

UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA
Facultatea Ingineria Materialelor și a Mediului
Departamentul Ingineria Mediului și Antreprenoriatul Dezvoltării Durabile

LISTA DE LUCRĂRI

Conf. dr. ing. Ancuța-Elena TIUC

I. Teza de doctorat

- *Studii și Cercetări Privind Obținerea unor Materiale Fonoabsorbante din Deșeuri*, septembrie 2012, Universitatea Tehnică din Cluj-Napoca, conducător științific Prof.univ.dr.ing. Tiberiu RUSU.

II. Brevete de invenție

1. **Tiuc Ancuța Elena**, Rusu Tiberiu, Nemeș Ovidiu, Procedeu de Obținere a unui Material Compozit Fonoabsorbant, Nr. brevet 129228 B1, clasificare internațională C04B 26/26 (2006.01), 28.08.2015.
2. Tămaș-Gavrea Daniela-Roxana, Iștoan Raluca, **Tiuc Ancuța Elena**, Panou Compozit Multistrat și Procedeu de Obținere a Acestuia, Nr. brevet 133261 B1, clasificare internațională B32B 13/14 (2006.01), 30/04/2020.
3. Nemes Ovidiu, **Ancuta Elena Tiuc**, Muresan Ioana, Deak Gyorgy, Material cu proprietăți fonoabsorbante din lână de oaie cu spumă poliuretanică și procedeu de obținere a acestuia, Nr. brevet RO136050-B1, 2024.
4. Denes Tunde-Orsolya, Tămaș-Gavrea Daniela-Roxana, Iștoan Raluca, **Tiuc Ancuța Elena**, Manea Daniela Lucia, Ovidiu Vasile, Panou modular pe bază de lână de oaie și procedeu de obținere a acestuia, Nr. brevet RO135991-B1, 2024.

III. Cărți

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2. **Tiuc A.E.**, Vasile O, Tamas-Gavrea R, Combaterea Zgomotului, Editura Risoprint, Cluj-Napoca, 2019, ISBN 978-973-53-2357-8.
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4. Vermeșan H., **Tiuc A.E.**, Fenomene de Transfer al Poluanților, Editura Risoprint, Cluj-Napoca, 2015, ISBN 978-973-53-1252-7.

