

Lista de lucrari

a) Lista lucrarilor cele mai relevante obtinute ulterior conferirii titlului de doctor in fizica

1. Structural characteristics of B₂O₃-Bi₂O₃ glasses with high transition metal oxide content, **L. Baia**, R. Stefan, W. Kiefer, S. Simon, *J. Raman Spectrosc.*, **36**, 261-266, 2005.
2. Structural and morphological properties of silver nanoparticles-phosphate glass composites, **L. Baia**, M. Baia, W. Kiefer, J. Popp, S. Simon, *Chem. Phys.* **327**, 63-69, 2006.
3. Synthesis and nanostructural characterization of TiO₂ aerogels for photovoltaic devices, **L. Baia**, A. Peter, V. Cosoveanu, E. Indrea, M. Baia, J. Popp, V. Danciu, *Thin Solid Films*, **511-512**, 512-516, 2006.
4. Structural properties of silver nanoclusters-phosphate glass composites, **L. Baia**, D. Muresan, M. Baia, J. Popp, S. Simon, *Vib. Spectrosc.* **43**(2), 313-318, 2007.
5. Evaluating the thermal treatment parameters effect on the anatase nano crystallites size of titania aerogels, **L. Baia**, M. Baia, A. Peter, V. Cosoveanu, V. Danciu, *J. Opto. Adv. Mater.*, **9**(3), 668-671, 2007.
6. Efficient dual functionality of highly porous nanocomposites based on TiO₂ and noble metal particles, **L. Baia**, L. Diamandescu, L. Barbu-Tudoran, A. Peter, G. Melinte, V. Danciu, M. Baia, *J. Alloys & Comp.*, **509**(6), 2672-2678, 2011.
7. Hydrogen peroxide versus water synthesis of bioglass-nanocrystalline hydroxyapatite composites, G. Melinte, **L. Baia**, V. Simon, S. Simon, *J. Mater. Sci.*, **46**(23), 7393-7400, 2011.
8. Experimental assessment of the phonon confinement in TiO₂ anatase nanocrystallites by Raman spectroscopy, D. Georgescu, **L. Baia**, O. Ersen, M. Baia, S. Simon, *J. Raman Spectrosc.*, doi: 10.1002/jrs.3103, 2012.
9. Weighting the influence of TiO₂ anatase/brookite ratio in TiO₂-Ag porous nanocomposites on visible photocatalytic performances, V. Iancu, M. Baia, L. Diamandescu, Zs. Pap, A. M. Vlaicu, V. Danciu, **Baia, L.**, *Materials Chemistry and Physics*, **141**(1), 234-239, 2013.

b) 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

c) Carti si capitole de carti

1. **L. Baia**, W. Kiefer, S. Simon, *Multispectroscopic studies of local structure in heavy metal glasses*, In: Recent Research Developments in Non-Crystalline Solids – Transworld Research Network, ISBN: 81-7895-152-5, Kerala, India, pp. 1-25, 2004.
2. **L. Baia**, S. Simon, *The structure of glass and glass ceramics by vibrational spectroscopy*, Casa Cartii de Stiinta, ISBN978-973-133-183-6, Cluj-Napoca, Romania, 2007, pp. 148.
3. **L. Baia** and S. Simon, *UV-VIS and TEM assessment of morphological features of silver nanoparticles from phosphate glass matrices*, Modern Research and Educational Topics in Microscopy, A. Mendez-Vilas, J. Diaz (eds.), Formatex, ISBN-13:978-84-611-9418-6, Spain, pp. 576-583, 2007.
4. **Lucian Baia**, *Theory and applications of confocal micro-Raman spectroscopy on hybrid polymer coatings and PDMS membranes and spectroscopic studies of doped B₂O₃-Bi₂O₃ glass systems*, Cluj University Press, ISBN: 978-973-610-563-0, Cluj-Napoca, Romania, 2007.
5. **L. Baia**, *Fenomene termoelectrice si aplicatii*, Casa Cartii de Stiinta, ISBN978-973-133-496-7, Cluj-Napoca, Romania, 2008, pp. 108.

d) Articole publicate in reviste cotate ISI

1. Raman and IR spectroscopic studies of manganese doped GeO₂-Bi₂O₃ glasses, **L. Baia**, T. Iliescu, S. Simon, W. Kiefer, *J. Molecular Struct.*, **599**, 9-13, 2001
2. Confocal micro-Raman spectroscopy: Theory and application to a hybrid polymer coating, **L. Baia**, K. Gigant, U. Posset, G. Schottner, W. Kiefer, J. Popp, *Appl. Spectrosc.*, **56**(4), 536-540, 2002

