

#### **4. Listă lucrări**

**Dr. Ing. Alexandra Avram**

##### **a) lista celor 10 lucrări relevante pentru realizările profesionale**

1. Gh. Tomoaia, O. Horovitz, A. Mocanu, A. Nita, **A. Avram**, Cs.P. Racz, O. Soritau, M. Cenariu, M. Tomoaia-Cotisel, Effects of doxorubicin mediated by gold nanoparticles and resveratrol in two human cervical tumor cell lines, *Colloids Surf. B*, 135, 726-734 (2015). <https://doi.org/10.1016/j.colsurfb.2015.08.036> IF2022=5.8; Q1; Citari - Google Scholar: 57; Web of Science: 50;
2. **A. Avram**, S. Rapuntean, M. Gorea, Gh. Tomoaia, A. Mocanu, O. Horovitz, Gh. Rapuntean, M. Tomoaia-Cotisel, In vitro antibacterial effect of forsterite nanopowder: synthesis and characterization, *Environ. Sci. Pollut. Res.*, 29(51), 77097-77112 (2022). <https://doi.org/10.1007/s11356-022-21280-0> IF2022=5.8; Q1; Citari - Google Scholar: 1; Web of Science: 1;
3. L.Z. Racz, C.P. Racz, L.-C. Pop, G. Tomoaia, A. Mocanu, I. Barbu, M. Sarkozi, I. Roman, **A. Avram**, M. Tomoaia-Cotisel, V.-A. Toma, Strategies for improving bioavailability, bioactivity, and physical-chemical behavior of curcumin, *Molecules*, 27(20), 6854 (2022). <https://doi.org/10.3390/molecules27206854> IF2022 =4.6; Q2; Citari - Google Scholar: 24; Web of Science: 19;
4. T. Dippong, C. Mihali, **A. Avram**, Water Physico-Chemical Indicators and Metal Assessment of Teceu Lake and the Adjacent Groundwater Located in a Natura 2000 Protected Area, NW of Romania, *Water*, 15(22), 3996 (2023). <https://doi.org/10.3390/w15223996> IF2022=3.4; Q2; Citari - Google Scholar: 0; Web of Science: 0;
5. A.-D. Florea, C.T. Dobrota, R. Carpa, C.-P. Racz, G. Tomoaia, A. Mocanu, **A. Avram**, O. Soritau, L.C. Pop, M. Tomoaia-Cotisel, Optimization of Functional Toothpaste Formulation Containing Nano-Hydroxyapatite and Birch Extract for Daily Oral Care, *Materials*, 16(22), 7143 (2023). <https://doi.org/10.3390/ma16227143> IF2022=3.4; Citari - Google Scholar:0; Web of Science: 0;
6. F. Goga, R.A. Bortnic, **A. Avram**, M. Zagrai, L.B. Tudoran, R.A. Mereu, The Effect of Ni<sup>2+</sup> Ions Substitution on Structural, Morphological, and Optical Properties in CoCr<sub>2</sub>O<sub>4</sub> Matrix as Pigments in Ceramic Glazes, *Materials*, 15(24), 8713 (2022). <https://doi.org/10.3390/ma15248713> IF2022=3.4; Q2; Citari - Google Scholar: 4; Web of Science: 3;
7. T. Dippong, E.A. Levei, F. Goga, I. Petean, **A. Avram**, O. Cadar, The impact of polyol structure on the formation of Zn<sub>0.6</sub>Co<sub>0.4</sub>Fe<sub>2</sub>O<sub>4</sub> spinel-based pigments, *J. Sol-Gel. Sci. Technol.*, 92, 736-744 (2019). <https://doi.org/10.1007/s10971-019-05140-x> IF2022=2.5; Q1; Citari - Google Scholar: 56; Web of Science: 47;

8. F. Goga, E. Forizs, **A. Avram**, A. Rotaru, A. Lucian, I. Petean, A. Mocanu, M. Tomoaia-Cotisel, Synthesis and thermal treatment of hydroxyapatite doped with magnesium, zinc and silicon, Rev. Chim. (Bucharest), 68(6), 1193-1200 (2017). <https://doi.org/10.37358/RC.17.6.5640> IF2019=1.755; Q3; Citari – Google Scholar: 26; Web of Science: 15;
9. F. Goga, E. Forizs, G. Borodi, Gh. Tomoaia, **A. Avram**, R. Balint, A. Mocanu, O. Horovitz, M. Tomoaia-Cotisel, Behavior of doped hydroxyapatites during the heat treatment, Rev. Chim. (Bucharest), 68(12), 2907-2913 (2017). <http://dx.doi.org/10.37358/RC.17.12.6004> IF2019=1.755; Q3; Citari – Google Scholar: 12; Web of Science: 4;
10. **A. Avram**, T. Frentiu, O. Horovitz, A. Mocanu, F. Goga, M. Tomoaia-Cotisel, Hydroxyapatite for removal of heavy metals from wastewater, Stud. UBB Chem., 4, 93-104 (2017). <http://dx.doi.org/10.24193/subbchem.2017.4.08> IF2017=0.305; Q4; Citari – Google Scholar: 34; Web of Science: 18;

