

UNIVERSITATEA BABEȘ-BOLYAI

Facultatea de Fizică

Domeniul de licență: Fizică

Programul de studii: Fizică

TABEL PRIVIND INDEPLINIREA INDICATORULUI

„Cadrele didactice titulare* au pregătirea inițială, sunt doctori / doctoranzi și cercetează în domeniul în care se includ disciplinele din postul ocupat.”

Nr. crt.	Gradul didactic, numele și prenumele titularului vârsta / vechimea în învățământul superior	Disciplinele din cadrul programului de studii incluse în postul didactic și tipul activității desfășurate (curs, seminar, lucrări, proiect)	Competența cadrului didactic titular în disciplinele din postul didactic			Constatări privind îndeplinirea indicatorului
			Universitatea/facultatea/specializarea absolvită	Specializarea la masterat/doctorat	Numărul de cărți, numărul de lucrări științifice, numărul de brevete în domeniul disciplinelor din postul didactic ** conform Anexelor 5.1, 5.2 etc	
1.	Prof. dr. ing. Lucian Baia 54 / 26	Rezistența materialelor, curs și laborator/seminar	Universitatea Babeș-Bolyai / Facultatea de Fizică	Doctorat în Științele Naturii / Fizică (recunoscută CNATDCU)	1 capitole de carte (B6); 2 lucrări indexate ISI/BDI (C1,C74); 0 lucrări în rev. și vol. conf. (D1-12); 1 brevet (E2)	îndeplinit
		Introducere în nanotehnologii, curs și proiect			8 capitole de carte (B1-B8); 86 lucrări indexate ISI/BDI (C1-C86); 0 lucrări în rev. și vol. conf. (D1-12); 5 brevete (E1, E2-E5)	
		Materiale heterogene. Aplicații tehnologice, curs și laborator/seminar			teza (A); 9 capitole de carte (B1-B9); 86 lucrări indexate ISI/BDI (C1-C86); 0 lucrări în rev. și vol. conf. (D1-12); 5 brevete (E1, E2-E5)	
2						
3						
4						
5						
6						

* Din statul de funcții cumulativ al tuturor disciplinelor și tuturor activităților didactice desfășurate în cadrul programului de studii evaluat.

** Se indică numărul pe următoarele tipuri de lucrări:

A – teza de doctorat

B – Cărți și capitole în cărți publicate în ultimii XX ani

C – Lucrări indexate ISI/BDI publicate în ultimii XX ani

D – Lucrări publicate în ultimii XX ani în reviste și volume de conferințe cu referenți (neindexate);
pentru lucrările publicate în volume de conferințe se selectează de maximum 20 articole.

E – Brevete acordate în întreaga activitate.

Persoanele incluse în tabelul de mai sus anexează câte o listă de lucrări după modelul de mai jos.

Universitatea Babeș-Bolyai

Facultatea de Fizică

Departamentul: de Fizica Stării Condensate și a Tehnologiilor Avansate

Prof. dr. Lucian Baia

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Theory and applications of confocal micro-Raman spectroscopy on hybrid polymer coatings and PDMS membranes and spectroscopic studies of doped B₂O₃-Bi₂O₃ glass systems

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

1. C. I. Fort, L. C. Cotet, L. C. Pop, M. Baia, and **L. Baia**, *Advanced Graphene-Based Materials for Electrochemical Biomarkers and Protein Detection*, in: *Chemistry of Graphene Synthesis, Reactivity, Applications and Toxicities* (Ed. E. W. Wambu) ISBN: 978-1-83769-283-5, IntechOpen, London, pp. 143-175, 2023.
2. **Lucian Baia**, Zsolt Pap, Klara Hernadi, Monica Baia (Book Editors), **Book title: Advanced nanostructures for environmental health: ISBN: 0128158832 Publisher: Elsevier: Amsterdam, Netherlands; Kidlington, Oxford, England; Cambridge, Massachusetts, 2019, 584 pages**
3. M. Baia, Zs. Pap, K. Hernadi, **L. Baia**, **Chapter 1: When the nanostructures meet the environmental health key issues**, in: *Advanced nanostructures for environmental health* (Eds: L. Baia, Zs. Pap, K. Hernadi, M. Baia) ISBN: 0128158832, Elsevier, pp. 1-33, 2019.
4. G. Veréb, K. Hernadi, **L. Baia**, G. Rákhely, Zs. Pap, **Chapter 12. Pilot-plant scaled water treatment technologies, standards for the removal of contaminants of emerging concern based on photocatalytic materials**, in: *Advanced nanostructures for environmental health* (Eds: L. Baia, Zs. Pap, K. Hernadi, M. Baia) ISBN: 0128158832, Elsevier, pp. 495-523, 2019.
5. **L. Baia**, M. Baia, Zs. Pap, K. Hernadi, J. Popp, **Chapter 13. Perspectives of environmental health issues addressed by advanced nanostructures**, in: *Advanced nanostructures for environmental health* (Eds: L. Baia, Zs. Pap, K. Hernadi, M. Baia), ISBN: 0128158832, Elsevier, pp. 525-547, 2019.
6. L. C. Cotet, C. I. Fort, L. C. Pop, M. Baia, **L. Baia**, **Chapter 10 Insights into graphene-based materials as counter electrodes for dye-sensitized solar cells**, in: *Dye-Sensitized Solar Cells: Mathematical Modelling, and Materials Design and Optimization*, ISBN: 0128158832, Elsevier, pp. 341-396, 2019.
7. Zs. Kása, T. Gyulavári, G. Veréb, G. Kovács, **L. Baia**, Zs. Pap and K. Hernádi, **Chapter 11 Novel Applications and Future Perspectives of Nanocomposites**, in: *Nanocomposites for*