3. Confocal Raman investigations on hybrid polymer coatings, **L. Baia**, K. Gigant, U. Posset, R. Petry, G. Schottner, W. Kiefer, J. Popp, *Vib. Spectrosc.*, **29**, 245-249, 2002.
4. Structural investigations of copper doped B₂O₃-Bi₂O₃ glasses with high bismuth oxide content, **L. Baia**, R. Stefan, W. Kiefer, J. Popp, S. Simon, *J. Non-Cryst. Solids*, **303**, 379-386, 2002.
5. Inorganic-organic cross-linking in UV curable hard coats based upon vinyltriethoxysilane-tetraethoxysilane-polyfunctional acrylate hybrid polymers: A Raman spectroscopic study, K. Gigant, U. Posset, G. Schottner, **L. Baia**, W. Kiefer, J. Popp, *J. Sol-Gel Science & Technology*, **26**, 369-373, 2003.
6. Characterization of diffusion processes of pharmacological relevant molecules through PDMS-membranes by means of confocal micro resonance Raman spectroscopy, M. Schmitt, B. Leimeister, **L. Baia**, W. Kiefer, B. Weh, I. Zimmermann, J. Popp, *Chem. Phys. Chem.*, **4**(3), 296-299, 2003.
7. Vibrational spectroscopy of highly iron doped B₂O₃-Bi₂O₃ glass systems, **L. Baia**, R. Stefan, J. Popp, S. Simon, W. Kiefer, *J. Non-Cryst. Solids*, **324**, 109-117, 2003.
8. Spectroscopic studies on the structure of vanadium tellurite glasses, **L. Baia**, M. Bolboaca, W. Kiefer, E. S. Yousef, C. Rüssel, F. W. Breitbarth, T. G. Mayerhöfer, J. Popp, *Phys. Chem. Glasses*, **45**, 178-182, 2004.
9. Structure–property correlations in hybrid sol–gel coatings as revealed by Raman spectroscopy, U. Posset, K. Gigant, G. Schottner, **L. Baia**, J. Popp, *Optical Materials*, **26**(2), 173-179, (2004).
10. Surface-enhanced Raman scattering and density functional theoretical study of anthranil adsorbed on colloidal silver particles, M. Baia, **L. Baia**, W. Kiefer, J. Popp, *J. Phys. Chem. B*, **108**(45) 17491-17496, 2004.
11. Structural characteristics of B₂O₃-Bi₂O₃ glasses with high transition metal oxide content, **L. Baia**, R. Stefan, W. Kiefer, S. Simon, *J. Raman Spectrosc.*, **36**, 261-266, 2005.
12. Gold nanostructured films deposited on polystyrene colloidal crystal templates for surface-enhanced Raman spectroscopy, M. Baia, **L. Baia**, S. Astilean, *Chem Phys. Lett.*, **404**, 3-8, 2005.

