

**Universitatea POLITEHNICA din București**  
**Facultatea de Știința și Ingineria Materialelor**  
**Departamentul Procesarea Materialelor Metalice și Ecometalurgie**

**LISTA DE LUCRĂRI**  
***Prof. Habil. Dr. Chim. Ecaterina MATEI***

**A. Teza de doctorat**

Structuri și tehnici pentru operaționalizarea managementului apelor uzate în industria materialelor metalice, Universitatea POLITEHNICA Bucuresti, 2005.

**B. Cărți și capitole în cărți publicate**

**B1. Cărți / cursuri (manuale) pentru uzul studenților, publicate în edituri recunoscute**

**B1.1** C. Covaliu, Ecaterina Matei, G. Paraschiv, A. Predescu “Metode de analiză a calității apelor”, 2014, Ed. Printech, ISBN 978-606-23-0329-7

**B1.2.** C. Covaliu, E. Matei, G. Paraschiv, Ecologie și protecția mediului, Editura Printech, 2014, ISBN 978-606-230-337-2

**B1.3.** C. Predescu, Ecaterina Matei, Mirela Sohaciu, Andra Predescu, Andrei Berbecaru, George Coman „Protectia mediului in industrie. Indrumar de laborator si aplicatii”, 2013, Ed. Printech, ISBN 978-606-23-0050-0

**B1.4.** E. Matei, D. Manea, I. Parapala, A. Stoica, A. Nicolae, „Caracterizarea poluanților metalurgici”, 2007, Ed. Printech, ISBN 978-973-718-858-8

**B2. Cărți de specialitate publicate în edituri recunoscute (autor, coautor, editor).**

**B2.1** Ecaterina Matei, Managementul apelor uzate în sectoarele siderurgice, Ed. Printech, 2021, ISBN 978-606-23-1271-8

**B2.2.** R. Vidu, C. Predescu, A. Predescu, E. Matei, Nanomateriale pentru epurarea apelor, Ed. Printech, 2020

**B2.3.** C. Predescu, E. Matei, A. Nicolae, M. Sohaciu, A. Predescu, A. Berbecaru, G. Vlad, Echipamente pentru epurarea efluenților metalurgici, 2010, Ed. Printech, ISBN 978-606-521-502-3

**B2.4.** A.Nicolae, E. Matei, I. Melinte, D. Savin, M. Hritac, V. Serban, M. Licurici, M. Balanescu, Management de mediu in industria materialelor metalice, Ed. Fair Partners, 2001, ISBN 973-99985-2-6

**B2.5.** M. Nicolae, I. Melinte, M. Balanescu, M. Hritac, D. Savin, L. Popescu, R. Florea, M. Sohaciu, E. Matei, A. Nicolae, Proceduri de analiză în managementul ecometalurgic, Ed. Fair Partners, 2002, ISBN 973-99985-8-5

**B2.6.** C.Predescu, Șt.Velicu, V. Geanta, D. Bunea, E. Matei, M. Sohaciu, I. Voiculescu, I. Apostolescu, R. Stefanoiu, N. Constantin, M. Tarcolea, C. Gurgu, Legislație și Management de Mediu în Uniunea Europeană, 2004, Ed. Printech, ISBN 973 – 718 – 045 – 3

**C. Lucrări cotate și indexate ISI**

- Matei, E.,** Râpă, M., Predescu, A.M., Țurcanu, A.A., Vidu, R., Predescu, C., Bobirica, C., Bobirica, L., Orbeci, C., Valorization of agri-food wastes as sustainable eco-materials for wastewater treatment: Current state and new perspectives, (2021) Materials, 14 (16), art. no. 4581, DOI: 10.3390/ma14164581
- Rapa, M, Stefan, M, Popa, PA, Toloman, D, Leostean, C, Borodi, G, Vodnar, DC, Wrona, M, Salafanra, J Nerin, Barta, DG, Suci, M, Predescu, C, **Matei, Ecaterina,** Electrospun Nanosystems