Visible Light-induced Photocatalysis (Eds. M. M. Khan, D. Pradhan, Y. Sohn), ISBN: 978-3-319-62445-7, Springer, pp 333-399 2017.

8. Klára Magyari, Adriana Vulpoi and Lucian Baia, **Chapter 13: Insights into the Structure of Proteins Adsorbed onto Bioactive Glasses, in: Handbook of Composites from Renewable Materials Volume 1: Structure and Chemistry**, (Eds. V. Kumar Thakur, M. Kumari Thakur, M. R. Kessler), ISBN: 978-1-119-22362-7, WILEY-Scrivener Publishing, pp. 309-336, 2017
9. Adriana Vulpoi, Klára Magyari, Răzvan Ștefan and Lucian Baia, **Chapter 1: Overview of Properties of Bioactive Glasses and Glass Ceramics Induced by Preparation Route, in: Bioglass: Properties, Functions and Applications**, ISBN: 978-1-63485-887-8, Series: Materials Science and Technologies, Nova Science Publishers, pp. 1-37, 2016.

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

1. A. Feraru, Z. R. Tóth, K. Magyari, M. Baia, T. Gyulavári, E. Páll, E. Licarete, C. Costinas, O. Cadar, I. Papuc, L. Baia, **The effect of nanoceria on the alginate-gum arabic crosslinking mechanism and in vitro behavior as a wound dressing, (2025) International Journal of Biological Macromolecules**, 288, 138569 <https://doi.org/10.1016/j.ijbiomac.2024.138569>.
2. A. Peter, L. Pop, L. M. Cozmuta, C. Nicula, A. M. Cozmuta, G. Drazic, K. Magyari, M. Muresan-Pop, M. Todea, L. Baia, **Beeswax-poly (vinyl alcohol) composite films for bread packaging, (2024) Food Chemistry: X**, 24, 2024, 102053, <https://doi.org/10.1016/j.fochx.2024.102053>.
3. E. Bobu, K. Saszet, Z. R. Tóth, E. Páll, T. Gyulavári, L. Baia, K. Magyari, M. Baia, **TiO₂-Alginate-Chitosan-Based Composites for Skin Tissue Engineering Applications, (2024) Gels** 10 (6), 358.
4. Ion Anghel, Catălin Lisa, Silvia Curteanu, Dana Maria Preda, Ioana-Emilia Șofran, Monica Baia, Malvina Stroe, Mirela Paraschiv, Mihaela Baibarac, Virginia Danciu, Liviu Cosmin Cotet, Lucian Baia, **The influence of the functionalization of polystyrene and graphene oxide composites on the flammability characteristics: modeling with artificial intelligence tools, (2024) Journal of Thermal Analysis and Calorimetry**, 149(7) 2805-2824.
5. CI Fort, MM Rusu, LC Cotet, A Vulpoi, M Todea, M Baia, L Baia, **The Impact of Ar or N₂ Atmosphere on the Structure of Bi-Fe-Carbon Xerogel Based Composites as Electrode Material for Detection of Pb²⁺ and H₂O₂, (2024) Gels**, 10(4), <https://doi.org/10.3390/gels10040230>.
6. M. M Rusu, C. I. Fort, A. Vulpoi, L. Barbu-Tudoran, M. Baia, L. C. Cotet, L. Baia, **Ultrasensitive Electroanalytical Detection of Pb²⁺ and H₂O₂ Using Bi and Fe-Based Nanoparticles Embedded into Porous Carbon Xerogel—The Influence of Nanocomposite Pyrolysis Temperatures, (2023) Gels** 9 (11), 868.
7. Z. R. Tóth, K. Hernadi, L. Baia, G. Kovács, Z. Pap, **Controlled formation of Ag-Ag₂O nanoparticles on the surface of commercial TiO₂ based composites for enhanced photocatalytic degradation of oxalic acid and phenol, (2023) Catalysis Today** 424, 112969.
8. A. Dreanca, S. Bogdan, A. Popescu, D. Sand, E. Pall, A. N. Astilean, C. Pestean, C. Toma, S. Marza, M. Taulescu, M. Cenariu, B. Sevastre, L. Oana, M. Todea, L. Baia, K. Magyari, **The evaluation of the osteopromoting capabilities of composites based on biopolymers and gold/silver nanoparticles doped bioactive glasses on an experimental rat bone defect, (2023) Biomedical Materials** 18 (5), 055014.
9. Endre-Zsolt Kedves, Claudiu Fodor, Ákos Fazekas, István Székely, Ákos Szamosvölgyi, András Sápi, Zoltán Kónya, Lucian Cristian Pop, Lucian Baia, Zsolt Pap, **α -MoO₃ with inhibitive properties in Fenton reactions and insights on its general impact on OH radical based advanced oxidation processes, (2023) Applied Surface Science** 624, 156914.