**b) teza sau tezele de doctorat;**

1. Alexandra Avram, RO: „Cercetarea și dezvoltarea unor sisteme nanostructurate de interes biologic și biomedical”, ENG: “Research and development of some nanostructured systems of biological and biomedical interest”, 196 pagini, 2020, Universitatea Babeș-Bolyai din Cluj-Napoca, UBB. Doctor in chimie cu distinctia “Summa cum laude”, in anul 2020 – in baza Ordinului Ministrului Educatiei si cercetarii din 21.12.2020.

**c) brevete de invenție și alte titluri de proprietate industrială;**

1. M.Tomoaia-Cotisel, A. Mocanu, Gh. Tomoaia, O. Horovitz, A. Pop, **A. Avram**, O. Cadar, T.Mocan, C. Roman, A. Becze, “Nanocomposites based on hydroxyapatite and vitamins. Obtaining process”, Cerere de brevet CBI a nr. A/00370 OSIM, Bucuresti, 30.06.2022.

**d) cărți și capitole în cărți**

Deocamdată, nu am contribuit la carti sau capitole de carti.

**e) articole/studii, publicate în reviste din fluxul științific internațional principal**

1. Gh. Tomoaia, O. Horovitz, A. Mocanu, A. Nita, **A. Avram**, Cs.P. Racz, O. Soritau, M. Cenariu, M. Tomoaia-Cotisel, Effects of doxorubicin mediated by gold nanoparticles and resveratrol in two human cervical tumor cell lines, Colloids Surf. B, 135, 726-734 (2015). <https://doi.org/10.1016/j.colsurfb.2015.08.036> IF2022=5.8
2. **A. Avram**, S. Rapuntean, M. Gorea, Gh. Tomoaia, A. Mocanu, O. Horovitz, Gh. Rapuntean, M. Tomoaia-Cotisel, In vitro antibacterial effect of forsterite nanopowder: synthesis and characterization, Environ. Sci. Pollut. Res., 29(51), 77097-77112 (2022). <https://doi.org/10.1007/s11356-022-21280-0> IF2022=5.8