13. The influence of manganese cations on the structure of lead high bismuthate glasses and glass ceramics, A. Radu, **L. Baia**, W. Kiefer, S. Simon, *Vib. Spectrosc.*, **39**, 127-130, 2005.
14. Infrared and Raman structural investigations of Bi₂O₃-PbO-B₂O₃ glasses, **L. Baia**, W. Kiefer, S. Simon, *Phys. Chem. Glasses*, **46** (3), 279-283, 2005.
15. Vibrational and EPR spectroscopic investigation of heavy-metal-oxide glasses and vitroceraamics containing manganese, S. Simon, **L. Baia**, A. Radu, *J. Raman Spectrosc.*, **37**, 183-188, 2006.
16. Probing the enhancement mechanisms of SERS with p-aminothiophenol molecules adsorbed on self-assembled gold colloidal nanoparticles, M. Baia, F. Toderas, **L. Baia**, J. Popp, S. Astilean, *Chem. Phys. Lett.*, **422** (1-3), 127-132, 2006.
17. Surface-enhanced Raman scattering efficiency of truncated tetrahedral Ag nanoparticles arrays mediated by electromagnetic couplings, M. Baia, **L. Baia**, J. Popp, S. Astilean, *Appl. Phys. Lett.*, **88**, 143121, 2006.
18. Structural and morphological properties of silver nanoparticles-phosphate glass composites, **L. Baia**, M. Baia, W. Kiefer, J. Popp, S. Simon, *Chem. Phys.* **327**, 63-69, 2006.
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20. Structural properties of silver nanoclusters-phosphate glass composites, **L. Baia**, D. Muresan, M. Baia, J. Popp, S. Simon, *Vib. Spectrosc.* **43**(2), 313-318, 2007.
21. Controlling Gold Nanoparticle Assemblies for Efficient Surface Enhanced Raman Scattering (SERS) and Localized Surface Plasmon Resonance (LSPR) Sensor, F. Toderas, M. Baia, **L. Baia**, S. Astilean, *Nanotechnology*, **18**(25), 255702, 2007.
22. Photocatalytic and structural properties of mixed titania and zirconia aerogels, V. Danciu, **L. Baia**, V. Cosoveanu, M. Baia, F. Vasiliu, L. Diamandescu, C.M. Teodorescu, M. Feder, J. Popp, *Optoelect. Adv. Mater.-Rapid Communications*, **2**(2), 76-80, 2008.
23. Porous nanoarchitectures based on TiO₂ aerogels and Au particles as potential SERS sensor for monitoring of water quality, M. Baia, V. Cosoveanu, V. Danciu, **L. Baia**, *Vib. Spectrosc.*, **48**(2), 206-209, 2008.

24. Synthesis, structural characterization, and photocatalytic properties of iron-doped TiO₂ aerogels, M. Popa, L. Diamandescu, F. Vasiliu, C.M. Teodorescu, V. Cosoveanu, M. Baia, M. Feder, **L. Baia**, V. Danciu, *J. Mater. Sci.*, **44** (2), 358-364, 2009.
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26. Multilayer Structures of Self-Assembled Gold Nanoparticles as a Unique SERS and SEIRA Substrate, M. Baia, F. Toderas, **L. Baia**, L. S. Astilean, *ChemPhysChem*, **10**(7), 1106-1111, 2009.
27. Efficient dual functionality of highly porous nanocomposites based on TiO₂ and noble metal particles, **L. Baia**, L. Diamandescu, L. Barbu-Tudoran, A. Peter, G. Melinte, V. Danciu, M. Baia, *J. Alloys & Comp.*, **509**(6), 2672-2678, 2011.
28. Vibrational spectroscopic studies of germanium-high bismuthate glasses and vitroceramics, O. Ponta, **L. Baia**, M. Baia, S. Simon, *Zeitschrift fur Physikalische Chemie*, **225**(6-7), 647-659, 2011.
29. Photocatalytic activity of highly porous TiO₂-Ag materials, D. Georgescu, Z. Pap, M. Baia, I. C. Fort, V. Danciu, G. Melinte, **L. Baia**, S. Simon, *Studia Universitatis Babeş-Bolyai Chemia*, **3**, 51-58, 2011.
30. Morpho-structural characterization of TiO₂ nanosized powders with photocatalytic potential, M. Baia, M. Scarisoreanu, I. Morjan, I. P. Morjan, L. Baia, V. Cosoveanu, R. Alexandrescu, V. Danciu, *Studia Universitatis Babeş-Bolyai Chemia*, **3**, 5-13, 2011.
31. Hydrogen peroxide versus water synthesis of bioglass-nanocrystalline hydroxyapatite composites, G. Melinte, **L. Baia**, V. Simon, S. Simon, *J. Mater. Sci.*, **46**(23), 7393-7400, 2011.
32. Correlating the visible light photoactivity of N-doped TiO₂ with brookite particle size and bridged - nitro surface species, Zs. Pap, **L. Baia**, K. Mogyorósi, A. Dombi, A. Oszkó, V. Danciu, *Catal. Comm.*, doi: 10.1016/j.catcom.2011.10.003, 2011.
33. Silver effect on the structure of SiO₂-CaO-P₂O₅ ternary system, A. Vulpoi, **L. Baia**, S. Simon, V. Simon, *Mater. Sci. and Eng. C*, doi:10.1016/j.msec.2011.10.015, 2012.

