

Universitatea Națională de Știință și Tehnologie POLITEHNICA București

Facultatea: Antreprenoriat, Ingineria și Managementul Afacerilor

Departamentul: Antreprenoriat și Management

Nume Prenume: Uncu (Chircov) Cristina

Gradul didactic: Asistent universitar

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Optimization in nanoparticle synthesis methods for drug delivery systems/Optimizarea metodelor de sinteză a nanoparticulelor pentru sisteme cu eliberare controlată de medicamente

B. Cărți și capitole în cărți publicate în ultimii 10 ani

1. Chircov, C., Haddad, A.-N., Vladu, A.-F. Organ bioengineering. ISBN: 978-620-0-09351-6, LAP LAMBERT Academic Publishing, 2019
2. Chircov, C., Ioniță, D.A., Sîrmon, A.M., Neacșu, I.A., Fikai, A. Natural, Synthetic, and Hybrid and Composite Biomaterials for Neural Tissue Engineering, ed; Gunduz, O., ISBN: 978-0-323-90554-1 Ustundag, C.B. and Sengor, M., Ed.; Woodhead Publishing, pp. 21-58, 2023
3. Chircov, C., Vasile, B.S. New Approaches in Synthesis and Characterization Methods of Iron Oxide Nanoparticles, ed; Huang, X.L, Ed.; IntechOpen, 2022 ISBN: 978-1-80355-175-3
4. Chircov, C., Grumezescu, A.M. Chapter 1 - Basics in Nanoarchitectonics. In Nanoarchitectonics in Biomedicine, ed; Grumezescu A.M., Ed.; William Andrew Publishing, pp. 1-21, 2019. ISBN: 978-0-12-816200-2
5. Chircov, C., Grumezescu, A.M. Chapter 6 - Nanoemulsion Preparation, Characterization, and Application in the Field of Biomedicine. In Nanoarchitectonics in ISBN: 978-0-12-816200-2 Biomedicine, ed; Grumezescu A.M., Ed.; William Andrew Publishing, pp. 169-88, 2019.
6. Chircov, C., Grumezescu, A.M. Chapter 2 - Three-Dimensional Bioprinting in Drug Delivery. In Materials for Biomedical Engineering, ed; Holban A.-M., Grumezescu ISBN: 978-0-12-816901-8 A.M., Eds.; Elsevier, pp. 19-40, 2019.

C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

1. Ilie, C.I.; Spoiala, A.; **Chircov, C.**; Dolete, G.; Oprea, O.C.; Vasile, B.S.; Crainiceanu, S.A.; Nicoara, A.I.; Marinas, I.C.; Stan, M.S.; Ditu, L.M.; Fikai, A.; and Oprea, E. *Antioxidant, antitumoral, antimicrobial, and prebiotic activity of magnetite nanoparticles loaded with bee pollen/bee bread extracts and 5-fluorouracil*. *Antioxidants (Basel)*, **2024**, *13*. 10.3390/antiox13080895
2. **Chircov, C.**; Petcu, M.-C.; Vasile, B.S.; Purcăreanu, B.; Nicoară, A.I.; Oprea, O.C.; Popescu, R.C. *Irinotecan-loaded magnetite-silica core-shell systems for colorectal cancer treatment*. *International Journal of Pharmaceutics*, **2024**, *661*, 124420. 10.1016/j.ijpharm.2024.124420
3. Ilie, C.-I.; Spoiala, A.; Geana, E.-I.; **Chircov, C.**; Fikai, A.; Ditu, L.-M.; Oprea, E. *Bee bread: A promising source of bioactive compounds with antioxidant properties—first report on some antimicrobial features*. *Antioxidants*, **2024**, *13*, 353.