IV. Articole publicate în reviste științifice

Articole publicate în reviste cotate/indexate ISI

1. Rancea, M, Nemes, O, **Tiuc, AE**, Vasile, O, Acoustic Absorption Behavior of Boards Made from Multilayer Packaging Waste, Applied Sciences, 2026, 16, 3, 1206, <https://doi.org/10.3390/app16031206>
2. Sarosi, I.; Paltinean, G.A.; Moldovan, A.; Cuc, S.; Carpa, R.; Sarosi, C.; Doukeh, R.; **Tiuc, A.-E.**; Nemes, O. Antimicrobial PLA-Based Composite Gels with Improved Functional Properties for Food Packaging. Gels 2026, 12, 194. <https://doi.org/10.3390/gels12030194>
3. Tamas-Gavrea, DR, Istoan, R, **Tiuc, AE**, Dénes, TO, Manea, DL, Ciorîta, Vasile, O, Sustainable Approach to Achieve New Green Solutions for the Construction Industry, Sustainability, 2024, 16, 23, 10556. <https://doi.org/10.3390/su162310556>.
4. Barta DG, Simion, I, **Tiuc, AE**; Vasile, O; Mycelium-Based Composites as a Sustainable Solution for Waste Management and Circular Economy, Materials, 2024, 17, 2, 404. <https://doi.org/10.3390/ma17020404>.
5. **Tiuc, AE**; Borlea, SI; Nemes, O; Vermesan, H; Vasile, O; Popa, F; Pinto, R, New Composite Materials Made from Rigid/Flexible Polyurethane Foams with Fir Sawdust: Acoustic and Thermal Behavior, Polymers, 2022, 14, 17, 3643. <https://doi.org/10.3390/polym14173643>.
6. Platon, MA; Nemes, O; **Tiuc, AE**; Vilau, C; Dudescu, CM; Paduretu, S, The Influence of Process Parameters on the Mechanical Behavior of a Composite Material Made From Mixed Plastic Wastes, Archives of Metallurgy and Materials, 2022, 67, 4, 1235-1241. <https://doi.org/10.24425/amm.2022.141047>
7. Tamas-Gavrea, D.-R.; Istoan, R.; **Tiuc, A.E.**; Dénes, T.-O.; Vasile, O.; Constantinescu, H., Development of New Composite Products Based on Flax Fibres, Coatings, 2021, 11, 551. <https://doi.org/10.3390/coatings11050551>.
8. Uriciuc, W.A.; Vermesan, H.; **Tiuc, A.E.**; Ilea, A.; Bosca, A.B.; Popa, C.O. Casting over Metal Method Used in Manufacturing Hybrid Cobalt-Chromium Dental Prosthetic Frameworks Assemblies, Materials, 2021, 14, 3, 539. <https://doi.org/10.3390/ma14030539>.
9. Vermeșan H., Mangău, A., **Tiuc A. E.**, Perspectives of Circular Economy in Romanian Space, Sustainability, 2020, 12(17), 6819; <https://doi.org/10.3390/su12176819>.
10. Borlea (Mureșan), S.I., **Tiuc, A.-E.**, Nemeș, O., Vermeșan, H., Vasile, O. Innovative Use of Sheep Wool for Obtaining Materials with Improved Sound-Absorbing Properties. Materials 2020, 13, 694. <https://doi.org/10.3390/ma13030694>
11. Vermeșan, H., **Tiuc, A.-E.**, Purcar, M. Advanced Recovery Techniques for Waste Materials from IT and Telecommunication Equipment Printed Circuit Boards. Sustainability, 2020, 12, 74. <https://doi.org/10.3390/su12010074>
12. Tămaș-Gavrea R.-D., Dénes T.-O., Istoan R., **Tiuc A. E.**, Manea D.L., Vasile O., A Novel Acoustic Sandwich Panel Based on Sheep Wool, Coatings, 2020, 10, 148; <https://doi.org/10.3390/coatings10020148>.
13. Crișan O.A., Pustan M.S., Bîrleanu C.J., **Tiuc A.E.**, Sur I., Crișan H.G., Șerdean F.M., Flămînd L., Rusu T., Qualitative Analysis Of Filters For The Mechanical Nanofiltration