3. L.Z. Racz, Cs. P. Racz, L.-C. Pop, Gh. Tomoaia, A. Mocanu, I. Barbu, M. Sarkozi, I. Roman, **A. Avram**, M. Tomoaia-Cotisel, V.-A. Toma, Strategies for improving bioavailability, bioactivity, and physical-chemical behavior of curcumin, *Molecules*, 27(20), 6854 (2022). <https://doi.org/10.3390/molecules27206854> **IF2022=4.6**
4. T. Dippong, C. Mihali, **A. Avram**, Water Physico-Chemical Indicators and Metal Assessment of Teceu Lake and the Adjacent Groundwater Located in a Natura 2000 Protected Area, NW of Romania, *Water*, 15(22), 3996 (2023). <https://doi.org/10.3390/w15223996> **IF2022=3.4**
5. A.-D. Florea, C.T. Dobrota, R. Carpa, C.-P. Racz, G. Tomoaia, A. Mocanu, **A. Avram**, O. Soritau, L.C. Pop, M. Tomoaia-Cotisel, Optimization of Functional Toothpaste Formulation Containing Nano-Hydroxyapatite and Birch Extract for Daily Oral Care, *Materials*, 16(22), 7143 (2023). <https://doi.org/10.3390/ma16227143> **IF2022=3.4**
6. F. Goga, R.A. Bortnic, **A. Avram**, M. Zagrai, L.B. Tudoran, R.A. Mereu, The Effect of Ni<sup>2+</sup> Ions Substitution on Structural, Morphological, and Optical Properties in CoCr<sub>2</sub>O<sub>4</sub> Matrix as Pigments in Ceramic Glazes, *Materials*, 15(24), 8713 (2022). <https://doi.org/10.3390/ma15248713> **IF2022=3.4**
7. T. Dippong, E.A. Levei, F. Goga, I. Petean, **A. Avram**, O. Cadar, The impact of polyol structure on the formation of Zn<sub>0.6</sub>Co<sub>0.4</sub>Fe<sub>2</sub>O<sub>4</sub> spinel-based pigments, *J. Sol-Gel. Sci. Technol.*, 92, 736-744 (2019). <https://doi.org/10.1007/s10971-019-05140-x> **IF2022=2.5**
8. M. Gorea, M.A. Naghiu, **A. Avram**, I. Petean, A. Mocanu, M. Tomoaia-Cotisel, Novel porous forsterite ceramics biocompatibility and bioactivity evaluation, *Rev. Chim. (Bucharest)*, 71(2), 343-351 (2020). <https://doi.org/10.37358/RC.20.2.7935> **IF2019=1.755**
9. T. Dippong, C. Mihali, Z. Vosgan, **A. Avram**, Z. Berinde, A. Dumuta, Comparative analysis regarding the chemical and microbiological characteristics of some red wine assortments produced in two Romanian viticultural areas, *Rev. Chim. (Bucharest)*, 71(1), 411-415 (2020). <https://doi.org/10.37358/RC.21.1.7867> **IF2019=1.755**
10. **A. Avram**, M. Gorea, S. Rapuntean, A. Mocanu, G.A. Paltinean, C. Varhely Jr., I. Petean, O. Horovitz, M. Tomoaia-Cotisel, In-vitro antibacterial activity of novel nanostructured composites based on forsterite and silver nanoparticles, *Rev Chim (Bucharest)*, 71(1), 13-21 (2020). <http://dx.doi.org/10.37358/RC.20.1.7805> **IF2019=1.755**
11. F. Goga, E. Forizs, G. Borodi, Gh. Tomoaia, **A. Avram**, R. Balint, A. Mocanu, O. Horovitz, M. Tomoaia-Cotisel, Behavior of doped hydroxyapatites during the heat treatment, *Rev. Chim. (Bucharest)*, 68(12), 2907-2913 (2017). **IF2019=1.755**
12. F. Goga, E. Forizs, **A. Avram**, A. Rotaru, A. Lucian, I. Petean, A. Mocanu, M. Tomoaia-Cotisel, Synthesis and thermal treatment of hydroxyapatite doped with magnesium, zinc and silicon, *Rev. Chim. (Bucharest)*, 68(6), 1193-1200 (2017). <https://doi.org/10.37358/RC.17.6.5640> **IF2019=1.755**

13. T. Dippong, A. Laposi, M. Marian, O. Mare Roșca, C. Mihali, A. Avram, the system of aquatic habitats from Teplița, a vital element for conservation of the biodiversity of the upper corridor of Tisa River, Carpathian Journal of Earth and Environmental Sciences, 18(2), 475 – 488 (2023). **IF2022=1.2**
14. **A. Avram**, D. Florea, F. Goga, M. Gorea, A. Mocanu, Gh. Tomoaia, I. Petean, A.-Z. Kun, O. Horovitz, M. Tomoaia-Cotisel, Mechanisms in the synthesis of forsterite nanoparticles based on thermodynamic approach, Stud. UBB Chem., 68(2), 37-51 (2023). <https://doi.org/10.24193/subbchem.2023.2.03> **IF2022=0.3**
15. C. Sacalis, S. Jahiji, **A. Avram**, Synthesis and investigations of  $\gamma$ -l-glutamyl cyclohexyl amide and its transition metal complexes, Stud. UBB Chem., 67(4), 337-352 (2022). <https://doi.org/10.24193/subbchem.2022.4.22> **IF2022=0.3**
16. L. Timis, **A. Avram**, M. Gorea, L. Bizo, S. Cimpean, R.S. Campian, Synthesis and characterization of nano biotricalcium silicate, as a component of an endodontic sealer, Stud. UBB Chem., 65(3), 157-169 (2020). <https://doi.org/10.24193/subbchem.2020.3.12> **IF2022=0.3**
17. T. Dippong, **A. Avram**, C. Mihali, Gas-chromatography assessments of the major volatile compounds in traditional fruit brandies throughout fruit and wood maturation, Stud. UBB Chem., 64, 141-155 (2019). <https://doi.org/10.24193/subbchem.2019.4.11> **IF2022=0.3**
18. M. Gorea, M.-A. Naghiu, **A. Avram**, I. Petean, M. Tomoaia-Cotisel, Sintering and characterization of new forsterite ceramics, Stud. UBB Chem., 64(2), 383-392 (2019). <https://doi.org/10.24193/subbchem.2019.2.32> **IF2022=0.3**
19. T. Dippong, C. Mihali, **A. Avram**, F. Goga, Influence of total chloride, arsenic and aluminum contents on microorganisms of open wells, Stud. UBB Chem., 64(1), 79-92 (2019). <http://dx.doi.org/10.24193/subbchem.2019> **IF2022=0.3**
20. T. Dippong, **A. Avram**, F. Goga, QSPR analysis of a set of liquid crystals in the benzylideneaniline class according to their transition temperature, Stud. UBB Chem., 63(2), 19-30 (2018). <https://doi.org/10.24193/subbchem.2018.2.02> **IF2022=0.3**
21. **A. Avram**, M. Gorea, R. Balint, L. Timis, S. Jitaru, A. Mocanu, M. Tomoaia-Cotisel, Portland cement enriched with hydroxyapatite for endodontic applications, Stud. UBB Chem., 62(4), 81-92 (2017). <https://doi.org/10.24193/subbchem.2017.4.07> **IF2022=0.3**
22. E. Forizs, F. Goga, **A. Avram**, A. Mocanu, I. Petean, O. Horovitz, M. Tomoaia-Cotisel, Thermal analysis of pure and multisubstituted hydroxyapatite pastes, Stud. UBB Chem., 62(4), 173-180 (2017). <https://doi.org/10.24193/subbchem.2017.4.14> **IF2022=0.3**
23. **A. Avram**, T. Frentiu, O. Horovitz, A. Mocanu, F. Goga, M. Tomoaia-Cotisel, Hydroxyapatite for removal of heavy metals from wastewater, Stud. UBB Chem., 4, 93-104 (2017). <http://dx.doi.org/10.24193/subbchem.2017.4.08> **IF2022=0.3**

