Nume Prenume: **Gillich Gilbert-Rainer**
Gradul didactic: **Prof. univ.**
Instituția unde este titular: **Universitatea "Babeș-Bolyai" din Cluj-Napoca**
Facultatea: de Inginerie
Departamentul: **Școala Doctorală de Inginerie**

L I S T A
lucrărilor ştiinţifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

1. Studiul teoretic şi experimental al tensiunilor şi deformaţiilor la recipiente sub presiune la temperaturi joase, Gillich, Gilbert Rainer

B. Cărţi si capitole în cărţi publicate în ultimii 5 ani

1. Evaluarea Integritatii Structurilor Mecanice, GR Gillich și alții, Editura Eftimie Murgu, 2018, ISBN 606631081X, 9786066310819, 154 pagini (carte)
2. Signal post-processing for accurate evaluation of the natural frequencies, GR Gillich, IC Mituletu, Structural Health Monitoring: An Advanced Signal Processing Perspective, 13-37, 2017 (capitol de carte)
3. Notițe privind metodele numerice de calcul, TS Manescu, GR Gillich, GG Jiga, T Manescu, Editura Mirton, Timisoara, 2020, ISBN 978-973-52-1923-9

C. Lucrări indexate WoS/BDI publicate în ultimii 5 ani

1. Multiple Crack Detection in Beam-Like Structures Using a Novel Particle Swarm Optimization Approach, Florea, F.-C., Grebla, H., Gillich, G.-R., Bindea, B.N., Rusu, C.V., International Conference on Agents and Artificial Intelligence 3, pp. 334–342, 2025 (Scopus)
2. A Stacked Neural Network Model for Damage Localization, Rusu, CV; Gillich, GR; (...); Ionut, C, Sensors 24(21), 7019, 2024 (WoS)
3. Signal Time-Shifting Effects on DFT Spectra, Prvulovic, P; Gillich, GR, Babic, D, Romanian Journal of Acoustics and Vibration 21 (1), pp.112-116, 2024 (WoS)
4. Neuro-symbolic model for cantilever beams damage detection, DM Onchis, GR Gillich, E Hogea, C Tufisi, Computers in Industry 151, 103991, 2023 (WoS)
5. Testing the Accuracy of Machine Learning-Based Crack Localization Methods using Damage Localization Coefficients, GR Gillich, VC Rusu, C Tufisi, N Gillich, C Ionut, Romanian Journal of Acoustics and Vibration 20 (1), 59-66, 2023 (WoS)
6. Assessment of cracks in beams using changes in the measured frequencies and Particle Swarm Optimization, HA Grebla, VC Rusu, GR Gillich, TH Bui, Vibroengineering Procedia 51, 29-34, 2023 (Scopus)
7. Damage detection in variable temperature conditions using artificial intelligence, AT Aman, C Tufisi, GR Gillich, T Manescu, Vibroengineering Procedia 51, 186-192, 2023 (Scopus)