- Based on PHBV and ZnO for Ecological Food Packaging, , POLYMERS, Volume13, Issue13, Article Number2123, DOI10.3390/polym13132123, 2021, WOS:000671105600001
3. Negroiu, M, Turcanu, AA, **Matei, Ecaterina**, Rapa, M, Covaliu, CI , Predescu, AM, Pantilimon, CM, Coman, G, Predescu, C, Novel Adsorbent Based on Banana Peel Waste for Removal of Heavy Metal Ions from Synthetic Solutions, MATERIALS, Volume14, Issue14, Article Number3946, DOI10.3390/ma14143946, 2021, WOS:000676569200001
  4. Stoian, O, Covaliu, CI, Paraschiv, G, Catrina, GA, Nita-Lazar, M, **Matei, Ecaterina**, Biris, SS, Tudor, P, Magnetite Oxide Nanomaterial Used for Lead Ions Removal from Industrial Wastewater, MATERIALS, Volume14, Issue11, Article Number2831, DOI10.3390/ma14112831, 2021, WOS:000660259000001
  5. Darie-Nita, RN, Rapa, M , Sivertsvik, M, Rosnes, JT, Popa, EE, Dumitriu, RP, Marincas, O, **Matei, Ecaterina**, Predescu, C, Vasile, C, PLA-Based Materials Containing Bio-Plasticizers and Chitosan Modified with Rosehip Seed Oil for Ecological Packaging, POLYMERS, Volume13, Issue10, Article Number1610, DOI10.3390/polym13101610, 2021, WOS:000655229600001
  6. Predescu, AM, **Matei, Ecaterina**, Berbecaru, AC, Rapa, M, Sohaciu, MG , Predescu, C, Vidu, R, An Innovative Method of Converting Ferrous Mill Scale Wastes into Superparamagnetic Nanoadsorbents for Water Decontamination, MATERIALS; Volume14, Issue10, Article Number2539, DOI10.3390/ma14102539, 2021, WOS:000662524100001
  7. **Matei, Ecaterina**, Predescu, AM, Rapa, M, Turcanu, A, Predescu, C, Vidu, R, Favier, L, Covaliu, CI, Ignat, D, Grigore, V, Testing of Alginate/Chitosan/Glass Bubbles Adsorbent for Copper Removal from Wastewater, MATERIALE PLASTICE, Volume58, Issue1, Page19-26, DOI10.37358/MP.21.1.5441, 2021, WOS:000637398100003
  8. **Matei, Ecaterina**, Gaidau, C, Rapa, M, Stefan, LM, Ditu, LM, Predescu, AM, Stanca, M, Pantilimon, MC, Berechet, MD, Predescu, C, Mosutiu, Sustainable Coated Nanostructures Based on Alginate and Electrospun Collagen Loaded with Antimicrobial Agents, A, COATINGS, Volume11, Issue2, Article Number121, DOI10.3390/coatings11020121, 2021, WOS:000622376200001
  9. Tarcea, CI, Stefan, DI, Turcanu, A, **Matei, E**, Predescu, A, Coman, G, Predescu, C, ASSESSEMENT OF SOIL QUALITY THROUGH PHYSICAL AND CHEMICAL ANALYSES, UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN SERIES B-CHEMISTRY AND MATERIALS SCIENCE, Volume83, Issue1, Page249-254, 2021, WOS:000627764100023
  10. V. Coman, G. Deak, **E. Matei**, A.M. Predescu, M. Râpă, A. Berbecaru, C. Predescu A way to reduce the emerging pollutants impact on environment using nano-TiO<sub>2</sub> as photocatalyst, U.P.B. Sci. Bull., Series B, Vol. 83, Iss. 3, 245 - 252, 2021
  11. Mihai Negroiu, Andreea Țurcanu, **Ecaterina Matei**, Maria Râpă, Andra Predescu, Cristian Pantilimon, George Coman, Cristina Covaliu, Cristian Predescu, Comparison study of metal removal efficiency for commercial activated carbon and biochar obtained from banana peels, U.P.B. Sci. Bull., Series B, Vol. 83, Iss. 3, 285 - 292, 2021.
  12. **Matei, Ecaterina**, Gaidau, C, Rapa, M, Constantinescu, R, Savin, S, Berechet, MD, Predescu, AM, Berbecaru, AC, Coman, G, Predescu, C, Sustainable Rabbit Skin Glue to Produce Bioactive Nanofibers for Nonactive Wound Dressings, MATERIALS, Volume13, Issue23, Article Number5388, DOI10.3390/ma13235388, 2020, WOS:000597553100001
  13. Vidu, Ruxandra; **Matei, Ecaterina**; Predescu, Andra Mihaela; et al., Removal of Heavy Metals from Wastewaters: A Challenge from Current Treatment Methods to Nanotechnology Applications, TOXICS

Volume: 8 Issue: 4 Article Number: 101 Published: DEC 2020, DOI: 10.3390/toxics8040101 , WOS:000601835900001

14. Covaliu, Cristina Ileana; **Matei, Ecaterina**; Stoia, Oana; et al., Magnetic Nanocomposite Material Containing Chitosan Polymer Used in Wastewater Depollution Processes, By: MATERIALE PLASTICE Volume: 57 Issue: 4 Pages: 70-76 Published: DEC 2020 , WOS:000617344900007

15. Burlacu, I. F.; Favier, L.; **Matei, E.**; et al. Photocatalytic degradation of a refractory water pollutant using nanosized catalysts, JOURNAL OF ENVIRONMENTAL PROTECTION AND ECOLOGY, Volume: 21 Issue: 2 Pages: 571-578 Published: 2020, WOS:000566784600021

16. **Matei, Ecaterina**; Covaliu, Cristina Ileana; Coman, George; et al., Nonwoven Bio-Based Membranes for Removal of Micropollutants from Aqueous Water, MATERIALE PLASTICE Volume: 57 Issue: 4 Pages: ,34-44 : DEC 2020 , WOS:000617344900004

17. Rapa, M., Gaidau, C., Stefan, L.M., **Matei, E.**, Niculescu, M., Berechet, MD., Stanca, M., Tablet, C., Tudorache, M., Gavrilă, R., Predescu, C., Vidu, R. , New Nanofibers Based on Protein By-Products with Bioactive Potential for Tissue Engineering, Materials, Volume: 13 Issue: 14 Pages: 3149 DOI: 10.3390/ma13143149 2020, WOS: 000554173300001

18. Nergis, D.D.B., Vizureanu, P., Ardelean, I., Sandu, A.V., Corbu, O.C., **Matei, E.**, Revealing the Influence of Microparticles on Geopolymers' Synthesis and Porosity, Materials Volume: 13 Issue: 14 Pages: 3211 DOI: 10.3390/ma13143211 2020, WOS: 000554850300001

