MEMORIU ȘTIINȚIFIC
Veronica Mănescu (Păltânea)

Studii de doctorat

Perioada: 03.10.2022-30.10.2026
Conducător științific: Prof.dr.ing.Vasile-Iulian Antoniac
Domeniu: Ingineria Materialelor
Titlul tezei de doctorat: „DEZVOLTAREA DE SISTEME MULTIMATERIAL PENTRU APLICAȚII ORTOPEDICE SPECIFICE (MULTIMATERIAL SYSTEMS DEVELOPMENT FOR SPECIFIC ORTHOPEDIC APPLICATIONS)”

Activitate științifică

A. Articole în reviste indexate și cotate ISI pe domeniul tezei de doctorat:

1. V. Manescu (Paltanea), I. Antoniac, A. Antoniac, D. Laptoiu, G. Paltanea, R. Ciocoiu, I.V. Nemoianu, L.G. Gruionu, H. Dura, *Bone Regeneration Induced by Patient-Adapted Mg Alloy-Based Scaffolds for Bone Defects: Present and Future Perspectives*, **Biomimetics**, vol. 8, iss. 8, 618, 43 pag., 2023, doi: 10.3390/biomimetics8080618, eISSN 2313-7673, WOS: 001131224100001, IDS Number DH8F8, **IF 3.9 (Q1)**

2. V. Manescu (Paltanea), A. Antoniac, M.C. Moraru, I. Antoniac, C.M. Cotrut, S. Gradinaru, A.I. Dreanca, B. Sevastre, R. Pop, F.A. Tabaran, G.M. Vlasceanu, M. Ionita, M. Manole, *Suitability of Mg-Nd and Mg-Zn Alloys to Obtain Biodegradable Structures for Bone Defects*, **J. Funct. Biomaterials**, vol. 16, iss. 11, 423, 32 pag., 2025, DOI 10.3390/jfb16110423, WOS: 001623847400001, eISSN 2079-4983, IDS Number F7439, **IF 5.2 (Q1)**

3. V. Manescu (Paltanea), G. Paltanea, A. Antoniac, L.G. Gruionu, A. Robu, M. Vasilescu, S.A. Laptoiu, A.I. Bita, G.M. Popa, A.L. Cocosila, V. Silviu, A. Porumb, *Mechanical and Computational Fluid Dynamic Models for Magnesium-Based Implants*, **Materials**, vol. 17, iss. 4, 830, 22 pag., 2024, eISSN 1996-1944, doi: 10.3390/ma17040830, WOS: 001172420600001, IDS Number JI0P0, **IF 3.2 (Q2)**

4. V. Manescu (Paltanea), A. Antoniac, G. Paltanea, I. Antoniac, E. Páll, M.C. Moraru, A.I. Dreanca, B. Sevastre, R. Stefanoiu, R. Ciocoiu, S. Gradinaru, J.V. Rau, M. Manole, *Biofunctional Testing of a Degradable Implant Made by Mg-Nd and Mg-Zn Alloys Used for Bone Defects,* **Biomimetic**s, vol. 11, iss. 3, 169, 30 pag., 2026, doi: 10.3390/biomimetics11030169, eISSN 2313-7673, WOS: -, IDS Number -, **IF 3.9 (Q1)**

5. I.V. Antoniac, M. Miculescu, **V. Manescu (Paltanea)**, A. Stere, P.H. Quan, G. Păltânea, A. Robu, E. Earar, *Magnesium-Based Alloys Used in Orthopedic Surgery*, **Materials**, vol: 15, iss: 3, 1148, 32 pag., 2022, DOI 10.3390/ma15031148, eISSN 1996-1944, WOS:000756544000001, IDS Number: ZB0LG, **IF 3.2 (Q2)**

6. I. Antoniac, **V. Manescu (Paltanea)**, G. Păltânea, A. Antoniac, I.V. Nemoianu, M.I. Petrescu, H. Dura, A.D. Bodog, *Additive Manufactured Magnesium-Based Scaffolds for Tissue Engineering*, **Materials**, vol: 15, iss: 23, 8693, 33 pag., 2022, DOI 10.3390/ma15238693, ISSN 1996-1944, WOS:000897445600001, IDS Number: 6Z0AC, **IF 3.2 (Q2)**

7. I. Antoniac, **V. Manescu (Paltanea)**, A. Antoniac, G. Păltânea, *Magnesium-based alloys with adapted interfaces for bone implants and tissue engineering*, **Regenerative Biomaterials**, vol. 10, 61 pag., 2023, rbad095, doi: 10.1093/rb/rbad095, ISSN 2056-3418, WOS: 001105738200001, IDS Number Y5OB9, **IF 8.1 (Q1)**