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14. **Tiuc A.E.**, Nemeș O., Vermesan H., Toma A.C., New sound absorbent composite materials based on sawdust and polyurethane foam, *Composites Part B: Engineering*, vol. 65, 2019, 120-130. <https://doi.org/10.1016/j.compositesb.2018.11.103>
15. **Tiuc A.E.**, Nemeș O., Vermesan H., Tamas-Gavrea R., Vasile O., New sound absorbing materials obtained from waste rigid polyurethane foam, *Materiale Plastice*, vol.56, No.4, 2019. <https://doi.org/10.37358/MP.19.4.5301>
16. Gabor T., Dan V., **Tiuc A.E.**, Sur I.M., Badila I.N., Experimental Setup For Analysis Of Drain Water Heat Recovery System In Civil Buildings, *Journal Of Environmental Protection And Ecology*, Vol. 20, Issue 4, p.1960-1969, 2019.
17. **Tiuc A.E.**, Vasile O., Vermesan H., Platon M.A., Sound Absorbing Insulating Composites Based On Polyurethane Foam And Waste Materials, *Materiale Plastice*, vol.55, No.3, 2018. <https://doi.org/10.37358/MP.18.3.5041>
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19. Rus V., Vermeșan H., Hegyi A., **Tiuc AE**, *Electrochemical impedance spectroscopy study - evolution modeling of corrosion products layer formed at hot dip galvanized rebar-fresh concrete interface*, *Revista Română de Materiale / Romanian Journal of Materials* 2016, 46 (2), 196 – 203.
20. Gabor T., Dan V., **Tiuc A.E.**, Sur I.M., Badila I.N., *Modeling and simulation of heat transfer processes for heat exchangers with heat pipes used for recovering heat from wastewater*, *Environmental Engineering and Management Journal*, no. 5, 2016. <https://10.30638/eemj.2016.113>
21. **Tiuc A.E.**, Dan V., Vermeșan H., Gabor T., Proorocu M., *Recovery Of Sawdust And Particles Of Recycled Rubber By Making Them Into Sound Absorbing Materials*, *Environmental Engineering and Management Journal*, no. 5, May 2016, Vol.15, No. 5, 1093-1101, 2016. <https://10.30638/eemj.2016.122>
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23. **Tiuc A.E.**, Nemeș O., Perhaița I., Vermeșan H., Gabor T., Dan V., *Thermal Behaviour of Polyurethane Matrix Composite Materials*, *Studia Universitatis Babeș-Bolyai Seria Chemia*, LX, 2, Tom I, pp. 169-176, 2015.
24. Todea D.A., Tonk S., **Tiuc A.E.**, Török A., Mânzatu C., Katona G., Majdik C., *Continuous Flow Waste Water Purification With Immobilized Cells*, *Studia Universitatis Babeș-Bolyai Chemia*, Vol.58, issue 3, pp.135-142, 2013.
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26. **Borlea (Tiuc) A.**, Rusu T., Vasile O., *Using particles of recycled rubber when making some soundproofing materials*, *Materiale Plastice*, vol. 49, nr.4, pp. 275-278, 2012.

27. **Borlea (Tiuc) A.**, Rusu T., Ionescu S., Nemeș, O., *Determination of sound absorption properties of some new composite materials obtained from wastes*, Revista Română de Materiale/Romanian Journal of Materials, vol.42, nr.4, pp. 405-414, 2012.

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1. Platon, M.A., Nemes, O., **Tiuc, A.E.**, Vasile, O., Paduretu, S., Phono-Absorbent Behavior of New Fiberglass Plates from Mixed Plastic Material Wastes, Advanced Structured Materials, 149, pp. 67-76, 2021.
2. Dénes T.-O., Tămaș-Gavrea R.-D., **Tiuc A.E.**, et al., Natural Fibre Composite Panels For Thermal Insulation Of Buildings: A Review; Scientific Papers-Series Management Economic Engineering In Agriculture And Rural Development, Volume: 19, Issue: 4, Pages: 71-78 Published: 2019.
3. **Tiuc A.E.**, Vasile O, Vermeșan H., Nemeș O., Borlea (Muresan) S.I., New Multilayered Composite for Sound Absorbing Applications, Romanian Journal of Acoustics and Vibration, vol 15 issue 2/2018, pp. 115-121.
4. **Tiuc A.E.**, Vasile O, Vermeșan H., Nemeș O., The Use of Mathematical Models in Determining Acoustic Absorption Coefficient of New Composite Porous Materials, Romanian Journal of Acoustics and Vibration, vol XIV issue 2/2017, pp. 97-101.
5. **Tiuc A.E.**, Vasile O, Vermeșan H., Acoustic Performance of Composite Materials Made from Textile Waste, Journal of Acoustics and Vibration, Volume XII, issue 2, pp.111-115, 2015.
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7. Vermeșan H., **Tiuc A.E.**, Rus V., Sustainability of steel corrosion protection by hot dip galvanizing, ECOTERRA - Journal of Environmental Research and Protection, 2016, Volume 13, Issue 2, 43 - 51.
8. **Tiuc A.E.**, Vermeșan H., Gabor T., Factorii care influențează proprietățile fonoabsorbante ale materialelor, Știința și Inginerie, vol. 32, pag. 721-728, Agir, 2017, ISSN 2067-7138
9. Vermeșan H., **Tiuc A.E.**, Impactul compușilor organici volatili asupra mediului și posibilități de reducere prin cele mai bune tehnici disponibile, Știința și Inginerie, vol. 32, pag. 729-738, Agir, 2017, ISSN 2067-7138
10. Gabor T., Dan V., **Tiuc A.E.**, Bădilă I.N., Exploatarea și recuperarea căldurii din surse energetice secundare cu potențial termic coborât, Știința și Inginerie, vol. 32, pag. 751-760, Agir, 2017, ISSN 2067-7138
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13. **Tiuc A.E.**, Vermeșan H., Gabor T., *Superior Recovery Of Non-Metallic Waste By Making Sound Absorbing Materials*, Acta Technica Napocensis, Series: Environmental Engineering and Sustainable Development Entrepreneurship, Cluj-Napoca, vol. 4, nr.2, pp. 35-42, 2015.