10. Bíborka Boga, Vasile-Mircea Cristea, István Székely, Felix Lorenz, Tamás Gyulavári, Lucian Cristian Pop, **Lucian Baia**, Zsolt Pap, Norbert Steinfeldt, Jennifer Strunk, *Experimental data-driven and phenomenological modeling approaches targeting the enhancement of CaTiO₃ photocatalytic efficiency*, (2023) *Sustainable Chemistry and Pharmacy* 33, 101045.
11. Endre-Zsolt Kedves, Enikő Bárdos, Alpár Ravasz, Zsejke-Réka Tóth, Szilvia Mihálydeákpál, Zoltán Kovács, Zsolt Pap, **Lucian Baia**, *Photoinhibitive Properties of α -MoO₃ on Its Composites with TiO₂, ZnO, BiOI, AgBr, and Cu₂O*, (2023) *Materials* 16 (10), 3621.
12. A. G. Mihiş, L. C. Cotet, C. Cadar, L. C. Pop, M. Todea, M. M. Rusu, A. Vulpoi, I. Székely, C. A. Sălăgean, K. Magyar, M. Muresan-Pop, O. Cadar, M. Baia, I. E. Sofran, G. Lisa, I. Anghel, M. Baibarac, V. Danciu, **L. Baia**, *Structural and flame retardancy properties of GO-DOPO-HAK composite*, (2023) *Journal of Materials Science* 58, 7025–7047.
13. Alexandra Feraru, Zsejke-Réka Tóth, Marieta Mureşan-Pop, Monica Baia, Tamás Gyulavári, Emőke Páll, Romulus VF Turcu, Klára Magyar, **Lucian Baia**, *Anionic Polysaccharide Cryogels: Interaction and In Vitro Behavior of Alginate–Gum Arabic Composites*, (2023) *Polymers* 15 (8), 1844.
14. Z. Czekes, D. Bai, J. Vincze, E. Gál, Z. Réthi-Nagy, **L. Baia**, Z. Pap, *Commercial photocatalyst changes the behavior of *Formica pratensis* and *Formica polyctena**, (2023) *Environmental Science: Nano* 10 (1), 72-79.
15. Zsejke-Réka Tóth, Diána Debreczeni, Tamás Gyulavári, István Székely, Milica Todea, Gábor Kovács, Monica Focşan, Klára Magyar, **Lucian Baia**, Zsolt Pap, Klára Hernadi, *Rapid Synthesis Method of Ag₃PO₄ as Reusable Photocatalytically Active Semiconductor*, (2022) *Nanomaterials* 13 (1), 89.
16. K. Magyar, A. Dreancă, I. Székely, A. Popescu, A. Feraru, E. Páll, T. Gyulavári, M. Suci, M. Cenariu, E. Bobu, **L. Baia**, M. Baia, *How does the structure of pullulan alginate composites change in the biological environment?*, (2022) *Journal of Materials Science* 57 (40), 19050-19067.
17. Z. Kovács, C. Molnár, T. Gyulavári, K. Magyar, Z. R.Tóth, **L. Baia**, Z. Pap, K. Hernadi, *Solvothermal synthesis of ZnO spheres: Tuning the structure and morphology from nano-to micro-meter range and its impact on their photocatalytic activity*, (2022) *Catalysis Today* 397, 16-27.
18. Z. Kása, E. Bárdos, E. Kása, T. Gyulavári, **L. Baia**, Z. Pap, K. Hernadi, *Myth or reality? A disquisition concerning the photostability of bismuth-based photocatalysts*, (2022) *Journal of Environmental Chemical Engineering* 10 (3), 107624.
19. Z. Kovács, V. Márta, T. Gyulavári, Á. Ágoston, **L. Baia**, Z. Pap, K. Hernadi, *Noble metal modified (002)-oriented ZnO hollow spheres for the degradation of a broad range of pollutants*, (2022) *Journal of Environmental Chemical Engineering* 10 (3), 107655.
20. Zsejke-Réka Tóth, Alexandra Feraru, Diána Debreczeni, Milica Todea, Radu A Popescu, Tamás Gyulavári, Alina Sesarman, Giorgiana Negrea, Dan C Vodnar, Klára Hernadi, Zsolt Pap, **Lucian Baia**, Klára Magyar, *Influence of different silver species on the structure of bioactive silicate glasses*, (2022) *Journal of Non-Crystalline Solids* 583, 121498.
21. Mihai M Rusu, Adriana Vulpoi, Isabelle Maurin, Liviu C Cotet, Lucian C Pop, Carmen I Fort, Monica Baia, **Lucian Baia**, Ileana Florea, *Thermal evolution of C–Fe–Bi nanocomposite system: from nanoparticle formation to heterogeneous graphitization stage*, (2022) *Microscopy and Microanalysis*, 28 (2), 317-329.
22. Lucian Cristian Pop, Gabriel Barta, Liviu Cosmin Cotet, Klára Magyar, Monica Baia, Lucian Barbu Tudoran, Rodica Ungur, Dan Vodnar, **Lucian Baia**, Virginia Danciu, *Antimicrobial activity of graphene oxide-coated polypropylene surfaces*, (2022) *STUDIA UBB CHEMIA*, LXVII, 57(1), 281-296, DOI:10.24193/subbchem.2022.1.18.