34. Dynamic changes on the surface during the calcination of rapid heat treated TiO₂ photocatalysts, Z. Pap, E. Karácsonyi, Z. Cegléd, A. Dombi, V. Danciu, I. C. Popescu, **L. Baia**, K. Mogyorósi, *Appl. Catal. B: Environmental*, 111-112, 595-604, 2012.
35. Experimental assessment of the phonon confinement in TiO₂ anatase nanocrystallites by Raman spectroscopy, D. Georgescu, **L. Baia**, O. Ersen, M. Baia, S. Simon, *J. Raman Spectrosc.*, doi: 10.1002/jrs.3103, 2012.
36. Bioactivity and protein attachment onto bioactive glasses containing silver nanoparticles, A. Vulpoi, C. Gruian, E. Vanea, **L. Baia**, S. Simon, H.-J., Steinhoff, G. Göller, V. Simon, *J. Biomedical Materials Research - Part A*, **100 A**, (5), 1179-1186, 2012.
37. Gold nanoparticles developed in sol-gel derived apatite - Bioactive glass composites, S. Simon, R. Ciceo-Lucacel, T. Radu, **L. Baia**, O. Ponta, A. Iepure, V. Simon, *J. Mater. Sci.: Materials in Medicine*, **23**(5), 1193-1201, 2012.
38. The anchoring of fibrinogen to a bioactive glass investigated by FT-IR spectroscopy, K. Magyari, K., **L. Baia**, O. Popescu, S. Simon, V. Simon, *Vib. Spectrosc.*, **62**, 172-179, 2012.
39. The photocatalytic activity of TiO₂/WO₃/noble metal (Au or Pt) nanoarchitectures obtained by selective photodeposition, É. Karácsonyi, **L. Baia**, A. Dombi, V. Danciu, K. Mogyorósi, L. C. Pop, G. Kovács, V. Cosoveanu, A. Vulpoi, S. Simon, Zs. Pap, *Catal. Today*, DOI: 10.1016/j.cattod.2012.09.038, 2013.
40. TiO₂/WO₃/Au/MWCNT composite materials for photocatalytic hydrogen production: advantages and draw-backs, Zs. Pap, É. Karácsonyi, **L. Baia**, L. C. Pop, V. Danciu, K. Hernádi, K. Mogyorósi, A. Dombi, *Phys. Status Solidi B.*, DOI: 10.1002/pssb.201200095, 2013.
41. New insights regarding the calcination as a critical parameter in the synthesis of sol-gel made titania powders, K. Mogyorósi, É. Karácsonyi, Zs. Cegléd, A. Dombi, V. Danciu, **L. Baia**, Zs. Pap, *J Sol-Gel Sci Technol.* DOI: 10.1007/s10971-012-2897-1, 2013.
42. Behavior of gold nanoparticles in a titania aerogel matrix: Photocatalytic activity assessment and structure investigations, Zs. Pap, A. Radu, I. J. Hidi, G. Melinte, L. Diamandescu, T. Popescu, **L. Baia**, V. Danciu, M. Baia, *Chinese J.Catalysis*, **34**(4), 734-740, 2013.

43. Weighting the influence of TiO₂ anatase/brookite ratio in TiO₂-Ag porous nanocomposites on visible photocatalytic performances, V. Iancu, M. Baia, L. Diamandescu, Zs. Pap, A. M. Vlaicu, V. Danciu, **Baia, L.**, *Materials Chemistry and Physics*, **141**(1), 234-239, 2013.
44. Photocatalytic Efficiency of Zeolite-Based TiO₂ Composites for Reduction of Cu (II): Kinetic Models, Peter, A., Mihaly-Cozmuta, L., Mihaly-Cozmuta, A., Nicula, C., Barbu Tudoran, L., Vulpoi, A., **Baia, L.**, *Int. J. Appl. Ceramic Tech.*, DOI: 10.1111/ijac.12046, 2013.
45. The study of the structure and bioactivity of the B₂O₃•Na₂O•P₂O₅ system, I. J. Hidi, G. Melinte, R. Stefan, M. Bindea, **L. Baia**, *J. Raman Spectrosc.*, **44**, 1187-1194, 2013.

