

IOSUD - UNIVERSITATEA „DUNĂREA DE JOS” DIN GALAȚI

Memoriul științific al studentului doctorand

MEMORIU ȘTIINȚIFIC
Drd. SECUIREANU C. Mihai

Studii de doctorat

Perioada: 2018 - 2025

Conducător științific: Prof.dr.ing. Silviu Marian Năstac

Domeniul de doctorat: Inginerie Mecanică

Titlul tezei de doctorat: Cercetări privind evaluarea potențialului aplicativ al spumelor pe bază de fibre celulozice în domeniul protecției acustice

Activitate științifică

A. Lista de lucrări științifice (articole în reviste sau volume)

1. M Seciureanu, SM Nastac, MV Guiman, P Nechita, *Cellulose Fibers-Based Porous Lightweight Foams for Noise Insulation*, Polymers 15 (18), 3796, (2023). WOS:001072201800001. DOI: 10.3390/polym15183796 (indexare: WOS, Scopus)
2. Nastac, S; Nechita, P; Debeleac, C; Simionescu, C; Seciureanu, M, *The Acoustic Performance of Expanded Perlite Composites Reinforced with Rapeseed Waste and Natural Polymers*, SUSTAINABILITY 14(1), 103, (2022). WOS:000758562600001. DOI: 10.3390/su14010103 (indexare: WOS, Scopus)
3. Seciureanu, M., Nastac, S.-M., Debeleac, C.-N., Nechita, P., *Innovative Bio-Foam-Formed Composites For Soundproofing Applications*, (2023) Proceedings of the 29th International Congress on Sound and Vibration, Prague, July 09-13, 2023. Source: Scopus. (indexare: Scopus)
<https://www.proceedings.com/content/070/070313webtoc.pdf>
4. Seciureanu, M., Guiman, M.-V., Nastac, S.-M., Nechita, P., Debeleac, C.-N., Capatana, G.-F., *On Experimental Evaluation of Tortuosity for Cellulose-Based Highly Porous Composites Used Within Noise Insulation Applications*, (2024) Springer Proceedings in Physics, 302, pp. 131-138., DOI: 10.1007/978-3-031-48087-4_14, Source: Scopus. (indexare: Scopus)
https://link.springer.com/chapter/10.1007/978-3-031-48087-4_14
5. P Nechita, M Seciureanu, MV Guiman, SM Nastac, CN Debeleac, *Sandwich Biocomposites Structures Based On Foam And Cellulose Fibers Intended To Noise Insulation*, The XXIV International Symposium In The Field Of Pulp, Paper, Packaging And Graphics, June 21st - 22nd, 2023, Chamber of Commerce and Industry of Serbia, Belgrade, Republic of Serbia,
https://www.tmf.bg.ac.rs/uploads/files/strane/cpag/Zbornik_Proceedings_XXIV_Symposium_CPAG_2023.pdf#page=19
6. Nastac, S.M., Nechita, P., Guiman, M.V., Iana Roman, M., Seciureanu, M., *Assessments Regarding Sustainable Soundproofing Foams Based On Cellulose Fibres*, In Proc. of 31st International Congress on Sound and Vibration ICSV31, 6-11 July 2025, Incheon, Korea. ISSN 2329-3675. ISBN 978-89-94-02142-3. <https://www.icsv31.org/index.php?va=viewpage&vaid=366>

B. Participări la conferințe/workshop-uri

1. S. Nastac, C. Debeleac, P. Nechita, M. Seciureanu, *Foam-formed bio-composites based on recycled cellulose fibres for soundproofing panels*. The 9th International Conference on Computational Mechanics and Virtual Engineering COMEC 2021, 21-23 October 2021, Univ. Transilvania Brasov, Romania. <https://comec.unitbv.ro/index.php/conference/previous-events>
2. M. Seciureanu, S. Nastac, *Computational assessments regarding poroacoustics of cellulose fibres foam-formed materials*. The 9th International Conference on Computational Mechanics and Virtual