23. E. Z. Kedves, E. Bárdos, T. Gyulavári, Z. Pap, K. Hernadi, L. Baia, *Dependence of cationic dyes' adsorption upon α -MoO₃ structural properties*, (2022) *Applied Surface Science* 573, 151584.
24. E. A. Rusu, K. Magyari, L. Baia, M. Baia, *Vibrational analysis of α -lipoic acid and its adsorption behavior study by SERS*, (2022) *Journal of Molecular Structure* 1248, 131501.
25. Zsejke-Réka Tóth, János Kiss, Milica Todea, Gábor Kovács, Tamás Gyulavári, Alina Sesarman, Giorgiana Negrea, Dan C Vodnar, Anna Szabó, Lucian Baia, Klára Magyari, *Bioactive properties of composites based on silicate glasses and different silver and gold structures*, (2022) *Materials* 2022, 15, 1655.
26. C. Costinas, C. A. Salagean, L. C. Cotet, M. Baia, M. Todea, K. Magyari, L. Baia, *Insights into the stability of graphene oxide aqueous dispersions*, (2022) *Nanomaterials* 2022, 12, 4489.
27. C. A. The impact of Au nanoparticles and lanthanide-doped NaYF₄ on the photocatalytic activity of titania photocatalyst, C. Costinas, L. C. Cotet, L. Baia, *Insights into the Influence of Key Preparation Parameters on the Performance of mos₂/Graphene Oxide Composites as Active Materials in Supercapacitors*, (2021) *Catalysts* 11 (12), 1553.
28. Ion Anghel, Gabriela Lisa, Ioana-Emilia Șofran, Flavia-Corina Mitroi-Symeonidis, Mihai Marius Rusu, Monica Baia, Lucian Baia, Klára Magyari, Virginia Danciu, Liviu Cosmin Cotet, Malvina Stroe, Mihaela Baibarac, *Pyrolysis and combustion of polystyrene composites based on graphene oxide functionalized with 3-(methacryloyloxy)-propyltrimethoxysilane*, (2021) *Journal of Polymer Engineering* 41 (7), 615-626.
29. Z. Kovács, C. Molnár, U. L. Ștangar, V. M. Cristea, Z. Pap, K. Hernadi, L. Baia, *Optimization Method of the Solvothermal Parameters Using Box–Behnken Experimental Design—The Case Study of ZnO Structural and Catalytic Tailoring*, (2021) *Nanomaterials* 11 (5), 1334.
30. B. Hampel, K. Hernádi, L. Baia, Z. Pap, *The impact of Au nanoparticles and lanthanide-doped NaYF₄ on the photocatalytic activity of titania photocatalyst*, (2021) *Applied Surface Science* 547, 149123.
31. B. Hampel, L. Baia, K. Hernadi, Z. Pap, *The Influence of the Ratio of Au and Pt Nanoparticles in Ternary Composites with TiO₂*, (2021) *Metals* 11 (4), 628.
32. Alexandra Dreanca, Marieta Muresan-Pop, Marian Taulescu, Zsejke-Réka Tóth, Sidonia Bogdan, Cosmin Pestean, Stephanie Oren, Corina Toma, Andra Popescu, Emőke Páll, Bogdan Sevastre, Lucian Baia, Klára Magyari, *Bioactive glass-biopolymers-gold nanoparticle based composites for tissue engineering applications*, (2021) *Materials Science and Engineering: C* 123, 112006.
33. Zsejke-Réka Tóth, Saurav Kumar Maity, Tamás Gyulavári, Enikő Bárdos, Lucian Baia, Gábor Kovács, Seema Garg, Zsolt Pap, Klára Hernadi, *Solvothermal Crystallization of Ag/Ag_xO-AgCl Composites: Effect of Different Chloride Sources/Shape-Tailoring Agents*, (2021) *Catalysts* 11 (3), 379.
34. S. Fodor, L. Baia, K. Baán, G. Kovács, Z. Pap, K. Hernadi, *The effect of the reducing sugars in the synthesis of visible-light-active copper (I) oxide photocatalyst*, (2021) *Molecules* 26 (4), 1149.
35. Mihaela Baibarac, Luiza Stingescu, Malvina Stroe, Catalin Negrila, Elena Matei, Liviu C Cotet, Ion Anghel, Ioana E Șofran, Lucian Baia, *Poly (vinyl chloride) spheres coated with graphene oxide sheets: From synthesis to optical properties and their applications as flame-retardant agents*, (2021) *Polymers* 13 (4), 565.
36. Zsejke-Réka Tóth, Zsolt Pap, János Kiss, Lucian Baia, Tamás Gyulavári, Zsolt Czekes, Milica Todea, Klára Magyari, Gábor Kovács, Klára Hernadi, *Shape tailoring of AgBr microstructures: effect of the cations of different bromide sources and applied surfactants*, (2021) *RSC Advances* 11 (16), 9709-9720.