19. Predescu, A.M., Vidu, R., Vizureanu, P., Predescu, A., **Matei E.**, Predescu C. Properties of Cu-xFe(3)O(4)Nanocomposites for Electrical Application, Materials Volume: 13 Issue: 14 Pages: 3086 DOI: 10.3390/ma13143086 Published: 2020, WOS: 000557810700001

20. Rapa, M., Stefan, L.M., Zaharescu, T., Seciu, A.M., Turcanu, A.A., **Matei, E.**, Predescu, A.M., Antoniac, I., Predescu, C., Development of Bionanocomposites Based on PLA, Collagen and AgNPs and Characterization of Their Stability and In Vitro Biocompatibility APPLIED SCIENCES-BASEL Volume: 10 Issue: 7 Pages: 2265 DOI: 10.3390/app10072265 2020, WOS: 000533356200064

21. Rapa, M., Spurcaci, B.N., Coman, G., Nicolae, C.A., Gabor, R.A., Ghioca, P.N., Berbecaru, A.C., **Matei, E.**, Predescu, C. Effect of Styrene-Diene Block Copolymers and Glass Bubbles on the Post-Consumer Recycled Polypropylene Properties Materials Volume: 13 Issue 3, Pages 543, DOI: 10.3390/ma13030543 2020 WOS: 000515503100050

22. Bobirica, C., Bobirica, L., Rapa, M., **Matei, E.**, Predescu, A.M., Orbeci, C., Photocatalytic Degradation of Ampicillin Using PLA/TiO<sub>2</sub> Hybrid Nanofibers Coated on Different Types of Fiberglass, WATER Volume: 12 Issue: 1 Pages: 176 DOI: 10.3390/w12010176, 2020, WOS: 000519847200176

23. Predescu, AM., **Matei E.**, Rapa M., Pantilimon C., Coman G., Savin S., Popa E.E., Predescu, Adsorption of Lead(II) from Aqueous Solution Using Chitosan and Polyvinyl Alcohol Blends, ANALYTICAL LETTERS Volume: 52 Issue 15, Pages 2365-2392, DOI: 10.1080/00032719.2019.1588286, 2019 WOS: 000369161800016

24. Vidu ,R., Predescu, A.M., **Matei, E.**, Berbecaru, A., Pantilimon, C., Dragan, C., Predescu, C. Template-Assisted Co-Ni Nanowire Arrays, NANOMATERIALS Volume: 9 Issue 10, Pages 1446, DOI: 10.3390/nano9101446 2019 WOS: 000495666800101

25. Rapa, M., **Matei, E.**, Turcanu, A., Predescu, AM., Pantilimon, MC., Predescu, C, Structural, Morphological and Thermal Analysis of some Alginate/Starch/Dellite composites for aqueous Cu(II) Removal, CELLULOSE CHEMISTRY AND TECHNOLOGY Volume: 53 Issue: 5-6 Pages: 561-571 DOI: 10.35812/CelluloseChemTechnol.2019.53.56, 2019 WOS: 000473779300016

26. Rapa, M., Darie-Nita, R.N., Preda, P., Coroiu, V., Tatia, R., Vasile, C., **Matei, E.**, PLA/collagen hydrolysate/silver nanoparticles bionanocomposites for potential antimicrobial urinary drains, *POLYMER-PLASTICS TECHNOLOGY AND MATERIALS* Volume: 58 Issue: 18 Pages: 2041-2055 DOI: 10.1080/25740881.2019.1603999 2019, WOS: 000470320800001
27. **Matei, E.**, Covaliu, C.I., Predescu, A., Berbecaru, A., Tarcea, C., Predescu, C., Remediation of Wastewater with Ultraviolet Irradiation Using a Novel Titanium (IV) Oxide Photocatalyst, *ANALYTICAL LETTERS* Volume: 52 Issue: 14 Pages: 2180-2187 DOI: 10.1080/00032719.2019.1604723, 2019 WOS: 000466644300001
28. **Matei, E.**, Predescu, A.M., Râpă, M., Tarcea, C., Pantilimon, C.M., Favier, L., Berbecaru, A.C., Sohaciu, M., Predescu, C., Removal of Chromium(VI) from Aqueous Solution Using a Novel Green Magnetic Nanoparticle - Chitosan Adsorbent, *ANALYTICAL LETTERS*, Volume 52, Issue 15 Pages 2416-2438, DOI: 10.1080/00032719.2019.1601734 2019 WOS: 000465837200001
29. Rapa, M., Stefan, L.M., Preda, P., Darie-Nita, R.N., Gaspar-Pintilieșcu, A., Seciu, A.M., Vasile, C., **Matei, E.**, Predescu, A.M., Effect of hydrolyzed collagen on thermal, mechanical and biological properties of poly(lactic acid) bionanocomposites, *IRANIAN POLYMER JOURNAL* Volume: 28, Issue 4, Pages 271-282, DOI: 10.1007/s13726-019-00694-7 2019, WOS: 000464870300001
30. Predescu, A.M., Vidu, R., Predescu, A., **Matei, E.**, Pantilimon, C., Predescu, C., Synthesis and characterization of bimodal structured Cu-Fe<sub>3</sub>O<sub>4</sub> nanocomposites, *POWDER TECHNOLOGY* Volume 342, Pages 938-953, DOI: 10.1016/j.powtec.2018.10.015 2019 WOS: 000454375100093
31. **Matei, E.**, Covaliu, C.I., Predescu, A., Coman, G., Drăgan, C., Nitu, C.V., Predescu C, Synthesis of a magnetic composite for environmental engineering application *REVISTA ROMANA DE MATERIALE-ROMANIAN JOURNAL OF MATERIALS* Volume: 49 Issue: 4 Pages: 475-482, 2019 WOS: 000502552300004
32. Maidaniuc, A., Miculescu, F., Voicu, S.I., Andronescu, C., Miculescu, M., **Matei, E.**, Mocanu, A.C., Pencea, I., Csaki, I., Machedon-Pisu, T., Ciocan, L.T Induced wettability and surface-volume correlation of composition for bovine bone derived hydroxyapatite particles *APPLIED SURFACE SCIENCE*, Volume 438, Pages: 158-166, DOI: 10.1016/j.apsusc.2017.07.074 2018 WOS: 000425731200017
33. Predescu, A.M., **Matei, E.**, Berbecaru, A.C., Pantilimon, C., Drăgan, C., Vidu, R., Predescu, C., Kuncser, V. Synthesis and characterization of dextran-coated iron oxide nanoparticles, *ROYAL SOCIETY OPEN SCIENCE* Volume: 5 Issue: 3 Pages: 111525 DOI: 10.1098/rsos.171525, 2018 WOS: 000428874600022
34. Predescu, C., Vlad, G., **Matei, E.**, Predescu, A., Sohaciu, M., Coman, G., Methods for heavy metals (HM) extraction from sludge samples and their use for soil upgrading *ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL* Volume: 16, Issue 11, Pages: 2469-2474 2017 WOS: 000419141500005
35. Râpă, M., **Matei, E.**, Ghioca, P.N., Grosu, E., Iancu, L., Spurcaci, B., Trifoi, A.R., Gherman, T., Pica, A., Predescu, A.M., Cincu, C., András, Á. Improvement of some post-consumer polypropylene (RPP) by melt modification with styrene-diene block copolymers, *ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL* Volume: 16 Issue: 11 Pages: 2615-2624 2017 WOS: 000419141500022
36. Ghioca, P., Iancu, L., Grigorescu, R.M., Spurcaci, B., Rapa, M., Cincu, C., Pica, A., **Matei E.**, Recovered Polypropylene Composites with High Impact Strength, *MATERIALE PLASTICE* Volume 54, Issue 1, Pages 18-21 2017 WOS: 000400629900004