e) Publicatii in extenso aparute in lucrari ale unor conferinte internationale

1. Synthesis and nanostructural characterization of TiO₂ aerogels for photovoltaic devices, **L. Baia**, A. Peter, V. Cosoveanu, E. Indrea, M. Baia, J. Popp, V. Danciu, *Thin Solid Films*, **511-512**, 512-516, 2006.
Symposium on Thin Film and Nanostructured Materials for Photovoltaics held at the 2005 EMRS Meeting Location: Strasbourg, FRANCE Date: MAY 31-JUN 03, 2005.
2. Iron doped and undoped TiO₂ catalysts for advanced water treatment, V. Danciu, M. Popa, Z. Pap, **L. Baia**, M. Baia, V. Cosoveanu, F. Vasiliu, L. Diamandescu, M. Feder, R. Alexandrescu,
e-Proceeding of the 1st International Conference Environmental Applications of Advanced Oxidation Processes (EAAOP-1), Chania, Grecia, 2006, P041-49.
3. Tunable Surface-Enhanced Raman Scattering (SERS) from Noble Metal Films Deposited on Polystyrene Colloidal Crystal and Nanoparticle Arrays Fabricated by Nanosphere Litography, S. Astilean, M. Baia, **L. Baia**, C. Farcau, D. Maniu,
Meeting Digest of the EOS Topical Meeting on Molecular Plasmonic Devices, Engelberg, Elvetia 2006, pp. 74-76.
4. Self-assembled multilayers of gold nanoparticles as versatile platforms for molecular sensing by Fourier transform-surface enhanced scattering (FT-SERS) and surface

- enhanced infrared absorption (SEIRA), F. Toderas, S. Boca, M. Baia, **L. Baia**, D. Maniu, S. Astilean, S. Simon, *J. Opto. Adv. Mater.*, **9**(3), 625-628, 2007.
- International Conference on Advanced Spectroscopies on Biomedical and Nanostructured Systems Location: Cluj Napoca, ROMANIA Date: SEP 03-06, 2006
5. Evaluating the thermal treatment parameters effect on the anatase nano crystallites size of titania aerogels, **L. Baia**, M. Baia, A. Peter, V. Cosoveanu, V. Danciu, *J. Opto. Adv. Mater.*, **9**(3), 668-671, 2007.

International Conference on Advanced Spectroscopies on Biomedical and Nanostructured Systems Location: Cluj Napoca, ROMANIA Date: SEP 03-06, 2006

 6. Structural properties of some transition metal highly doped carbon aerogels, L.C. Cotet, M. Baia, **L. Baia**, I.C. Popescu, V. Cosoveanu, E. Indrea, J. Popp, V. Danciu, *J. Alloys & Comp.* **434-435**, 854-857, 2007.

12th International Symposium on Metastable and Nano-Materials (ISMANAM-2005) Location: Paris, FRANCE Date: JUL 03-07, 2005.

 7. Synthesis, morpho-structural and photocatalytic properties of TiO₂ aerogel–Au colloidal particle composites, A. Peter, **L. Baia**, F. Vasiliu, L. Diamandescu, M. Baia, V. Cosoveanu, I. C. Popescu, M. Feder, V. Danciu, Proceedings of the 5th Conference New Research Trends in Material Science ARM-5, Sibiu, Romania, 2007, pp. 799-803.
 8. Multiwalled carbon nanotubes in carbon aerogel highly doped with iron, M. Baia, L. C. Cotet, **L. Baia**, L. Barbu-Tudoran, V. Cosoveanu, V. Danciu, J. Popp, JOAM-Symposia, 9-12, 2008.

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RENEWABLES, GREEN BUILDING, SMART GRID, STORAGE, AND WATER, 298-301, 2008.

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11. Photocatalytic Activity Assessment of Some Transition Metal Doped Titania Aerogels via Morpho-Structural Analysis, M. Popa, **L. Baia**, C. Ghica, M. Baia, E. Indrea, V. Danciu, CLEAN TECHNOLOGY 2008: BIO ENERGY, RENEWABLES, GREEN BUILDING, SMART GRID, STORAGE, AND WATER, 388-391, 2008.

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12. TiO₂-Ag Porous Nanocomposites for Advanced Photocatalytic Processes, **L. Baia**, M. Baia, F. Vasiliu, L. Diamandescu, A. Peter, V. Cosoveanu, V. Danciu, CLEAN TECHNOLOGY 2008: BIO ENERGY, RENEWABLES, GREEN BUILDING, SMART GRID, STORAGE, AND WATER, 683-686, 2008.

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13. Highly porous nanocomposites based on TiO₂-noble metal particles for sensitive detection of water pollutants by SERS, M. Baia, G. Melinte, L. Barbu-Tudoran, L. Diamandescu, V. Iancu, V. Cosoveanu, V. Danciu, **L. Baia**, *Journal of Physics: Conference Series* **304** 012059 doi:10.1088/1742-6596/304/1/012059, 2011.