37. Sorin M Mârza, Klara Magyari, Sidonia Bogdan, Mirela Moldovan, Cosmin Peştean, Andras Nagy, Adrian Florin Gal, Flaviu Tăbăran, Robert Cristian Purdoiu, Emilia Licărete, Sorina Suarasan, **Lucian Baia**, Ionel Papuc, *The impact of composites with silicate-based glasses and gold nanoparticles on skin wound regeneration*, (2021) *Molecules* 26 (3), 620.
38. Carmen I Fort, Mihai M Rusu, Liviu C Cotet, Adriana Vulpoi, Ileana Florea, Sandrine Tuseau-Nenez, Monica Baia, Mihaela Baibarac, **Lucian Baia**, *Carbon xerogel nanostructures with integrated Bi and Fe components for hydrogen peroxide and heavy metal detection*, (2020) *Molecules* 26(1), 117.
39. Zs. Kedves, Zs. Pap, K. Hernádi, **L. Baia**, *Significance of the surface and bulk features of hierarchical TiO₂ in their photocatalytic properties*, (2020) *Ceramics International*, <https://doi.org/10.1016/j.ceramint.2020.11.061>.
40. Feraru, A., Tóth, Z.R., Magyari, K., Pap, Z., Todea, M., Mureşan-Pop, M., Vodnar, D.C., Licărete, E., Hernadi, K., **Baia, L.**, *Composites based on silicate bioactive glasses and silver iodide microcrystals for tissue engineering applications*, (2020) *Journal of Non-Crystalline Solids*, 547, art. no. 120293, DOI: 10.1016/j.jnoncrysol.2020.120293.
41. Kása, Z., Almási, E.E., Hernádi, K., Gyulavári, T., **Baia, L.**, Veréb, G., László, Z., Pap, Z., *New insights into the photoactivity of shape-tailored BiVO₄ semiconductors via photocatalytic degradation reactions and classical reduction processes*, (2020) *Molecules*, 25 (20), art. no. 4842, DOI: 10.3390/molecules25204842.
42. Fodor, S., **Baia, L.**, Hernádi, K., Pap, Z., *Controlled synthesis of visible light active Cu_xS photocatalyst: The effect of heat treatment on their adsorption capacity and photoactivity*, (2020) *Materials*, 13 (17), art. no. 3665, DOI: 10.3390/MA13173665.
43. Chuquitarqui, A., Cotet, L.C., Baia, M., György, E., Magyari, K., Barbu-Tudoran, L., **Baia, L.**, Díaz-González, M., Fernández-Sánchez, C., Pérez Del Pino, A., *New fabrication method for producing reduced graphene oxide flexible electrodes by using a low-power visible laser diode engraving system*, (2020) *Nanotechnology*, 31 (32), art. no. 325402, DOI: 10.1088/1361-6528/ab8d67.
44. Bárdos, E., Márta, V., **Baia, L.**, Todea, M., Kovács, G., Baán, K., Garg, S., Pap, Z., Hernadi, K.
45. *Hydrothermal crystallization of bismuth oxybromide (BiOBr) in the presence of different shape controlling agents*, (2020) *Applied Surface Science*, 518, art. no. 146184, DOI: 10.1016/j.apsusc.2020.146184.
46. Stroe, M., Cristea, M., Matei, E., Galatanu, A., Cotet, L.C., Pop, L.C., Baia, M., Danciu, V., Anghel, I., **Baia, L.**, Baibarac, M.A., *Optical properties of composites based on graphene oxide and polystyrene*, (2020) *Molecules*, 25 (10), art. no. 2419, DOI: 10.3390/molecules25102419.
47. Popescu, R.A., Tăbăran, F.A., Bogdan, S., Fărcăşanu, A., Purdoiu, R., Magyari, K., Vulpoi, A., Dreancă, A., Sevastre, B., Simon, S., Papuc, I., **Baia, L.**, *Bone regeneration response in an experimental long bone defect orthotopically implanted with alginate-pullulan-glass-ceramic composite scaffolds*, (2020) *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, 108 (3), 1129-1140.
48. Peter, A., Cozmuta, L.M., Nicula, C., Cozmuţa, A.M., Vulpoi, A., Barbu-Tudoran, L., Magyari, K., Todea, M., **Baia, L.**, Pop, F.G., *Multi-analyses of gallstones and correlation between their properties with the laboratory results Multi-analyses of gallstones*, (2020) *Analytical Biochemistry*, 593, art. no. 113587, DOI: 10.1016/j.ab.2020.113587.
49. Hampel, B., Pap, Z., Sapi, A., Szamosvolgyi, A., **Baia, L.**, Hernadi, K., *Application of TiO₂-Cu composites in photocatalytic degradation different pollutants and hydrogen production*, (2020) *Catalysts*, 10 (1), art. no. 85, DOI: 10.3390/catal10010085.
50. Stingescu, L., Cadar, C., Cotet, L.C., **Baia, L.**, Saszet, K., Magyari, K., Mihis, A.G., Fort, C.I., Stroe, M., Matei, E., Nila, A., Anghel, I., Baia, M., Baibarac, M., Danciu, V., *Morphological*