14. **Tiuc A.E.**, Vasile O., Gabor T., *Determination of Antivibrational and Acoustical Properties of Some Materials Made From Recycled Rubber Particles and Sawdust*, , Romanian Journal of Acoustics and Vibration, Volume XI, issue 1, pp.47-52, 2014.
15. **Tiuc A.E.**, Vasile O., Usca A.D., Gabor T., Vermeșan H., *The Analysis of Factors That Influence the Sound Absorption Coefficient of Porous Materials*, Journal of Acoustics and Vibration (SCOPUS), Volume XI, issue 2, 2014, pp.105-108.
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17. **Tiuc A.E.**, Moga L., *Improvement of Acoustic and Thermal Comfort by Turning Waste into Composite Materials*, Romanian Journal of Acoustics and Vibration, Volume X, issue 2, pp.77-82, 2013.
18. **Tiuc A.E.**, Rusu T., Vasile O., *The influence of perforations from the surface of a sound absorbing material on the sound absorption coefficient*, Romanian Journal of Acoustics and Vibration, Volume X, issue 1, pp.59-62, 2013.
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20. **Borlea (Tiuc) A.**, Rusu T., Ionescu S., *Research on obtaining soundproof materials from wastes*, Acta Technica Napocensis, Series: Environmental Engineering and Sustainable Development Entrepreneurship, Cluj-Napoca, vol. 1, nr.3, pp. 13-20, 2012.
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23. **Borlea (Tiuc) A.**, Rusu T., Șimon (Niste) S., *Theoretical considerations on sound absorption*, Analele Universității „Constantin Brâncuși” Seria Inginerie nr.2, pp.89-97, 2011.
24. **Borlea (Tiuc) A.**, Rusu T., Șimon (Niste) S., *The use of soundproofing materials for noise reduction*, Analele Universitatii „Constantin Brâncuși” Seria Inginerie nr.3, pp.387-397, 2010.
25. **Borlea (Tiuc) A.**, Rusu T., Șimon (Niste) S., *Necessity of today: Noise Reduction*, Buletinul Stiintific al Universitatii de Nord, SERIA D Exploataři Miniere Prepararea Substanțelor Minerale Utile Metalurgie Neferoasă Geologie și Ingineria Mediului, vol.XXIV nr.1, pp.71-80, 2010.
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28. Șimon (Niste) S., Rusu T., **Borlea (Tiuc) A.**, *Enzymatic mixture and the role in the environment protection*, Buletinul Stiintific al Universitatii de Nord, SERIA D Exploataři Miniere Prepararea Substanțelor Minerale Utile Metalurgie Neferoasă Geologie și Ingineria mediului, vol. xxv nr.1, pp.99-104, 2011.