8. I. Antoniac, **V. Manescu (Paltanea)**, G. Păltânea, A. Antoniac, M. Fosca, D. Laptoiu, J.V. Rau, *Advancements in biomaterials and bioactive solutions for lumbar spine fusion cages: Current trends and future perspectives*, **Bioactive Materials**, vol. 53, 48 pag., 656-703, DOI: 10.1016/j.bioactmat.2025.07.035, WOS: 001554287200001, eISSN 2452-199X, IDS Number 6IR4L, **IF 20.3 (Q1)**

9. H.Q. Pham, **V. Manescu (Paltanea)**, G. Păltânea, I.V. Antoniac, I.V. Nemoianu, *Potential of Biodegradable Magnesium Alloys for Medical Applications*, **Key Engineering Materials**, vol 931 KEM, 2022, Pages 55-61, ISSN: 1662-9795, doi: 10.4028/p-r405h8, (indexat SCOPUS)

10. P.H. Quan, I.V. Antoniac, F. Miculescu, A. Antoniac, **V. Manescu (Paltanea)**, A. Robu, A.I. Biță, M. Miculescu, A. Seceleanu, A.D. Bodog, V. Seceleanu, *Fluoride Treatment and In Vitro Corrosion Behavior of Mg-*

Nd-Y-Zn-Zr Alloys Type, **Materials**, vol: 15, iss: 2, 566, 17 pag., 2022, DOI 10.3390/ma15020566, eISSN 1996-1944, WOS:000757583600001, IDS Number: ZC5TZ, **IF 3.2 (Q2)**

11. A. Streza, A. Antoniac, **V. Manescu (Paltanea)**, G. Păltânea, A. Robu, H. Dura, L. Verestiuc, E. Stanica, S.I. Voicu, I. Antoniac, M.B. Cristea, B.R. Dragomir, J.V. Rau, M.M. Manolea, *Effect of Filler Types on Cellulose-Acetate-Based Composite Used as Coatings for Biodegradable Magnesium Implants for Trauma*, **Materials**, vol. 16, iss. 2, 554, 22 pag., 2023, doi: 10.3390/ma16020554, ISSN 1996-1944, WOS: 000928381600001, IDS Number 8S1YL, **IF 3.2 (Q2)**

12. L. Dragomir, I. Antoniac, **V. Manescu (Paltanea)**, A. Antoniac, M. Miculescu, O. Trante, A. Streza, C.M. Cotruț, D.A. Forna, *Microstructure and Corrosion Behaviour of Mg-Ca and Mg-Zn-Ag Alloys for Biodegradable Hard Tissue Implants*, **Crystals**, vol. 13, iss. 8, 1213, 18 pag., 2023, doi: 10.3390/cryst13081213, eISSN 2073-4352, WOS: 001056853000001, IDS Number Q3WJ8, **IF 2.4 (Q2)**

13. L. Dragomir (Nicolescu), A. Antoniac, **V. Manescu (Paltanea)**, A. Robu, M. Dinu, I. Pana, C.M. Cotrut, E. Kamel, I. Antoniac, J.V. Rau, A. Vladescu (Dragomir), *Preparation and characterization of hydroxyapatite coating by magnetron sputtering on Mg–Zn–Ag alloys for orthopaedic trauma implants*, **Ceramics International**, vol. 49, iss. 16, 2023, pp. 26274-26288, 15 pag., ISSN 0272-8842, doi: 10.1016/j.ceramint.2023.05.116, WOS: 001027803600001, IDS Number M1KD5, **IF 5.6 (Q1)**

14. A. Streza, A. Antoniac, **V. Manescu (Paltanea)**, R. Ciocoiu, C.M. Cotrut, M. Miculescu, F. Miculescu, I. Antoniac, M. Fosca, J.V. Rau, H. Dura, *In Vitro Studies Regarding the Effect of Cellulose Acetate-Based Composite Coatings on the Functional Properties of the Biodegradable Mg3Nd Alloys*, **Biomimetics**, vol. 8, iss. 7, 526, 22 pag., 2023, doi: 10.3390/biomimetics8070526, eISSN 2313-7673, WOS: 001120752900001, IDS Number AT6T2, **IF 3.9 (Q1)**

C. Participări la conferințe internaționale (pe domeniul tezei de doctorat):

1. P. H. Quan, **V. Manescu (Paltanea)**, G. Paltanea, I. Antoniac, I. V. Nemoianu, Potential of Biodegradable Magnesium Alloys for Medical Applications, 12th International Conference on Key Engineering Materials ICKEM 2022, Udine, Italy, March 18-20, **Oral presentation**