- and structural investigation of the poly(Vinyl chloride) / graphene oxide composites, (2020) Studia Universitatis Babeş-Bolyai Chemia, 65 (3), 245-258.*
51. Magyari, K., Tóth, Z.R., Pap, Z., Licarete, E., Vodnar, D.C., Todea, M., Gyulavári, T., Hernadi, K., **Baia, L.**, *Insights into the effect of gold nanospheres, nanotriangles and spherical nanocages on the structural, morphological and biological properties of bioactive glasses, (2019) Journal of Non-Crystalline Solids, 522, art. no. 119552, DOI: 10.1016/j.jnoncrysol.2019.119552.*
 52. Magyari, K., Pap, Z., Tóth, Z.R., Kása, Z., Licarete, E., Vodnar, D.C., Hernadi, K., **Baia, L.**, *The impact of copper oxide nanoparticles on the structure and applicability of bioactive glasses, (2019) Journal of Sol-Gel Science and Technology, 91 (3), 634-643.*
 53. Fodor, S., **Baia, L.**, Focşan, M., Hernádi, K., Pap, Z., *Designed and controlled synthesis of visible light active copper(I)oxide photocatalyst: From cubes towards the polyhedrons - with Cu nanoparticles, (2019) Applied Surface Science, 484, 175-183.*
 54. Bárdos, E., Király, A.K., Pap, Z., **Baia, L.**, Garg, S., Hernádi, K., *The effect of the synthesis temperature and duration on the morphology and photocatalytic activity of BiOX (X = Cl, Br, I) materials, (2019) Applied Surface Science, 479, 745-756.*
 55. Mârza, S.M., Magyari, K., Bogdan, S., Moldovan, M., Peştean, C., Nagy, A., Tăbăran, F., Licarete, E., Suarasan, S., Dreanca, A., **Baia, L.**, Papuc, I., *Skin wound regeneration with bioactive glass-gold nanoparticles ointment, (2019) Biomedical Materials (Bristol), 14 (2), art. no. 025011, DOI: 10.1088/1748-605X/aafd7d.*
 56. Kása, Z., **Baia, L.**, Magyari, K., Hernádi, K., Pap, Z., *Innovative visualization of the effects of crystal morphology on semiconductor photocatalysts. Tuning the Hückel polarity of the shape-tailoring agents: the case of Bi₂WO₆, (2019) CrystEngComm, 21 (8), 1267-1278.*
 57. E. Z. Kedves, I. Székely, L. **Baia, M.** Baia, A. Csavdári, Z. Pap, *The comparison of the photocatalytic performance shown by TiO₂ and TiO₂/WO₃ composites—a parametric and kinetic study, (2019) Journal of Nanoscience and Nanotechnology 19 (1), 356-365.*
 58. Z. R. Tóth, Z. Pap, V. Danciu, V. Cosoveanu, **L. Baia**, G. Kovács, *Detailed investigation of phenol degradation on Au/TiO₂ composite materials, (2019) Journal of Nanoscience and Nanotechnology 19 (1), 407-413.*
 59. K. Hernadi, **L. Baia**, Z. Pap, A. Sapi, *A Special Section on Shape Tailored Nanocrystals in Catalysis, (2019) Journal of nanoscience and nanotechnology 19 (1), 277-279.*
 60. Peter, A., Mihaly-Cozmuta, A., Nicula, C., Mihaly-Cozmuta, L., Vulpoi, A., **Baia, L.**, *Fabric impregnated with TiO₂ gel with self-cleaning property, (2018) International Journal of Applied Ceramic Technology, 16 (2), 666-681.*
 61. Țăran, G., Magyari, K., Topan, A., Vulpoi, A., **Baia, L.**, *Improved bioactivity properties of SiO₂-CaO-P₂O₅ glasses by using calcium L-lactate pentahydrate as calcium oxide precursor, (2018) Journal of Non-Crystalline Solids, 498, 199-203.*
 62. Hampel, B., Kovács, G., Czekes, Z., Hernádi, K., Danciu, V., Ersen, O., Girleanu, M., Focşan, M., **Baia, L.**, Pap, Z., *Mapping the Photocatalytic Activity and Ecotoxicology of Au, Pt/TiO₂ Composite Photocatalysts, (2018) ACS Sustainable Chemistry and Engineering, 6 (10), 12993-13006.*
 63. Popescu, R.A., Magyari, K., Taulescu, M., Vulpoi, A., Berce, C., Bogdan, S., Lelescu, C., Dreanca, A., Tudoran, O., Papuc, I., **Baia, L.**, *New alginate-pullulan-bioactive glass composites with copper oxide for bone tissue regeneration trials, (2018) Journal of Tissue Engineering and Regenerative Medicine, 12 (10), 2112-2121.*
 64. Rusu, M.M., Fort, C.I., Cotet, L.C., Vulpoi, A., Todea, M., Turdean, G.L., Danciu, V., Popescu, I.C., **Baia, L.**, *Insights into the morphological and structural particularities of highly sensitive porous bismuth-carbon nanocomposites based electrochemical sensors, (2018) Sensors and Actuators, B: Chemical, 268, 398-410.*