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V. Publicații apărute în lucrări ale conferințelor ISI Proceedings/BDI

Articole publicate în ISI proceedings

1. Fernea (Iștoan) R., Tămaș-Gavrea D.-R., **Tiuc A.-E.**, Manea D, The impact of volcanic rocks on sustainable building materials based on hemp and lime, 17th edition International Technical-Scientific Conference Modern Technologies for the 3rd Millennium, March 22-23, 2018 - Oradea (Romania), pp.363-368.
2. Tămaș-Gavrea D.-R., Munteanu C., Fernea (Iștoan) R., **Tiuc A.-E.**, Hâncu I., Babota F, Acoustic analysis of the Orthodox Church “The descent of the Holy Spirit” from Cluj-Napoca, 17th edition International Technical-Scientific Conference Modern Technologies for the 3rd Millennium, March 22-23, 2018 - Oradea (Romania), pp.261-266.
3. Platon M.A, Ștef M, Popa M, **Tiuc A.E.**, Nemeș O., Research on Recycling Mixed Wastes Based on Fiberglass and Organic Resins, EUROINVENT International Conference on Innovative Research, EUROINVENT ICIR 2018, Iasi; Romania; 17-19 May 2018, IOP Conference Series: Materials Science and Engineering, Volume 374, Issue 1.
4. Fernea (Iștoan) R., Tămaș-Gavrea D.-R., Manea D.L., Molnar (Pleșa) L.M., Munteanu C., **Tiuc A.E.**, The influence of the binder and volcanic rocks in natural-organic building materials, , 11th International Interdisciplinary Conference in Engineering, INTER-ENG 2017, 5-6 October 2017, Târgu-Mureș, Romania.
5. **Tiuc A.E.**, Vermeșan H., Gabor T., Vasile O., *Improved sound absorption properties of polyurethane foam mixed with textile waste*, Energy Procedia, Volume 85, January 2016, Pages 559–565, EENVIRO-YRC 2015 – Bucharest.

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1. Gabor, T., **Tiuc, A.-E.**, Sur, I.M., Badila, I.N., Numerical analysis and simulation of the heat recovery from wastewater using heat exchanger, MATEC Web of Conferences Volume 240, 27 November 2018, 02005, 11th International Conference on Computational Heat, Mass and Momentum Transfer, ICCHMT 2018; DOI: 10.1051/mateconf/201824002005
2. **Tiuc A.E.**, Gabor T, Sur I.M., Tamas-Gavrea D.R., Vermeșan H., Recovery of sawdust, recycled rubber particles and textile waste by making sound absorbing materials, 17 th International Multidisciplinary Scientific Geoconference SGEM 2017, 27-29 November, Viena, Austria, Vonferince Proceeding volume 17, Energy and Clean Tehnologies Issue 43, pp.171- 178.
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4. Sur IM, Gabor T, Chirila Babau AM, **Tiuc AE**, Research regarding as and Cd extraction from the polluted soils, 17 th International Multidisciplinary Scientific Geoconference SGEM 2017, 27-29 November, Viena, Austria, Vonferince Proceeding volume 17, Nano, Bio and Green – Technolories for a sustainable future, Issue 63, pp.327- 334.

VI. Alte lucrări și contribuții științifice

Publicații în extenso apărute în volume ale conferințelor neindexate

1. **Tiuc A.E**, Rusu T., Vasile O., *Influența perforațiilor de pe suprafața unui material fonoabsorbant asupra coeficientului de absorbție acustică*, A 37-a Conferința Internațională de Mecanica Solidelor, Acustică și Vibrații, CNMSAV XXXVII, Vol.I, pp.66 - 70, Chișinău 2013.
2. **Tiuc A.E**, *Zgomotul și consecințele sale în contextul dezvoltării durabile*, Antreprenariat, mediu de afaceri și dezvoltare durabilă AMDD, Casa Cartii de Știință pp.105 - 118, Cluj-Napoca, 2013.
3. **Borlea (Tiuc) A.**, Rusu T., Vasile O., Gheorghe A., *Soundproofing materials whit recycled rubber particles and sawdust*, Proceedings of SISOM & ACOUSTICS, Annual Symposium of the Institute of Solid Mechanics (SISOM) and Symposium of Acoustics, București, România, 30-31 mai 2012, pp. 291 – 296.
4. **Borlea (Tiuc) A.**, Rusu T., Ionescu S., *Realizarea unor placi fonoabsorbante din materiale reciclate*, Antreprenariat, mediu de afaceri și dezvoltare durabilă AMDD, Casa Cartii de Stiinta, pp.285 -290, Cluj-Napoca, 2012.
5. Gheorghe A., **Borlea (Tiuc) A.**, *Evaluation of absorbing performance for composite plates made from recycled waste*, Proceedings of SISOM & ACOUSTICS, Annual Symposium of the Institute of Solid Mechanics (SISOM) and Symposium of Acoustics, București, România, 30-31 mai 2012, pp. 307 – 313,.
6. **Borlea (Tiuc) A.**, Rusu T., Șimon (Niste) S., *Opportunities for wood waste recycling by obtaining of new composite materials*, Brochure of the Conference 17th „Building Services, Mechanical and Building Industry Days”, 13 October 2011, Debrecen, Hungary.
7. Șimon (Niste) S., Rusu T., **Borlea (Tiuc) A.**, *Remediating Phenolic Wastewaters Using Enzymes*, Brochure of the Conference 17th „Building Services, Mechanical and Building Industry Days”, 2011, Debrecen, Hungary.