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14. The Influence of the Au Nanoparticles Dimension on the Photocatalytic Performances of TiO₂-Au Porous Composites, G. Melinte, M. Baia, D. Georgescu, **L. Baia**, V. Iancu, L. Diamandescu, T. Popescu, L. C. Cotet, L. Barbu-Tudoran, V. Danciu, S. Simon, S., ACTA PHYSICA POLONICA A **121**(1), 208-210, 2012,

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f) Articole publicate in reviste necotate ISI

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3. Shallow localized states in CdS thin layers by conductivity and Hall effect measurements, Gh. Cristea, E. Indrea, S. Colis, **L. Baia**, *Rom. J. Phys.*, **48**(7-10), 915-919, 2003.
4. Structural investigations of iron doped Bi₂O₃-GeO₂ glasses by means of micro-Raman and infrared spectroscopies, **L. Baia**, R. Stefan, W. Kiefer, S. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **XLVIII**, 2, 476-478, 2003.
5. Optical and structural investigations of ordered metallic nanostructures for SERS experiments, M. Bolboaca, **L. Baia**, I. Chicinas, D. Maniu, T. Iliescu, S. Astilean, *Studia Universitatis Babes-Bolyai, Physica*, **XLVIII**, 2, 357-359, 2003.
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7. IR and Raman investigations of B₂O₃-Bi₂O₃-Fe₂O₃ glasses and glass ceramics, **L. Baia**, R. Stefan, S. Simon, *Asian Chemistry Letters*, **7**(4), 171-176, 2004.
8. IR and Raman spectroscopic investigations of the iron doping effect on the structure of phosphate glasses, **L. Baia**, D. Muresan, E. Burean, V. Simon, W. Kiefer, S. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **XLIX**, 3, 101-104, 2004.
9. Infrared absorption, Raman and SERS investigations of 2,1-benzisoxazole, M. Baia, **L. Baia**, *Studia UBB, Physica*, **L** 2, 113-122, 2005.
10. Synthesis and morpho-structural investigations of titania-collagen aerogels based biocomposites, **L. Baia**, V. Trandafir, V. Danciu, M. Baia, V. Cosoveanu, J. Popp, *Asian J. Phys.*, **15**(2), 201-207, 2006.
11. Synthesis and structural characterization of SiO₂-CaO-P₂O₅ sol-gel derived bioglasses, G. Melinte, M. Tamasan, **L. Baia**, V. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **LIV**, 2, 9-14, 2009.

12. Nanosize Effect In TiO₂ Porous Nanostructures, D. Georgescu, **L. Baia**, S. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **LIV**, 2, 33-40, 2009.
13. Synthesis and morpho-structural analysis of TiO₂-Au composites, V. Iancu, G. Melinte, **L. Baia**, L. Barbu-Tudoran, C. Cotet, V. Danciu, V. Cosoveanu, M. Baia, *Studia Universitatis Babes-Bolyai, Physica*, **LVI**, 2, 69-78, 2010.
14. Annealing induced textural particularities on TiO₂-Au nanocomposites, G. Melinte, M. Baia, V. Danciu, **L. Baia**, *Studia Universitatis Babes-Bolyai, Physica*, **LVI**, 2, 2011.
15. Phosphorus effect on the textural properties of sol-gel Si₂O-CaO-P₂O₅ bioactive glass system, K. Magyari, **L. Baia**, O. Popescu, S. Simon, V. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **LVII**, 2, 31-39, 2012.
16. Study of lyophilized fibrinogen, collagen and serum albumin by Fourier Transform Infrared Spectroscopy, K. Magyari, **L. Baia**, O. Popescu, S. Simon, V. Simon, *Studia Universitatis Babes-Bolyai, Physica*, **LVII**, 2, , 91-98, 2012.
17. Structural properties of porous composites based on TiO₂ and Ag nanoparticles and their capability to detect water by pollutants by SERS, A. Radu, I. J. Hidi, V. Iancu, **L. Baia**, and M. Baia, *Studia Universitatis Babes-Bolyai, Physica*, **LVII**, 1, 77 – 85, 2012
18. Nanoarchitectures based on TiO₂ aerogels and noble metal particles for chemical pollutants detection, V. Iancu, **L. Baia**, V. Danciu, M. Baia, *Asian Chem Letters*, **16**(3), 2012.