality and Innovation, New face of TMCR, Iasi-Chișinau, ISSN (pp. 2066-3919)*. http://www.modtech.tuiasi.ro/2009/publication/T/Tofan_Mihai_A2.pdf
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14. Teodorescu-Draghicescu H, Vlase S, Luca Motoc D, **Mihălcică M**. Cte's Polynomial Curves Of A Thin Composite Sandwich, COMEC 2015; 197-201
15. **Mihălcică M**. Using Motion Variance As A Parameter For Human Identification In A Gait Analysis System, COMEC 2011 I;23 – 24

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