Participare la manifestări științifice

1. **Ancuța Elena Tiuc**, Ovidiu Vasile, Horatiu Vermesan, Ovidiu Nemeș *New Multilayered Composite for Sound Absorbing Applications*, The 42th International Conference on “Mechanics of Solids, Acoustics and Vibrations” - ICMSAV 2018, 25-26 OCT. 2018, BRAȘOV.
2. Tămaș-Gavrea D.-R., Munteanu C., Fernea (Iștoan) R., **Tiuc A.-E.**, Hâncu I., Babota F, *Acoustic analysis of the Orthodox Church “The descent of the Holy Spirit” from Cluj-Napoca*, , 17th edition International Technical-Scientific Conference Modern Technologies for the 3rd Millennium, March 22-23, 2018 - Oradea (Romania).
3. Platon M.A, Ștef M, Popa M, **Tiuc A.E.**, Nemeș O., *Research on Recycling Mixed Wastes Based on Fiberglass and Organic Resins*, EUROINVENT International Conference on Innovative Research, EUROINVENT ICIR 2018, Iasi; Romania; 17-19 May 2018.
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- International Multidisciplinary Scientific Geoconference SGEM 2017, 27-29 November, Viena, Austria.
5. **Tiuc, A.E.**, Dragan, N., "Scale models of composite layered sound absorbing materials for laboratory testing conditions" Poster presentation, The 1st International Conference on Experimental Mechanics EMECH 2016, 8-9 June 2016, Brasov;
 6. **Tiuc A.E.**, Vermeșan H., Gabor T., Vasile O., *Improved sound absorption properties of polyurethane foam mixed with textile waste*, International Conference on „Sustainable Solutions for Energy and Environment” EENVIRO - YRC 2015 18 - 20 November 2015, Bucharest – ISI proceedings
 7. **Tiuc A.E.**, *Considerații asupra oportunităților antreprenoriale cu privire la valorificarea superioară a deșeurilor lemnoase prin realizarea de materiale fonoabsorbante*, Conferința Antreprenariat, mediu de afaceri și dezvoltare durabilă (AMDD), 19 – 20 noiembrie, Cluj-Napoca, 2015.
 8. **Tiuc A.E.**, Vasile O., Vermeșan H., *Acoustic Performance of Composite Materials Made from Textile Waste*, 39th International Conference on Mechanics of Solids, Acoustics and Vibrations, 24-26 septembrie 2015, Reșița, România.
 9. **Tiuc A.E.**, Vasile O., *Usca A.D.*, *The Analysis of Factors That Influence the Sound Absorption Coefficient of Porous Materials*, 38th International Conference on Mechanics of Solids, Acoustics and Vibrations ICMSAV XXXVIII, 3-5 septembrie 2014, Pitești, România.
 10. **Tiuc A.E.**, *Zgomotul și consecințele sale în contextul dezvoltării durabile*, Conferința Antreprenariat, mediu de afaceri și dezvoltare durabilă (AMDD), 4 – 5 iulie, Cluj-Napoca, 2013.
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