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Pagina 1 | 3



- Engineering COMEC 2021, 21-23 October 2021, Univ. Transilvania Brasov, Romania.
<https://comec.unitbv.ro/index.php/conference/previous-events>
3. Seciureanu M., Nastac S., Debeleac C., Nechita P., *A Survey to Bio-Composites Based on Recycled Cellulose Fibers for Soundproofing Applications*, The 28th International Congress on Sound and Vibration (ICSV28) Singapore, Singapore, 24 - 28 July 2022.
 4. Seciureanu M., Nastac S., Debeleac C., *Computational Assessments on Poroacoustics of Cellulose Fibers Based Composites*, The 28th International Congress on Sound and Vibration (ICSV28) Singapore, Singapore, 24 - 28 July 2022.
 5. Seciureanu M., Năstac S., *Experimental Investigations On Noise Insulation Characteristics Of Bio-Fiber Foam Composites*, The 9th International Conference on Advanced Composite Materials Engineering COMAT 2022, Transilvania University Of Brasov, Romania, 17-18 October 2022.
<https://sites.google.com/view/comatcomec/conference/previous-events/comat-2022>
 6. Seciureanu M., Năstac S., Debeleac C., Nechita P., *Innovative Bio-Fiber Foam Composites For Soundproofing Applications*, The 9th International Conference on Advanced Composite Materials Engineering COMAT 2022, Transilvania University Of Brasov, Romania, 17-18 October 2022.
<https://sites.google.com/view/comatcomec/conference/previous-events/comat-2022>
 7. M. Seciureanu, M.V. Guiman, S.M. Nastac, P. Nechita, C.N. Debeleac, G.F. Capatana, *On experimental evaluation of tortuosity for cellulose-based highly porous composites used within noiseinsulation applications*, Conference Acoustics And Vibration Of Mechanical Structures AVMS-2023, May 26-27, 2023, Timisoara, Romania. <https://mrm.mec.upt.ro/avms/#HISTORY-of-the-Conference>
 8. Nastac S.M., Seciureanu M., Nechita P., Guiman M.V., Rosca I.C., Musca G.D., Debeleac C.N., Goanta A.M., Dragan N., Potirniche M.A., Pana D., Capatana G.F., *On Computational Poroacoustics Models For Porous Lightweight Foam-Formed Cellulose Fibers-Based Materials*, The 10th International Conference on Computational Mechanics And Virtual Engineering COMEC 2023, Brașov, Romania, 25-27 October 2023.
<https://comec.unitbv.ro/index.php/conference/previous-events>
 9. S.M. Nastac, M. Seciureanu, P. Nechita, M.V. Guiman, G.D. Musca, A.M. Goanta, N. Dragan, C.N. Debeleac, G.F. Capatana, M.A. Potirniche, *Study regarding the Ability Evaluation of Highly-Porous Composites based on Cellulose Fibres for Soundproofing Applications*, Annual Symposium Of The Institute Of Solid Mechanics SISOM 2023 and Symposium of Acoustics, Romanian Academy, Institute Of Solid Mechanics, September 21 - 22, 2023, Bucuresti, Romania. <https://imsar.ro/sisom/>
 10. S.M. Nastac, M. Seciureanu, P. Nechita, M.V. Guiman, G.D. Musca, A.M. Goanta, N. Dragan, C.N. Debeleac, G.F. Capatana, M.A. Potirniche, *Experimental Investigations regarding Specific Characteristics of Porous Lightweight Cellulose Fibers-based Composites for Computational Poroacoustics Models*, Annual Symposium Of The Institute Of Solid Mechanics SISOM 2023 and Symposium of Acoustics, Romanian Academy, Institute Of Solid Mechanics, September 21 - 22, 2023, Bucuresti, Romania. <https://imsar.ro/sisom/>
 11. S. Năstac, P. Nechita, M.V. Guiman, M. Seciureanu, *Assessments on Soundproofing Performances of Cellulosic Foams with Extended Functional Properties*, The 35th International Symposium of the Institute of Solid Mechanics SISOM 2024 and the 18th Session of the Commission of Acoustics of the Romanian Academy, Bucharest, Romania, September 19-20, 2024, ISSN 3061 - 3612, ISSN-L 3061 - 3612, Ed. Academiei Romane. <https://imsar.ro/sisom/>
 12. M. Iana Roman, P. Nechita, S. Nastac, M.V. Guiman, M. Seciureanu, *Sustainable soundproofing materials based on foam formed cellulose fibres*, Invited paper for The 10th International Conference on Advanced Composite Materials Engineering - COMAT 2024, and The 48th International Conference on Mechanics of Solids 2024 - "P.P.Teodorescu", Brasov, RO, 22-23 October 2024.
<https://comat.unitbv.ro/>
 13. S. Nastac, M. Seciureanu, P. Nechita, M.V. Guiman, *Investigations on Sustainable Soundproofing Capability of Cellulose Fibres-Based Foams*, The 36th International Symposium of the Institute of Solid Mechanics SISOM 2025 and the 19th Session of the Commission of Acoustics of the Romanian Academy, Bucharest, Romania, September 11-12, 2025, ISSN 3061 - 3612, ISSN-L 3061