8. Detection of transverse cracks in steel beams using damage location coefficients and artificial neural networks, AT Aman, C Tufisi, GR Gillich, ZI Praisach, Vibroengineering Procedia 50, 42-48, 2023 (Scopus)
9. Improved Mathematical Relation of The Modal Shapes of Thin Rectangular Plates,C Hatiegan, GR Gillich, O Vasile, C Hamat, MD Stroia, ..., Romanian Journal of Acoustics and Vibration 19 (2), 157-163, 2022 (WoS)
10. Determining the severity of open and closed cracks using the strain energy loss and the Hill-Climbing method, C Tufisi, CV Rusu, N Gillich, MV Pop, CO Hamat, C Sacarea, GR Gillich, Applied Sciences 12 (14), 7231, 2022 (WoS)
11. Beam Damage Assessment Using Natural Frequency Shift and Machine Learning, N Gillich, C Tufisi, C Sacarea, CV Rusu, GR Gillich, ZI Praisach, ..., Sensors 22, 2022 (WoS)
12. Detection of weak joints and damages for beams using machine learning, C Tufișı, GR Gillich, D Lupu, AT Aman, Vibroengineering Procedia 46, 8-13, 2022 (Scopus)
13. Determining the position of two cracks in a cantilever beam using artificial neural networks, MV Pop, C Tufisi, GR Gillich, Vibroengineering Procedia 46, 14-20, 2022 (Scopus)
14. Damage detection on a beam with multiple cracks: a simplified method based on relative frequency shifts, GR Gillich, NMM Maia, MA Wahab, C Tufisi, ZI Korka, N Gillich, MV Pop, Sensors 21 (15), 5215, 2021 (WoS)
15. A cost function to assess cracks in simply supported beams with artificial intelligence, C Tufisi, N Gillich, M Ardeljan, RL Paun, GR Gillich, Romanian Journal of Acoustics and Vibration 18 (1), 46-52, 2021 (WoS)
16. Stable and explainable deep learning damage prediction for prismatic cantilever steel beam, DM Onchis, GR Gillich, Computers in Industry 125, 103359, 2021 (WoS)
17. A new predictive model to estimate the frequencies for beams with branched cracks, C Tufisi, GR Gillich, CI Barbinta, D Nedelcu, CO Hamat, IOP Conference Series: Materials Science and Engineering 997 (1), 012063, 2020 (Scopus)
18. Estimating the frequencies of vibration signals using a machine learning algorithm with explained predictions, DG Burtea, GR Gillich, C Tufisi, Vibroengineering Procedia 51, 160-166, 2023 (Scopus)
19. The strain energy in loosening the clamped end of a beam (part I), S Patric-Timotei, ZI Praisach, GR Gillich, T Mănescu, C Tufișı, Studia Universitatis Babeș-Bolyai Engineering, 47-60, 2023 (BDI)
20. The strain energy in loosening the clamped end of a beam (part II), DA Pîrșan, ZI Praisach, GR Gillich, C Hațiegan, Studia Universitatis Babeș-Bolyai Engineering, 61-74, 2023 (BDI)
21. Dynamic behavior of a clamped circular plate and strain energy representation (part I), M Nestor, ZI Praisach, GR Gillich, C Tufișı, Studia Universitatis Babeș-Bolyai Engineering, 75-88, 2023 (BDI)
22. Dynamic behavior of a clamped circular plate and strain energy representation (part II), I Harea, ZI Praisach, GR Gillich, C Tufișı, Studia Universitatis Babeș-Bolyai Engineering, 89-100, 2023 (BDI)
23. High Power System for Acoustic Excitation of Plates, RL Păun, GR Gillich, M Condratiuc, Studia Universitatis Babeș-Bolyai Engineering, 39-46, 2023 (BDI)
24. Frequency Estimation using Spectral Techniques with the Support of a Deep Learning Method, C Tufisi, AA Minda, DG Burtea, GR Gillich, Romanian Journal of Acoustics and Vibration 19 (1), 49-55, 2022 (WoS)
25. A new approach for imperfect boundary conditions on the dynamic behavior, ZI Praisach, D Adeljan, DA Pîrșan, GR Gillich, Analecta Technica Szegedinensia 16 (1), 56-61, 2022 (BDI)
26. A structural health monitoring Python code to detect small changes in frequencies, D Nedelcu, GR Gillich, Mechanical Systems and Signal Processing 147, 107087, 2021 (WoS)
27. Angular Positioning Device with Wireless Accessibility, IC Mituletu, CM Muscai, GR Gillich, LB Protea, 2020 International Symposium on Fundamentals of Electrical Engineering, 2020 (WoS)
28. A comparative study between photogrammetry and laser technology applied on model turbine blades, D Nedelcu, GR Gillich, A Gerocs, I Padurean, Journal of Physics: Conference Series 1426 (1), 012026, 2020 (Scopus)
29. The kinematic and kinetostatic study of the shaker mechanism with SolidWorks Motion, D Nedelcu, GR Gillich, A Bloju, I Padurean, Journal of Physics: Conference Series 1426 (1), 012025, 2020 (Scopus)

D. Lucrări publicate în ultimii 5 anii în reviste şi volume de conferinţe cu referenţi (neindexate)

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E. Brevete obţinute în întreaga activitate

1. Equipment for real-time detection of fluid leaks from containers or pipes, has top of protective layer of sensory assembly is itself sensor for detecting external causes of defect
   RO135333-A0RO135333-A3RO135333-B1
   MITULETU G; MITULETU I and GILLICH G
2. System for fastening road safety crash barriers, has road crash barrier that is fixed at one end to metallic plate by screws with fastening nuts and other ends of shearing blades passes through cutting plate
   RO134051-A0RO134051-B1
   GILLICH G R; BITEA C V and KORKA Z I
3. System for attaching protection barriers with controlled dissipation of energy upon impact
   RO132312-A0RO132312-B1
   BITEA C V; GILLICH G and KORKA Z I
4. Regeneration of furnace blast hole/copper@ metal-work
   RO106534-B1
   COZMA O; GILLICH G; (...); DOBRE I
5. Furnace hot air injector tuyere
   RO105059-A
   COZMA O; GILLICH G and BACUETI O

Data: 03.02.2026