4. Corbu, V.M., Dumbravă, A.Ș., Marinescu, L., Motelica, L., Chircov, C., et al. Alternative mitigating solutions based on inorganic nanoparticles for the preservation of cultural heritage. *Frontiers in Materials*, 2023, 10
5. Chircov, C.; Dumitru, I.A.; Vasile, B.S.; Oprea, O.-C.; Holban, A.M.; Popescu, R.C. Microfluidic Synthesis of Magnetite Nanoparticles for the Controlled Release of Antibiotics. *Pharmaceutics*, 2023, 15, 2215. 10.3390/pharmaceutics15092215
6. Burdusel, A.C.; Neacsu, I.A.; Birca, A.C.; Chircov, C.; Grumezescu, A.M.; Holban, A.M.; Curutiu, C.; Ditu, L.M.; Stan, M.; Andronescu, E. Microwave-Assisted Hydrothermal Treatment of Multifunctional Substituted Hydroxyapatite with Prospective Applications in Bone Regeneration. *Journal of Functional Biomaterials*, 2023, 14. 10.3390/jfb14070378
7. Bîrcă, A.C., Gherasim, O., Niculescu, A.G., Grumezescu, A.M., Neacșu, I.A., Chircov, C., Vasile, B.Ú., Oprea, O.C., Andronescu, E., Stan, M.S., Curuțiu, C., Dițu, L.M., and Holban, A.M. A Microfluidic Approach for Synthesis of Silver Nanoparticles as a Potential Antimicrobial Agent in Alginate–Hyaluronic Acid-Based Wound Dressings. *International Journal of Molecular Sciences*, 2023, 24. 10.3390/ijms241411466
8. Chircov, C.; Bîrcă, A.C.; Dănciulescu, L.A.; Neacșu, I.A.; Oprea, O.C.; Trușcă, R.D.; Andronescu, E. Usnic Acid-Loaded Magnetite Nanoparticles—a Comparative Study between Synthesis Methods. *Molecules*, 2023, 28. 10.3390/molecules28135198
9. Dolete, G.; Ilie, C.I.; Chircov, C.; Purcăreanu, B.; Motelica, L.; Moroșan, A.; Oprea, O.C.; Ficai, D.; Andronescu, E.; Dițu, L.M. Synergistic Antimicrobial Activity of Magnetite and Vancomycin-Loaded Mesoporous Silica Embedded in Alginate Films. *Gels*, 2023, 9. 10.3390/gels9040295
10. Chircov, C.; Mincă, M.A.; Serban, A.B.; Bîrcă, A.C.; Dolete, G.; Ene, V.L.; Andronescu, E.; Holban, A.M. Zinc/Cerium-Substituted Magnetite Nanoparticles for Biomedical Applications. *International Journal of Molecular Sciences*, 2023, 24. 10.3390/ijms24076249
11. Bîrcă, A.C., Chircov, C., Niculescu, A.G., Hildegard, H., Baltă, C., Roșu, M., Mladin, B., Gherasim, O., Mihaiescu, D.E., Vasile, B.Ú., Grumezescu, A.M., Andronescu, E., and Hermenean, A.O. H₂O₂-Pl-(Alg)₂Ca Hydrogel Enriched in Matrigel® Promotes Diabetic Wound Healing. *Pharmaceutics*, 2023, 15. 10.3390/pharmaceutics15030857
12. Chircov, C.; Petcu, M.-C.; Oprea, O.C.; Nicoară, A.I. Magnetite-based drug delivery systems for the controlled release of cytostatic agents. *UNIVERSITY POLITEHNICA OF BUCHAREST SCIENTIFIC BULLETIN SERIES B-CHEMISTRY AND MATERIALS SCIENCE*, 2023, 85
13. Chircov, C.; Bejenaru, I.T.; Nicoară, A.I.; Bîrcă, A.C.; Oprea, O.C.; Tihăuan, B. Chitosan-Dextran-Glycerol Hydrogels Loaded with Iron Oxide Nanoparticles for Wound Dressing Applications. *Pharmaceutics*, 2022, 14. 10.3390/pharmaceutics14122620
14. Chircov, C.; Pîrvulescu, D.C.; Bîrcă, A.C.; Andronescu, E.; Grumezescu, A.M. Magnetite Microspheres for the Controlled Release of Rosmarinic Acid. *Pharmaceutics*, 2022, 14. 10.3390/pharmaceutics14112292
15. Florea, D.A.; Grumezescu, V.; Bîrcă, A.C.; Vasile, B.Ú.; Iosif, A.; Chircov, C.; Stan, M.S.; Grumezescu, A.M.; Andronescu, E.; Chifiriuc, M.C. Bioactive Hydroxyapatite-Magnesium Phosphate Coatings Deposited by Maple for Preventing Infection and Promoting Orthopedic Implants Osteointegration. *Materials*, 2022, 15. 10.3390/ma15207337