2. A. Robu, I. Antoniac, **V. Manescu (Paltanea)**, R. Bololoi, L. Nicolescu, Mechanical properties and *in vitro* degradation on biodegradable Mg-Zn-Ca alloys, International Conference on Biomaterials and Regenerative Medicine BioReMed 2023, Sibiu, Romania, July 19-21, **Poster presentation**

3. A. Streza, I. Antoniac, **V. Manescu (Paltanea)**, R. Ciocoiu, C. Nicolescu, *In vitro* evaluation of corrosion behavior for two polymer-coated Mg-3Nd alloys, International Conference on Biomaterials and Regenerative Medicine BioReMed 2023, Sibiu, Romania, July 19-21, **Poster presentation**

4. A. Robu, A. Antoniac, I. Antoniac, A. Streza, **V. Manescu (Paltanea)**, I. Corneschi, The influence of the test environment and the composition of magnesium alloys on the degradation process, 3rd International Materials Technologies and Metallurgy Conference-2023 MTM 2023, Istanbul, Turkey, October 11-13, **Oral presentation**

5. A. Streza, A. Antoniac, **V. Manescu (Paltanea)**, C.M. Cotrut, I. Antoniac, M. Fosca, J.V. Rau, Effect of cellulose acetate-based composite coatings on the functional properties of the biodegradable magnesium alloys for orthopaedic implants, 4th Biomaterials and Novel Technologies for Healthcare, BioMaH conference, Rome, Italy, October 15-18, 2024, **Poster presentation**

6. V. Manescu (Paltanea), I. Antoniac, G. Paltanea, A. Antoniac, A. Robu, S.A. Laptoiu, I. Corneschi, A. Streza, M.L. Vasilescu, Design and development of an innovative Mg-based implant dedicated to bone-critical size defect treatment, 4th Biomaterials and Novel Technologies for Healthcare, BioMaH conference, Rome, Italy, October 15-18, 2024, **Poster presentation**

7. V. Manescu (Paltanea), G. Paltanea, I. Antoniac, A. Antoniac, A. Streza, I. Corneschi, R. Ciocoiu, M. Vasilescu, Finite element analysis for magnesium alloy implant design, 10th International Conference "Biomaterials, Tissue Engineering & Medical Devices" BIOMMEDD'2024, Bucharest, Romania, October 10-12, 2024, **Poster presentation**

8. V. Manescu (Paltanea), A. Antoniac, I. Antoniac, G. Paltanea, A. Robu, Biodegradation behaviour of magnesium alloys Mg-Zn-Ag coated with hydroxyapatite in simulated body fluid, 13th International Conference on Key Engineering Materials ICKEM 2024, Dubai, UAE, March 6-8, **Oral presentation – Best oral presentation award**

9. V. Manescu (Paltanea), A. Antoniac, I. Antoniac, G. Paltanea, A. Robu, D. Laptoiu, R. Ciocoiu, Biodegradability analysis for different Mg-based alloys used in orthopedic surgery, 12th World Biomaterials Congress WBC 2024, Daegu, Republic of Korea, May 26-31, **Poster presentation**

10. V. Manescu (Paltanea), I. Antoniac, A. Antoniac, G. Paltanea, A. Robu, A. Streza, V. Geanta, R. Stefanoiu, M.L. Vasilescu, Contributions regarding the fabrication methods for structures made by Mg-Zn-Mn-Ca alloy potentially used as bone substitutes, 10th International Conference on Materials Science and Technologies ROMAT 2024, November 14-15, Bucharest, Romania**, Oral presentation**

11. V. Manescu (Paltanea), I. Antoniac, A. Antoniac, A. Streza, S. Gradinaru, M. C. Moraru, B. Sevastre, M. Manole, Mg-Zn biodegradable alloy as a suitable material for bone defect, International Conference on Biomaterials and Regenerative Medicine BioReMed 2025, Oradea, Romania, October 16-18, **Poster presentation**

12. V. Manescu (Paltanea), A. Antoniac, E. Gherghina Stefan, G. Paltanea, R. Stefanoiu, C. M. Cotrut, M. L. Vasilescu, New design and manufacturing technology for a biodegradable structure made by Mg-Zn-Mn-Ca potentially used as bone substitute, 15th International Conference on Key Engineering Materials ICKEM 2025, Marinha Grande, Portugal, March 11-13, **Oral presentation**

D. Cerere de brevet de invenție:

1. A/00592/04.12.2025. Titlu: *„Metodă de elaborare a unui implant poros din aliaj de magneziu cu acoperire bioactivă”.* Authori: Vasile-Iulian Antoniac, **Veronica Mănescu (Păltânea**), Augustin Semenescu, Mihnea-Cosmin Costoiu, Ileana-Mariana Mateș, Ioan-Ștefan Voicu, Aurora Antoniac.

Student-doctorand

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