24. T. Dippong, F. Goga, **A. Avram**, Influence of the cobalt nitrate: Ethylene glycol molar ratio on the formation of carboxylate precursors and cobalt oxides, Stud. UBB Chem., 62(3), 165-176 (2017). <http://dx.doi.org/10.24193/subbchem.2017.3.13> **IF2022=0.3**
25. F. Goga, R. Dudric, L. Bizo, **A. Avram**, A.H. Marincas, Cs. Varhely Jr., T. Dippong, Influence of the Ni/Mg ratio on the colour of spinel pigments prepared by a modified sol-gel method, Stud. UBB Chem., 62(1), 261-270 (2017). <https://doi.org/10.24193/subbchem.2017.1.23> **IF2022=0.3**
26. T. Dippong, F. Goga, **A. Avram**, The effect of positional isomerism of propanediol on the formation of cobalt oxides, Stud. UBB Chem., 62(4), 21-33 (2017). <https://doi.org/10.24193/subbchem.2017.4.02> **IF2022=0.3**
27. R.-A. Bortnic, F. Goga, A. Mesaros, M. Nasui, B.S. Vasile, R. Dudric, **A. Avram**, Synthesis of cobalt ferrite nanoparticles via a sol-gel combustion method, Stud. UBB Chem., 61(4), 213-222 (2016). **IF2022=0.3**
28. F. Goga, R. Dudric, L. Bizo, **A. Avram**, T. Dippong, G. Katona, G. Borodi, A. Anton, Influence of the thermal treatment on the colour of RO.Al<sub>2</sub>O<sub>3</sub> (R=Co, Ni) type spinel pigments prepared by a modified sol - gel method, Stud. UBB Chem., 61(3(1)), 263-273 (2016). **IF2022=0.3**
29. A. Danistean, M. Gorea, **A. Avram**, S. Rapuntean, Gh. Tomoaia, C. Garbo, O. Horovitz, M. Tomoaia-Cotisel, Antimicrobial activity of ceramic disks loaded with silver ions and nitroxoline, Stud. UBB Chem., 61(3(1)), 275-283 (2016). **IF2022=0.3**

**f) publicații in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate**

1. Cs. Várhely jr., R. Szalay, G. Pokol, F. Goga, P. Huszthy, J. Madarász, M. Simon-Várhely, R. Tötös, A. Avram, Novel cobalt complexes with glyoximes: synthesis, physicochemical analysis and biological study, Proceedings of the 26th International Symposium on Analytical and Environmental Problems, 2020, 62-66 (2020). [http://acta.bibl.u-szeged.hu/73953/1/proceedings\\_of\\_isaep\\_2020\\_062-066.pdf](http://acta.bibl.u-szeged.hu/73953/1/proceedings_of_isaep_2020_062-066.pdf)