37. **Matei, E.**, Rapa, M., Andras, AA., Predescu, AM., Pantilimon, C., Pica, A., Predescu, C. Recycled Polypropylene Improved with Thermoplastic Elastomers INTERNATIONAL JOURNAL OF POLYMER SCIENCE DOI: 10.1155/2017/7525923 2017 WOS: 000399244300001
38. **Matei, E.**, Predescu, A., Drăgan, C., Pantilimon, C., Predescu, C Characterization of Magnetic Nanoiron Oxides for the Removal of Metal Ions from Aqueous Solution, ANALYTICAL LETTERS Volume: 50 Issue: 17 Pages: 2822-2838 DOI: 10.1080/00032719.2016.1257016 2017 WOS: 000415951900013
39. Rapa M, Ghioca P.N, **Matei E.**, Grosu E., Iancu L., Spurcaci B., Grigorescu R.M., Pica A., Berbecaru A., Cincu C., Influence of Styrene Block Copolymers on Thermal and Mechanical Properties of Recycled Polypropylene MATERIALE PLASTICE Volume: 53 Issue: 4 Pages: 727-732 2016 WOS: 000263940900011
40. Predescu, C., Pantilimon, C., Sohaciu, M., **Matei, E.**, Savastru, D., Berbecaru, A., Predescu, A., Anton, MG., Coman, G. Investigation of the corrosion cracks in a C4 heavy transport pipeline by microscopy, fluorescence and diffraction techniques JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS Volume: 18 Issue: 9-10 Pages: 873-877 2016 WOS: 000389728900023
41. Rapa, M; **Matei, E.**; Ghioca, P N; Cincu C, Niculescu, M. Structural changes of modified polypropylene with thermoplastic elastomers for medical devices applications, JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY Volume: 30 Issue: 16 Pages: 1727-1740, DOI: 10.1080/01694243.2015.1132103 2016 WOS: 000373945200003
42. Antoniac, I., **Matei, E.**, Munteanu, C. Advanced eco-technologies and materials for environmental and health application, ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 15 Issue: 5 Pages: 953-954, 2016 WOS: 000381274100001
43. Predescu, A., **Matei, E.**, Predescu, A., Berbecaru, A., Sohaciu, M., Predescu, C. Removal of Hexavalent Chromium from Waters by means of a TiO<sub>2</sub>-Fe<sub>3</sub>O<sub>4</sub> Nanocomposite, ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 15 Issue: 5 Pages: 989-994, 2016 WOS: 000381274100006
44. Covaliu, CI., **Matei, E.**, Georgescu, G., Malaeru, T., Biris, SS. Evaluation of Powdered Activated Carbon Performance for Wastewater Treatment containing Organic (C<sub>6</sub>H<sub>6</sub> and C<sub>6</sub>H<sub>5</sub>-CH<sub>3</sub>) and inorganic (Pb<sup>+2</sup> and Zn<sup>+2</sup>) pollutants, ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 15 Issue: 5 Pages: 1003-1008, 2016 WOS: 000381274100008
45. **Matei, E.**, Predescu, AM., Coman, G., Balanescu, M., Sohaciu, M., Predescu, C., Favier, L., Niculescu, M. Magnetic nanoparticles used in environmental engineering for Pb and Zn removal ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 15 Issue: 5 Pages: 1019-1025, 2016 WOS: 000381274100010
46. Favier, L., Simion, AI., **Matei, E.**, Grigoras, CG., Kadmi, Y., Bouzaza, A. Photocatalytic Oxidation of a Hazardous Phenolic Compound Over Tio<sub>2</sub> in a batch system ENVIRONMENTAL ENGINEERING AND MANAGEMENT JOURNAL Volume: 15 Issue: 5 Pages: 1059-1067, DOI: 10.30638/eej.2016.117 2016 WOS: 000381274100015
47. Sohaciu, M., Ciucă, S., Savastru, D., Coman, G., Predescu, A., Berbecaru, A., Cotruț, C., **Matei, E.**, Gherghescu, I.A., Predescu, C., Influence of turbine blades fabrication conditions on their lifetime, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS Volume: 10 Issue: 3-4 Pages: 257-261, 2016, WOS: 000376707900027