16. Dolete, G.; Chircov, C.; Motelica, L.; Ficai, D.; Oprea, O.C.; Gheorghe, M.; Ficai, A.; Andronesu, E. Magneto-Mechanically Triggered Thick Films for Drug Delivery Micropumps. *Nanomaterials*, 2022, 12. 10.3390/nano12203598
17. Chircov, C.; Bîrcă, A.C.; Vasile, B.S.; Oprea, O.C.; Huang, K.S.; Grumezescu, A.M. Microfluidic Synthesis of -NH₂- and -COOH-Functionalized Magnetite Nanoparticles. *Nanomaterials*, 2022, 12. 10.3390/nano12183160
18. Dolete, G., Purcăreanu, B., Mihaiescu, D.E., Ficai, D., Oprea, O.C., Bîrcă, A.C., Chircov, C., Vasile, B.Ú., Vasilievici, G., Ficai, A., and Andronesu, E. A Comparative Loading and Release Study of Vancomycin from a Green Mesoporous Silica. *Molecules*, 2022, 27. 10.3390/molecules27175589
19. Florea, D.A.; Grumezescu, V.; Bîrcă, A.C.; Vasile, B.Ú.; Muşat, M.; Chircov, C.; Stan, M.S.; Grumezescu, A.M.; Andronesu, E.; Chifiriuc, M.C. Design, Characterization, and Antibacterial Performance of Maple-Deposited Coatings of Magnesium Phosphate-Containing Silver Nanoparticles in Biocompatible Concentrations. *International Journal of Molecular Sciences*, 2022, 23. 10.3390/ijms23147910
20. Chircov, C.; Ştefan, R.E.; Dolete, G.; Andrei, A.; Holban, A.M.; Oprea, O.C.; Vasile, B.S.; Neacşu, I.A.; Tihăuan, B. Dextran-Coated Iron Oxide Nanoparticles Loaded with Curcumin for Antimicrobial Therapies. *Pharmaceutics*, 2022, 14. 10.3390/pharmaceutics14051057
21. Niculescu, A.G.; Chircov, C.; Grumezescu, A.M. Magnetite Nanoparticles: Synthesis Methods – a Comparative Review. *Methods*, 2022, 199, 16-27. 10.1016/j.ymeth.2021.04.018
22. Stoica, A.E.; Chircov, C.; Grumezescu, A.M. Hydrogel Dressings for the Treatment of Burn Wounds: An up-to-Date Overview. *Materials*, 2020, 13, 1-24. 10.3390/ma13122853
23. Chircov, C.; Bîrcă, A.C.; Grumezescu, A.M.; Vasile, B.S.; Oprea, O.; Nicoară, A.I.; Yang, C.H.; Huang, K.S.; Andronesu, E. Synthesis of Magnetite Nanoparticles through a Lab-on-Chip Device. *Materials*, 2021, 14. 10.3390/ma14195906
24. Chircov, C.; Matei, M.F.; Neacşu, I.A.; Vasile, B.S.; Oprea, O.C.; Croitoru, A.M.; Truşcă, R.D.; Andronesu, E.; Sorescu, I.; Bărbuceanu, F. Iron Oxide–Silica Core–Shell Nanoparticles Functionalized with Essential Oils for Antimicrobial Therapies. *Antibiotics*, 2021, 10. 10.3390/antibiotics10091138
25. Niculescu, A.G.; Chircov, C.; Bîrcă, A.C.; Grumezescu, A.M. Nanomaterials Synthesis through Microfluidic Methods: An Updated Overview. *Nanomaterials*, 2021, 11. 10.3390/nano11040864
26. Spirescu, V.A.; Chircov, C.; Grumezescu, A.M.; Vasile, B.Ş.; Andronesu, E. Inorganic Nanoparticles and Composite Films for Antimicrobial Therapies. *International Journal of Molecular Sciences*, 2021, 22. 10.3390/ijms22094595
27. Chircov, C.; Miclea, I.I.; Grumezescu, V.; Grumezescu, A.M. Essential Oils for Bone Repair and Regeneration—Mechanisms and Applications. *Materials*, 2021, 14. 10.3390/ma14081867
28. Spirescu, V.A.; Chircov, C.; Grumezescu, A.M.; Andronesu, E. Polymeric Nanoparticles for Antimicrobial Therapies: An up-to-Date Overview. *Polymers*, 2021, 13, 1-27. 10.3390/polym13050724
29. Niculescu, A.G.; Chircov, C.; Bîrcă, A.C.; Grumezescu, A.M. Fabrication and Applications of Microfluidic Devices: A Review. *International Journal of Molecular Sciences*, 2021, 22, 1-26. 10.3390/ijms22042011
30. Chircov, C.; Bîrcă, A.C.; Grumezescu, A.M.; Andronesu, E. Biosensors-on-Chip: An up-to-Date Review. *Molecules*, 2020, 25. 10.3390/MOLECULES25246013
31. Bălaşa, A.F.; Chircov, C.; Grumezescu, A.M. Body Fluid Biomarkers for Alzheimer’s Disease-an up-to-Date Overview. *Biomedicines*, 2020, 8, 1-21. 10.3390/biomedicines8100421