2. Cs. Varhely jr., E. Kuzmann, Z. Homonnay, R. Szalay, G. Pokol, P. Huszthy, J. Papp, M. Simon-Várhely, R. Tötös, A. Avram, Novel iron complexes with glyoximes, schiff bases and boric acid derivatives: synthesis, physico-chemical analysis and biological study, Proceedings of the 27th International Symposium on Analytical and Environmental Problems, 2021, 61-66 (2021). [http://acta.bibl.u-szeged.hu/75924/1/proceedings\\_of\\_isaep\\_2021\\_061-066.pdf](http://acta.bibl.u-szeged.hu/75924/1/proceedings_of_isaep_2021_061-066.pdf)

**g) alte lucrări și contribuții științifice sau, după caz, din domeniul creației artistice.**

1. **A. Avram**, M. Gorea, A. Mocanu, M. Tomoaia-Cotisel, RO: Cercetarea și dezvoltarea unor compozite formate din forsterit, colagen și PLA depuse pe implanturi metalice,

ENG: Research and development of composites made of forsterite, collagen and PLA for coatings on metallic implants, Academia Oamenilor de Știință din România, Conferința de Toamnă, Convergența Reală România-Uniunea Europeană, CRUE, Brașov 20-21 Septembrie 2019, Comunicări Integrale, Volumul II, pag. 258-265 (2019); ISBN 978-973-618-430-7. **Lucrare publicata conform contractului de cesiune a drepturilor de autor nr. 51/02.05.2019 cu Academia Oamenilor de Știință din România**

2. **A. Avram**, A. Mocanu, S. Riga, M. Tomoaia-Cotisel, Relationship between dentifrices based on hydroxyapatites and human enamel remineralization, Rom. Biotechnol. Lett., 28(2): 3908-3920 (2023). <https://doi.org/10.25083/rbl/28.2/3908.3920>
3. **A. Avram**, A. Mocanu, Gh. Tomoaia, C.L. Rosoiu, C.T. Dobrota, D.A. Florea, M. Tomoaia-Cotisel, Unveiling the Complexity of Red Blood Cells: Insights into Structure, Properties and Functions, Academy of Romanian Scientists Annals Series on Biological Sciences, 12(1), 129-154 (2023). <https://doi.org/10.56082/annalsarscibio.2023.1.129>
4. **A. Avram**, A. Mocanu, O. Horovitz, Gh. Tomoaia, M. Tomoaia-Cotisel, Antibacterial effect of hydroxyapatite and silver, Annals of the Academy of Romanian Scientists Series on Physics and Chemistry, 7(2), 7-33 (2022). <https://doi.org/10.56082/annalsarsciphyschem.2022.2.7>
5. **A. Avram**, A. Mocanu, Gh. Tomoaia, M. Tomoaia-Cotisel, Review on the Biocompatibility and Bioactivity of Forsterite: In Vitro and In Vivo Studies, Academy of Romanian Scientists, Annals Series on Biological Sciences, 11(1), 167-190 (2022). <https://doi.org/10.56082/annalsarscibio.2022.1.167>
6. **A. Avram**, A. Mocanu, Gh. Tomoaia, M. Tomoaia-Cotisel, Forsterite as an alternative for orthopaedic implants – short review, Annals of the Academy of Romanian Scientists, Series on Physics and Chemistry Sciences, 6(2), 32-52 (2021). <https://doi.org/10.56082/annalsarsciphyschem.2021.2.32>
7. **A. Avram**, Gh. Tomoaia, A. Mocanu, M. Tomoaia-Cotisel, A review on biomimetic hydroxyapatites for biomedical applications, Academy of Romanian Scientists Annals-Series on Biological Sciences, 9(2), 106-132 (2020). <https://doi.org/10.56082/annalsarscibio.2020.2.106>
8. **A. Avram**, Gh. Tomoaia, A. Mocanu, M. Tomoaia-Cotisel, Gold nanoparticles and chemotherapeutic agents, Annals of the Academy of Romanian Scientists Series on Physics and Chemistry Sciences, 5(2), 23-64 (2020). <https://doi.org/10.56082/annalsarsciphyschem.2020.2.23>
9. M. Marian, T. Dippong, O. Rosca, M. Tibirnac, S. Katona Payer, C. Mihali, Z. Vosgan, D. Drule, **A. Avram**, Physico-chemical and ecological characterization of the waters in the wetlands of the Sarasău area located in the ROSCI and ROSPA protected area, Scientific Bulletin Series D: Mining, Mineral Processing, Non-Ferrous Metallurgy, Geology & Environmental Engineering, 34(2), 31-41 (2020).
10. T. Dippong, C. Mihali, E. Cical, **A. Avram**, Influence of precipitation quantities on the Strâmtori-Firiza raw water quality indicators, Scientific Bulletin Series D: Mining,

Mineral Processing, Non-Ferrous Metallurgy, Geology and Environmental Engineering,  
31(1), 35-40 (2017).