48. Kadmi, Y., Favier, L., Ionut, S.A., **Matei, E.**, Wolbert, D. Improved Determination of Dichloroacetic and Trichloroacetic Acids in Water by Solid Phase Extraction Followed by Ultra-high Performance Liquid Chromatography-Tandem Mass Spectrometry, *ANALYTICAL LETTERS* Volume: 49 Issue: 3 Pages: 433-443, 2016 WOS: 000366651900011
49. Popescu L.G, Volceanov E, Anger I, Moise A.G, Volceanov A, **Matei E** Stabilisation of the metallurgical ladle furnace slags (LF) for application in sustainable agriculture, *REVISTA ROMANA DE MATERIALE-ROMANIAN JOURNAL OF MATERIALS* Volume: 46 Issue: 4 Pages: 405-411, 2016 WOS: 000390552600001
50. P. Ghioca, B. Spurcaci, L. Iancu, R. Grigorescu, M. Rapa, E. Grosu, **E. Matei**, A. Berbecaru, A. Pica, R. Gardu, C. Cincu, Composite of waste polypropylene by styrene-isoprene block-copolymers blending, *Materiale Plastice*, 52 (3), 2015, 281-285, WOS:000362382300002
51. **E. Matei**, C. Predescu, A. Badanoiu, A. Predescu, D. Ficai, Application of Magnetite Nanoparticles as Adsorbent for Cr, Cd, Ni and Cu from Aqueous Solution, *Environmental Engineering and Management Journal*, 14(5), 1001-1010, 2015, WOS:000355847800004, ISSN: 1582-9596
52. A. Badanoiu, E. Iordache, R. Ionescu, G. Voicu, **E. Matei**, Effect of composition and curing regime on some properties of geopolymers based on cathode ray tubes glass waste and fly ash, *Revista Română de Materiale-Romanian Journal of Materials*, 45 (1), 3-13, 2015, WOS:000352755800001
53. A.Predescu, **E.Matei**, A.Predescu, O.Dascalu, Cr.Predescu, EFFICIENT METHODS FOR NANOMAGNETITE SYNTHESIS U.P.B. Sci. Bull., Series B, Vol. 77, Iss. 4, 2015
54. A. M. Predescu, **E. Matei**, D. Savastru, G. Coman, C. Predescu, G. Vlad, L.Favier, Nanostructures with iron oxides core applied for water treatment, *Digest Journal of Nanomaterials and Biostructures*, 2014, 9(3), 2014, 987-995, WOS:000346138400011
55. C. Predescu, N. Ghiban, M. Sohaciu, D. Savastru, **E. Matei**, A. Predescu, A. Berbecaru, G. Coman, Researches concerning the influence of the heating on quality of forged parts from micro alloyed with boron steel, *Optoelectronics and Advanced Materials, Rapid Communications* ,8 (1-2), 2014, 149-152, WOS:000331369200031
56. C.I. Covaliu, G. Paraschiv, S.S. Biriş, I. Jitaru, E. Vasile, L. Diamandescu, T.C. Velickovic, M. Krstic, V. Ionita, H. Iovu, **E. Matei**, Maghemite and poly-dl-alanine based core-shell multifunctional nanohybrids for environmental protection and biomedicine applications , *Applied Surface Science*, 2013, 285, 86-95, Part A, WOS:000325960900012, DOI: 10.1016/j.apsusc.2013.08.059
57. **E. Matei**, A. M. Predescu, C. Predescu, M.G. Sohaciu, A. Berbecaru, C. I. Covaliu, Characterization and application results of two magnetic nanomaterials, *Journal of Environmental Quality*, 42 (1) , pp. 129-136, 2013, doi:10.2134/jeq2012.0147, WOS:000314749500016
58. F. Miculescu, F., Miculescu, M., Ciocan, L.T., Pencea, I., Ernuteanu, A., **Matei, E.**, Correlation of spectrometric methods in hard tissue heavy elements concentration study, *UPB Scientific Bulletin, Series A: Applied Mathematics and Physics* 75 (1), 2013, pp. 233-242 WOS:000315547300022
59. M. Sohaciu, C. Predescu, E. Vasile, **E. Matei**, D.Savastru, A. Berbecaru, Influence of MnS Inclusions in Steel Parts On Fatigue Resistance, in *Digest Journal of Nanomaterials and Biostructures*, Vol. 8, Issue: 1 , 2013, pp. 367 – 376 WOS:000316441200038
60. **E. Matei**, A. Predescu, C. Predescu, M. Sohaciu, A. Berbecaru, Functionalized Nano-Magnetic Particles Used for Metals Removals from Aqueous Solutions, *Advanced Science Letters*, 19 (1), January 2013, 264-267, ISSN: 1936-6612, DOI: 10.1166/asl.2013.4681