32. Pavel, T.I.; Chircov, C.; Rădulescu, M.; Grumezescu, A.M. Regenerative Wound Dressings for Skin Cancer. *Cancers*, 2020, 12, 1-22. 10.3390/cancers12102954
33. Mihai, A.D.; Chircov, C.; Grumezescu, A.M.; Holban, A.M. Magnetite Nanoparticles and Essential Oils Systems for Advanced Antibacterial Therapies. *International Journal of Molecular Sciences*, 2020, 21, 1-24. 10.3390/ijms21197355
34. Chircov, C.; Spoială, A.; Păun, C.; Crăciun, L.; Fikai, D.; Fikai, A.; Andronescu, E.; Turculeț, S.C. Mesoporous Silica Platforms with Potential Applications in Release and Adsorption of Active Agents. *Molecules*, 2020, 25. 10.3390/molecules25173814
35. Stoica, A.E.; Chircov, C.; Grumezescu, A.M. Hydrogel Dressings for the Treatment of Burn Wounds: An up-to-Date Overview. *Materials*, 2020, 13, 1-24. 10.3390/ma13122853
36. Stoica, A.E.; Chircov, C.; Grumezescu, A.M. Nanomaterials for Wound Dressings: An up-to-Date Overview. *Molecules*, 2020, 25. 10.3390/molecules25112699
37. Bălașa, A.F.; Chircov, C.; Grumezescu, A.M. Marine Biocompounds for Neuroprotection—a Review. *Marine Drugs*, 2020, 18. 10.3390/md18060290
38. Florea, D.A.; Chircov, C.; Grumezescu, A.M. Hydroxyapatite Particles-Directing the Cellular Activity in Bone Regeneration Processes: An up-to-Date Review. *Applied Sciences (Switzerland)*, 2020, 10. 10.3390/app10103483
39. Teleanu, R.I.; Chircov, C.; Grumezescu, A.M.; Teleanu, D.M. Tumor Angiogenesis and Anti-Angiogenic Strategies for Cancer Treatment. *Journal of Clinical Medicine*, 2020, 9. 10.3390/jcm9010084
40. Teleanu, R.I.; Chircov, C.; Grumezescu, A.M.; Volceanov, A.; Teleanu, D.M. Antioxidant Therapies for Neuroprotection-a Review. *Journal of Clinical Medicine*, 2019, 8. 10.3390/jcm8101659
41. Grumezescu, A.M., Stoica, A.E., Dima-Bălcescu, M.Ș., Chircov, C., Gharbia, S., Baltă, C., Roșu, M., Herman, H., Holban, A.M., Fikai, A., Vasile, B.S., Andronescu, E., Chifiriuc, M.C., and Hermenean, A. Electrospun Polyethylene Terephthalate Nanofibers Loaded with Silver Nanoparticles: Novel Approach in Anti-Infective Therapy. *Journal of Clinical Medicine*, 2019, 8. 10.3390/jcm8071039
42. Chircov, C.; Grumezescu, A.M.; Holban, A.M. Magnetic Particles for Advanced Molecular Diagnosis. *Materials*, 2019, 12. 10.3390/ma12132158
43. Teleanu, D.M.; Chircov, C.; Grumezescu, A.M.; Teleanu, R.I. Neurotoxicity of Nanomaterials: An up-to-Date Overview. *Nanomaterials*, 2019, 9. 10.3390/nano9010096
44. Teleanu, D.M.; Chircov, C.; Grumezescu, A.M.; Volceanov, A.; Teleanu, R.I. Contrast Agents Delivery: An up-to-Date Review of Nanodiagnostics in Neuroimaging. *Nanomaterials*, 2019, 9. 10.3390/nano9040542
45. Teleanu, D.M.; Chircov, C.; Grumezescu, A.M.; Teleanu, R.I. Neuronanomedicine: An up-to-Date Overview. *Pharmaceutics*, 2019, 11. 10.3390/pharmaceutics11030101
46. Yan, H.; Chircov, C.; Zhong, X.; Winkeljann, B.; Dobryden, I.; Nilsson, H.E.; Lieleg, O.; Claesson, P.M.; Hedberg, Y.; Crouzier, T. Reversible Condensation of Mucins into Nanoparticles. *Langmuir*, 2018, 34, 13615-13625. 10.1021/acs.langmuir.8b02190
47. Chircov, C.; Grumezescu, A.M.; Bejenaru, L.E. Hyaluronic Acid-Based Scaffolds for Tissue Engineering. *Romanian Journal of Morphology and Embryology*, 2018, 59, 71-76.
48. Teleanu, D.M.; Chircov, C.; Grumezescu, A.M.; Volceanov, A.; Teleanu, R.I. Blood-Brain Delivery Methods Using Nanotechnology. *Pharmaceutics*, 2018, 10. 10.3390/pharmaceutics10040269