- 3612, Ed. Academiei Romane. https://imsar.ro/sisom_conf/
14. Silviu Nastac, Mihai Seciureanu, Petronela Nechita, Maria Violeta Guiman, *Advances on Sound Absorption Capability of Low Density Foams Based on Cellulose Fibres*, Conferința Națională “UGAL-factor stimulator al cercetării multidisciplinare în Regiunea de Sud-Est”, Universitatea Dunarea de Jos din Galati, Facultatea de Inginerie și Agronomie din Braila, 29 Septembrie - 01 Octombrie 2025. <https://fib.ugal.ro/index.php/ro/cercetare/evenimente-stiintifice/conferinte?view=article&id=405>

C. Lucrări prezentate în cadrul saloanelor internaționale de invenție

1. S.M. Năstac, P. Nechita, C.N. Debeleac, G.D. Muscă, A.M. Goanță, N. Drăgan, I.C. Roșca, M.V. Guiman, M.A. Potîrniche, G.F. Căpățână, D. Pană, M. Seciureanu, *Cercetări privind evaluarea capacității de utilizare a materialelor compozite cu porozitate ridicată din fibre celulozice în aplicații de protecție acustică*, Salonul Inovării și Cercetării UGAL INVENT, 9-10 Noiembrie 2023, www.invent.ugal.ro . Lucrare premiată cu diploma și medalia de aur.
2. S.M. Năstac, P. Nechita, M.V. Guiman, M. Iana Roman, M. Seciureanu, *Cercetări privind evaluarea capacității de utilizare a spumelor din fibre celulozice în aplicații de protecție acustică*, International Innovation and Invention Show - 1st edition - EURO Politehnicus, 22-24 November 2024, National University of Science and Technology POLITEHNICA Bucharest, Bucharest, Romania. <https://politehnicus.upb.ro/> . Lucrare premiată cu diploma și medalia de argint.

D. Proiecte de cercetare științifică (membru al echipei de cercetători)

1. Grant UDJG, Materiale compozite cu porozitate ridicată cu proprietati de absorbte fonica si protectie împotriva socurilor (PorousMatSound), contract PNIII RF 3646/30.09.2021.
2. Grant UDJG 9418/30.03.2023, Cercetari privind evaluarea capacitatii de utilizare a materialelor compozite cu porozitate ridicata din fibre celulozice în aplicatii de protectie acustica.
3. Grant UDJG GI RF 2475/2024, Studii și cercetări privind optimizarea proprietăților funcționale ale materialelor compozite cu porozitate ridicată din fibre celulozice.

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Pagina 3/3