65. Boga, B., Székely, I., Pap, Z., **Baia, L.**, Baia, M., *Detailed Spectroscopic and Structural Analysis of TiO₂/WO₃ Composite Semiconductors*, (2018) *Journal of Spectroscopy*, art. no. 6260458, DOI: 10.1155/2018/6260458.
66. Bárdos, E., Kovács, G., Gyulavári, T., Németh, K., Kecsenovity, E., Berki, P., **Baia, L.**, Pap, Z., Hernádi, K., *Novel synthesis approaches for WO₃-TiO₂/MWCNT composite photocatalysts-problematic issues of photoactivity enhancement factors*, (2018) *Catalysis Today*, **300**, 28-38.
67. Kása, Z., Saszet, K., Dombi, A., Hernádi, K., **Baia, L.**, Magyari, K., Pap, Z., *Thiourea and Triton X-100 as shape manipulating tools or more for Bi₂WO₆ photocatalysts?*, (2018) *Materials Science in Semiconductor Processing*, **74**, 21-30.
68. Deac, A.R., Muresan, L.M., Cotet, L.C., **Baia, L.**, Turdean, G.L., *Hybrid composite material based on graphene and polyhemin for electrochemical detection of hydrogen peroxide*, (2017) *Journal of Electroanalytical Chemistry*, **802**, 40-47.
69. Magyari, K., Nagy-Simon, T., Vulpoi, A., Popescu, R.A., Licarete, E., Stefan, R., Hernádi, K., Papuc, I., **Baia, L.**, *Novel bioactive glass-AuNP composites for biomedical applications*, (2017) *Materials Science and Engineering C*, **76**, 752-759.
70. Moldovan, S., Roiban, L., Georgescu, D., **Baia, L.**, Ersen, O., *Thermal evolution of silver nanoparticles onto porous TiO₂ nanostructures*, (2017) *Catalysis Today*, **284**, 221-228.
71. Gyulavári, T., Pap, Z., Kovács, G., **Baia, L.**, Todea, M., Hernádi, K., Veréb, G., *Peroxo group enhanced nanorutile as visible light active photocatalyst*, (2017) *Catalysis Today*, **284**, 129-136.
72. Cadar, C., Cotet, C., **Baia, L.**, Barbu-Tudoran, L., Ardelean, I., *Probing into the mesoporous structure of carbon xerogels via the low-field NMR relaxometry of water and cyclohexane molecules*, (2017) *Microporous and Mesoporous Materials*, **251**, 19-25.
73. Tóth, Z.-R., Kovács, G., Hernádi, K., **Baia, L.**, Pap, Z., *The investigation of the photocatalytic efficiency of spherical gold nanocages/TiO₂ and silver nanospheres/TiO₂ composites*, (2017) *Separation and Purification Technology*, **183**, 216-225.
74. Cotet, L.C., Magyari, K., Todea, M., Dudescu, M.C., Danciu, V., **Baia, L.**, *Versatile self-assembled graphene oxide membranes obtained under ambient conditions by using a water-ethanol suspension*, (2017) *Journal of Materials Chemistry A*, **5**(5), 2132-2142.
75. Fodor, S., Kovács, G., Hernádi, K., Danciu, V., **Baia, L.**, Pap, Z., *Shape tailored Pd nanoparticles' effect on the photocatalytic activity of commercial TiO₂*, (2017) *Catalysis Today*, **284**, 137-145.
76. Peter, A., Mihaly-Cozmuta, A., Nicula, C., Mihaly-Cozmuta, L., Jastrzębska, A., Olszyna, A., **Baia, L.**, *UV Light-Assisted Degradation of Methyl Orange, Methylene Blue, Phenol, Salicylic Acid, and Rhodamine B: Photolysis Versus Photocatalysis*, (2017) *Water, Air, and Soil Pollution*, **228**(1), 228-241.
77. Rusu, M. M, Wahyuono, R. A., Fort, C. I., Dellith, A., Dellith, J., Ignaszak, A., Vulpoi, A., Danciu, V., Dietzek, B., **Baia L.**, *Impact of drying procedure on the morphology and structure of TiO₂ xerogels and the performance of dye sensitized solar cells*, (2016) *J Sol-Gel Sci Technol*, DOI 10.1007/s10971-016-4237-3.
78. Popescu R. A., Magyari K., Vulpoi A., Trandafir D. L., Licarete E., Todea M., Ștefan R., Voica C., Vodnar D. C., Simon S., Papuc I., **Baia L.**, *Bioactive and biocompatible copper containing glass-ceramics with remarkable antibacterial properties and high cell viability designed for future in vivo trials*, (2016) *Biomaterials Science*, **4**, 1252-1265.
79. Magyari, K., Vanea, E., **Baia, L.**, Simon, V., *Attachment and conformational changes of collagen on bioactive glass surface*, (2016) *Bio-Medical Materials and Engineering*, **27** (1), 63-74.
80. Peter, A., Mihaly-Cozmuta, L., Mihaly-Cozmuta, A., Nicula, C., Ziemkowska, W., Basiak, D., Danciu, V., Vulpoi, A., **Baia, L.**, Falup, A., Craciun, G., Ciric, A., Begea, M., Kiss, C.,