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D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

- Reviste

1. Chircov, C.; Fikai, A.; Andronescu, E. Graphene derivatives and organic polymers nanocomposites for tissue engineering and regenerative medicine. *Memoirs of the Scientific Sections of the Romanian Academy*, 2020, 43.
2. Chircov, C. Tissue engineered vascular grafts. *Biomaterials and Tissue engineering Bulletin*, 2018, 5, 110-118.

- Selecție cu maximum 20 lucrări în volume de conferințe

1. Standardized synthesis of iron oxide nanoparticles through lab-on-chip devices. E-MRS, Spring Meeting 2021
2. Magnetite-silica core-shell nanoparticles functionalized with essential oils for antimicrobial therapies. *NanoBioMat*, Summer Edition 2021
3. -NH₂- and -COOH-functionalized iron oxide nanoparticles obtained through a lab-on-chip device. E-MRS, Fall Meeting 2021
4. Influence of synthesis parameters on the properties of iron oxide nanoparticles obtained through the microwave-assisted hydrothermal method. *NanoBioMat*, Winter Edition 2021
5. -COOH-functionalized magnetite nanoparticles synthesized through a microfluidic lab-on-chip device. E-MRS, Spring Meeting 2022
6. Magnetite microspheres for the controlled release of rosmarinic acid. *NanoBioMat*, Summer Edition 2022
7. Microfluidic synthesis of amino- and carboxyl-functionalized magnetite nanoparticles. *ECerS, Ceramics in Europe 2022*
8. Magnetite-based nanostructured composite systems. *RICCCE*, 22nd edition
9. Optimization of magnetite synthesis processes for biomedical applications. *ECerS, Students Speech Contest 2023*

E. Brevete obținute în întreaga activitate

1. Hidrogeluri polimerice compozite cu proprietăți antibacteriene și cicatrizante și procedeu de obținere a acestora. Nr. 12/2021 OSIM