61. L. Popescu, **E. Matei**, The reuse by recycling of industrial wastewaters from iron making industry, *Metalurgia International*, 18(2), 2013, 169-173, WOS:000315312100036
62. A. Predescu, **E. Matei**, A. Predescu, B. Stroe, G. Coman, D. Nagy, Characterization of magnetic nanomaterials used for waste water treatment applications, *Metalurgia International*, Volume 18, Issue SPEC.2, 2013, Pages 122-125, WOS:000315312100026
63. A. Predescu, L.M. Vladutiu, **E. Matei**, Press Compaction Behavior of Cu-Fe<sub>3</sub>O<sub>4</sub> Nanopowder Mixtures, *Metalurgia International*, Volume: 18 Special Issue: 5 Pages: 135-138, 2013, WOS:000315611900027
64. P. Bîrloagă, T. Buzatu, **E. Matei**, Physical methods for processing electronic and electrical equipment waste (WEEE) for nonferrous metals recovery, *UPB Scientific Bulletin, Series B: Chemistry and Materials Science*, 73 (4) 2011, 227 – 239, ISSN 1454-2331
65. A.M. Moncea, M. Georgescu, A. Bădănoiu, **E. Matei**. Immobilization of waste glass with high lead content in different binding matrices. Influence on the mechanical strength, *Romanian Journal of Materials*, 42 (2), 2012, 152 – 163, WOS:000305712500005
66. Miculescu, F., Ciocan, L.T., Miculescu, M., Ernuteanu, A., Antoniac, I., **Matei, E.**, Pencea, I., A study on trace elements concentration in bone particles by XRF analysis, *ADVANCED MATERIALS AND STRUCTURES IV* Volume: 188 Pages: 37-40, DOI: 10.4028/www.scientific.net/SSP.188.37, 2012, WOS:000308047400007
67. **E. Matei**, A. M. Predescu, A. Predescu, E. Vasile, Characterization and testing of the maghemite nanoparticles used for removal of hexavalent chromium from aqueous synthetic solutions, *Environmental Engineering and Management Journal*, 10 (11), 2011, 1711-1717, WOS:000298662900012
68. **E. Matei**, C. Predescu, A. Berbecaru, A. M. Predescu, R. Trusca, Leaching tests for synthesized magnetite nanoparticles used as adsorbent for metal ions from liquid solutions, *Digest Journal of Nanomaterials and Biostructures*, 6 (9), 2011, 1701 – 1708, WOS:000300568100027
69. F. Miculescu, M. Miculescu, L.T. Ciocan, **E. Matei**, Comparative studies regarding heavy elements concentration in human cortical bone, *Digest Journal of Nanomaterials and Biostructures*, 6(3), 2011, 1117 – 1127, WOS:000297986100026
70. **E. Matei**, A. M. Predescu, E. Vasile, C. Predescu, Investigations on nano-iron oxides properties used for different industrial applications, *Optoelectronics and Advanced Materials – Rapid Communications*, 5 (3), 2011, 296 – 301, WOS:000290774800023
71. A.M. Moncea, M. Georgescu, A. Bădănoiu, **E. Matei**. Immobilization of waste glass with high lead content in different binding matrices. Influence on the mechanical strength, *Romanian Journal of Materials*, (2012), 42 (2), 152 – 163, WOS:000305712500005
72. I. P. Bîrloagă, T. Buzatu, **E. Matei**, Physical methods for processing electronic and electrical equipment waste (WEEE) for nonferrous metals recovery, *UPB Scientific Bulletin, Series B: Chemistry and Materials Science*, (2011), 73 (4), 227 – 239
73. **E. Matei**, C. Predescu, A. Berbecaru, A. M. Predescu, R. Trusca, Leaching tests for synthesized magnetite nanoparticles used as adsorbent for metal ions from liquid solutions, *Digest Journal of Nanomaterials and Biostructures*, (2011), 6 (9), 1701 – 1708, WOS:000300568100027
74. **E. Matei**, A. M. Predescu, A. Predescu, E. Vasile, Characterization and testing of the maghemite nanoparticles used for removal of hexavalent chromium from aqueous synthetic solutions, *Environmental Engineering and Management Journal*, (2011), 10 (11), 1711-1717, WOS:000298662900012
75. F. Miculescu, M. Miculescu, L.T. Ciocan, **E. Matei**, Comparative studies regarding heavy elements concentration in human cortical bone, *Digest Journal of Nanomaterials and Biostructures*, (2011), 6(3), 1117 – 1127, WOS:000297986100026

76. **E. Matei**, A. M. Predescu, E. Vasile, C. Predescu, Investigations on nano-iron oxides properties used for different industrial applications, Optoelectronics and Advanced Materials – Rapid Communications, (2011),5 (3), 296 – 301, WOS:000290774800023
77. Fl. Zăman, M.G. Sohaciu, **E. Matei**, C. Predescu, Opportunities for valorization of steel slags, Environmental Engineering and Management Journal, (2009), 8(4), 993 – 996, WOS:000269811500062
78. C. Predescu, **E. Matei**, A. Nicolae, Elemente de management bazat pe conceptul de BAT al apelor generate în procesele chimico-industriale, Revista de Chimie, (2007), 58(10), 978 – 982, WOS:000254644400025
79. Nicolae, A., Predescu, C., Nicolae, M., Șerban, V., **Matei, E.**, Bălănescu, M., Aspects concerning the scientific substantiation of ecological metallurgy (ECO-metallurgy), UPB Scientific Bulletin, Series B: Chemistry and Materials Science, (2003), 65 (2), pp. 77-84.

#### **D. Lucrări publicate în reviste și volume de conferințe cu referenți (neindexate) - Reviste**

1. Peter Jackovics, Dumitru Vâju, **Ecaterina Matei**, Maria Râpă, Daniela Ignat, Daniela Stanciu, DEPLOYABILITY OF INTERNATIONAL MEDICAL TEAMS FOR DISASTER RESPONSE, Ecoterra, 2020, 17(2):35-39
2. Mihaela Hetvary, **Ecaterina Matei**, Dumitru Vâju, Daniela Ignat, Csaba Bartha, Măriuța Popanton, Maria Râpă, Claudia Ionela Tarcea, Cristian Predescu ALGINATE-BASED BIOPOLYMERS FOR WASTEWATER PURIFICATION, Ecoterra, 2019, 16(4):1-7
3. A. Predescu, **E. Matei**, C. Predescu, A. Berbecaru, C. Dragan, C. Pantilimon Use of nanostructured materials for Cd and Zn removal from waters, International Journal of Chemistry and Chemical Engineering Systems <http://www.iaras.org/iaras/journals/ijcces>, vol. 2, 21-25, ISSN: 2367-9042 , 2017
4. A. M. Predescu, **E. Matei**, A. Predescu, Cr.Predescu, C. Covaliu, R.Trușcă, Advanced Materials with Photocatalytic Properties and Magnetic Core for Environmental Applications, Advanced Materials Research, Conference Paper, 1114, 81-85, <http://www.scientific.net/AMR.1114.81>, indexat Google Academic, 2015
5. G. Coman, S. Ciuca, M. Sohaciu, **E. Matei**, A. Predescu, A. Berbecaru, C. Predescu, Failure analysis of a metallic component used in hospital cooling equipment, Key Engineering Materials, 638, 2014, 310-315, Document Type: Conference Paper, SCOPUS , ISI-Web of Science
6. Predescu, A., **Matei, E.**, Predescu, A.M., Berbecaru, A., Vlăduțiu, L. Nano - Iron oxides used for environmental applications, 2014, Key Engineering Materials 583, 3-8, DOI: 10.4028/www.scientific.net/KEM.583.3, Conference Paper, WOS:000336552600001
7. **E. Matei** , A. Predescu, E. Vasile, A. Predescu, Properties of magnetic iron oxides used as materials for wastewater treatment, Journal of Physics: Conference Series, 304 (1), 2011, ISSN: 1742-6588, DOI: 10.1088/1742-6596/304/1/012022, Document Type: Conference Paper, SCOPUS
8. **Ecaterina MATEI**, Cristian PREDESCU, Corina BERKESY, Gheorghe ACHIM THE ASSESSMENT OF PHYSICAL, CHEMICAL AND STRUCTURAL CHARACTERISTICS OF SOME TYPES OF SLUDGES FOR THEIR USAGE AS SUBSTRATUM FOR AGRICULTURAL SOILS, Ecoterra, no. 29, pp. 37-48, 2011

#### **- Selecție cu maximum 20 lucrări în volume de conferințe**

1. Tarcea, C.I., Pantilimon, C.M., Matei, E., Predescu, A. M., Berbecaru A.C., Rapa M., Turcanu, A., Predescu, C., Photocatalytic Degradation of Methylene Blue Dye Using TiO<sub>2</sub> and Fe<sub>3</sub>O<sub>4</sub>/SiO<sub>2</sub>/TiO<sub>2</sub> as Photocatalysts, IOP Conference Series: Materials Science and Engineering, 2020, 877(1), 012008
2. Dragne, M., Pop, E., Covaliu, C.I., Matei, E., Pîșă, I., Experiments in use of bentonite for energy recovery of used oils, E3S Web of Conferences, 2019, 112, art. no. 04009, .SCOPUS



3. Ileana, Covaliu Cristina; Gigel, Paraschiv; Stefan, Biris Sorin; Matei E, NANOTECHNOLOGY APPLIED IN WASTEWATER TREATMENT. PHOTOCATALYSIS BASED TITANIUM DIOXIDE, SGEM, Conference: 16th International Multidisciplinary Scientific Geoconference (SGEM 2016) NANO, BIO AND GREEN - TECHNOLOGIES FOR A SUSTAINABLE FUTURE CONFERENCE PROCEEDINGS, SGEM 2016, VOL III Book Series: International Multidisciplinary Scientific GeoConference-SGEM Pages: 99-104, 2016
4. Cr.Predescu, S.Ciuca, A.Berbecaru, M. Sohaciu, G.Coman, E. Matei, A. Predescu, Influence of Inclusional State of Manganese Low Alloy Steel on the Quality of Forgings, Advanced Materials Research, Conference Paper,1114, 155-159, <http://www.scientific.net/AMR.1114.81>, indexat Google Academic, 2015.
5. C.I. Covaliu, G. Paraschiv, S.St. Biris, **E. Matei**, I. Filip, M. Ionescu, *Heavy Metals Removal from Wastewater Using Magnetic Nanomaterials Based Adsorption Strategies*, 3<sup>rd</sup> International Conference on Thermal Equipment, Renewable Energy and Rural Development, 2014, ISSN2359-7941
14. C.I.Covaliu, **E. Matei**, G.Paraschiv, M.A. Predescu, *Depollution of Wasterwater Containing Cr (Vi) Ions, Using a Polymer-Magnetite*, Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences, 2014, ISSN: 2360-3461.
6. C.I.Covaliu, G. Paraschiv, S.St. Biris, D. Stoica, **E. Matei**, *Heavy Metals Removal from Wastewater usingMagnetic Nanomaterials*, Book of Abstracts, 2nd International Conference on Analytical Chemistry, Romania –Targoviste, September 17 – 21th, 2014, ISBN 978-973-712-902-4
7. **E. Matei** , *Magnetic nanoparticles used in environmental bioengineering for waste water treatment*, 6th International Conference „Biomaterials, Tissue Engineering & Medical Devices”, Conference Program & Abstract Volume, 17th – 20th September 2014, p.69
8. C. Predescu, E. Matei, A. Predescu, A. Berbecaru, R. Vidu, D. Ficai, L. Favier, Application of some iron oxides nanoparticles as adsorbent for Pb and Zn removal from industrial wastewaters, 2014 International Conference on Material Science and Material Engineering, DESTech Publications Inc., 2014, 384 – 392 , ISI web of Science, WOS:000351041400059
9. A.Predescu, **E. Matei**, A. Berbecaru, R.Vidu, Synthesis of Magnetic Nanoparticles for the removal of heavy metal ions from wastewaters, ARA Annual Congress Proceedings, 37-42, 2014/12/30, indexat Google Academic
10. M.Balanescu, **E. Matei**, M. Sohaciu, C.Predescu, Impacts on air quality from EU-ETS and IPPC Implementation in Romanian IRON&STEEL Plants, 15th conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 6-9 May 2013, Madrid, Spain [Google Scholar, Scopus]
11. Miculescu F., Ciocan L. T., Miculescu M., Ernuteanu A., Antoniac I., **Matei E.**, Pencea I., A study on trace elements concentration in bone particles by XRF analysis, Advanced Materials and Structures IV: Solid State Phenomena, 188, 2012, 37-40, DOI: 10.4028/www.scientific.net/SSP.188.37, WOS:000308047400007
12. M. Miculescu, I. Pencea, F. Miculescu, L.T. Ciocan, A. Ernuteanu, **Ecaterina Matei**, *EDPXRF analysis of heavy elements in human hard tissue* (Conference Paper), 24th European Conference on Biomaterials - Annual Conference of the European Society for Biomaterials, 2011, 1p ,Code 100603.

### **E. Brevete obținute în întreaga activitate**

1. STEFAN M V, RAPA M, PANA I O, VODNAR D C, **MATEI E**, BARTA D, G, POPA A P, TOLOMAN D A, LEOSTEAN C, MACAVEI G S, Preparing antimicrobial nanomaterials, by preparing polylactic acid film by pressing, synthesizing zinc oxide nanoparticles doped with iron ions, and coating by electrofiltration/electrospraying of polylactic acid films, Patent Number RO134634-A0, Derwent Primary Accession Number 2021-02626A
2. C. Predescu, **E. Matei**, A. Predescu, A. Berbecaru, R. Vidu, Apparatus for removing target pollutants and toxic heavy metal ions from liquid, comprises reaction chamber, treatment chamber, means for removing aqueous phase from chambers, washing chamber, treatment chamber and removing liquid, Patent Number(s): US9469555-B2, Publ. Date 18 Oct 2016, Main IPC: C02F-001/28.
3. D. Vaju, G. Vlad, G. Baisan, A. Popescu, **E. Matei**, Ecological Module for Advanced Pre-oxidation pollutants from wastewaters charged with non-biodegradable substances International Patent Classification: C02F-001/72, Derwent Class Code(s): D15 (Treating water, industrial waste and sewage), Derwent Manual Code(s): D04-A01, Patent Number RO129779-A2, Publ. Date 30 Sep 2014, Main IPC C02F-001/72, Week 201467, Language Romanian, Application Details: RO129779-A2, RO000145, 13 Feb 2013, Priority Application Information and Date: RO000145, 13 Feb 2013
4. V.C.Candea, E.C.Coman, N.Jumate, C.Macovei, **E.Matei**, E.A.Popa, Cr.Predescu, M. Sohaciu, N.V.Vlăduț, Iron-based composite to be employed as friction material and process for preparing the same, International Patent Classification: B22F-003/12; C09K-003/14; F16D-069/02, Derwent Manual Code(s): M22-H03C, Patent Number RO125437-A2 / RO125437-B1, Publ. Date 28 May 2010 / 30 Sep 2014, Main IPC B22F-003/12 / B22F-003/12, Week 201049/201467, Language Romanian, Application Details: RO125437-A2 / RO125437-B1, RO000697 / RO000697, 11 Sep 2008 / 11 Sep 2008, Priority Application Information and Date: RO000697 / 11 Sep 2008

**Data:** 25.10.2021