Vatuiu, D., *Changes in the microbiological and chemical characteristics of white bread during storage in paper packages modified with Ag/TiO₂-SiO₂, Ag/N-TiO₂ or Au/TiO₂, (2016) Food Chemistry, 197, 790-798.*

81. **Baia, L.**, Orbán, E., Fodor, S., Hampel, B., Kedves, E.Z., Saszet, K., Székely, I., Karácsonyi, É., Réti, B., Berki, P., Vulpoi, A., Magyari, K., Csavdári, A., Bolla, C., Coșoveanu, V., Hernádi, K., Baia, M., Dombi, A., Danciu, V., Kovács, G., Pap, Z., *Preparation of TiO₂/WO₃ composite photocatalysts by the adjustment of the semiconductors' surface charge, (2016) Materials Science in Semiconductor Processing, 42, 66-71.*
82. Pérez Del Pino, A., György, E., Cotet, C., **Baia, L.**, Logofatu, C., *Laser-induced chemical transformation of free-standing graphene oxide membranes in liquid and gas ammonia environments, (2016) RSC Advances, 6 (55), 50034-50042.*
83. Székely, I., Kovács, G., **Baia, L.**, Danciu, V., Pap, Z., *Synthesis of shape-tailored WO₃ micro-/nanocrystals and the photocatalytic activity of WO₃/TiO₂ composites, (2016) Materials, 9 (4), art. no. 258.*
84. Szabó, E., Pap, Z., Simon, G., Dombi, A., **Baia, L.**, Hernádi, K., *New insights on the simultaneous removal by adsorption on organoclays of humic acid and phenol, (2016) Water (Switzerland), 8 (1), art. no. 21.*
85. Magyari, K., One, R., Tódor, I.-S., Baia, M., Simon, V., Simon, S., **Baia, L.**, *Titania effect on the bioactivity of silicate bioactive glasses, (2016) Journal of Raman Spectroscopy, 47 (9), 1102-1108.*
86. Vajda, K., Saszet, K., Kedves, E.Zs., Kása, Zs., Danciu, V., **Baia, L.**, Magyari, K., Hernádi, K., Kovács, G., Pap, Zs., *Shape-controlled agglomeration of TiO₂ nanoparticles. New insights on polycrystallinity vs. single crystals in photocatalysis, (2016) Ceramics International, 42 (2), 3077-3087.*

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

- **Reviste:** Nu este cazul

- **Selecție cu maximum 20 lucrări în volume de conferințe:** Nu este cazul

E. Brevete obținute în întreaga activitate

Brevet European

1. Processes for obtaining nanocomposite food packages (EP3078275/25.12.2025)

Brevete naționale:

2. Procedura de obținere a unor material pe baza de grafenă prin exfoliere, *Brevet RO 131216 B1, 2017;*
3. Procedura de obținere a unor compozitelor pe baza de aerogel cu metale nobile cu dubla funcționalitate, *Brevet RO 129023 B1, 2017;*
4. Sticle bioactive silicatică poroase dopate cu nanoparticule de aur, *Brevet RO 132343 B1, 2020;*
5. Procedeu de obținere de materiale compozite „cărbune nanoporos/nanoparticule de bismut și fier/oxid de titan” cu proprietăți analitice și de fotodegradare, *Brevet RO 133255 B1, 2020.*

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Semnătura:

