

Publications list_Habil. Prof. Dr. Simona Cavalu

a) Books (international)

1. I. Antoniac, **Simona Cavalu**, St. Voicu (Eds), *Biomaterials and regenerative biomedicine*, Trans Tech Publications Zurich (2016) ISBN 978-3-03835-567-0, 320 pg.
2. I. Antoniac, **Simona Cavalu**, T. Traistaru (Eds) *Bioceramics*, vol.25, Trans Tech publications Zurich (2013) ISBN 13 978-3-03785-899-8, 420 pg.

b) Papers in International journals (ISI indexed):

1. **Simona Cavalu**, J. Prokisch, V. Laslo, Simona Vicas, *Preparation, structural characterization and release study of novel hybrid microspheres entrapping nanoselenium, produced by green synthesis*, IET Nanobiotechnology 2016, doi: 10.1049/iet-nbt.2016.0107, www.ietdl.org
2. A.K. Turkmen, **Simona Cavalu**, G. Goller, *Development of Chitosan-Hydroxyapatite-Fibrinogen 3D Scaffolds For Bone Tissue Regeneration*, Journal of The Australian Ceramic Society, 52[1], 2016, 34 – 41.
3. C. Ratiu, **S. Cavalu**, V. Miclaus, V. Rus, G. Lazarescu, *Histological evidence of novel ceramic implant: evaluation of tolerability in rabbit femur*, Rom J Morphol Embryol 2015, 56(4):1455–1460.
4. **S. Cavalu**, A. Popa, I. Bratu, Gh. Borodi, A. Maghiar, *New evidences of key factors involved in “silent stones” ethiopathogenesis and trace elements: microscopic, spectroscopic and biochemical approach*, Biol. Trace Elem Res, 168[2] (2015) 311-320.
5. **Simona Cavalu**, C. Ratiu, O. Ponta, V. Simon, D. Rugina, V. Miclaus, I. Akin, G. Goller, *Improving osseointegration of alumina/zirconia ceramic implants by fluoride surface treatment*, Digest Journal of Nanomaterials and Biostructures Vol. 9, No. 2 (2014) 797–808.
6. O. Ormanci, I. Akin, F. Sahin, O. Yucel, V. Simon, **Simona Cavalu**, G. Goller, *Spark Plasma sintered Al_2O_3 -YSZ- TiO_2 composites: Processing, characterization and in vivo evaluation*, Materials Science and Engineering C, 40 (2014) 16-23.
7. **Simona Cavalu**, V. Simon, I. Akin, G. Goller, *Adherence properties of acrylic bone cement to alumina ceramics designed for clinical application*, Acta Physica Polonica A, nr.2, vol.125 (2014) 603-605.
8. **Simona Cavalu**, V. Simon, F. Banica, I. Akin, G. Goller, *Surface modification of alumina/zirconia bioceramics upon different fluoride-based treatments*, Int. J. Appl. Ceram. Technol., 11 [2] 2014, 402–411.
9. **Simona Cavalu**, V. Simon, F. Banica, C. Gruian, E. Vanea, *Spectroscopic and microscopic investigation of bioactive glasses for antibiotic controlled released*, Journal of Molecular Structure, 1040 (2013) 47–52.
10. E. Vanea, C. Moraru, A. Vulpoi, **Simona Cavalu**, V. Simon, *Freeze-dried and spray-dried zinc-containing silica microparticles entrapping insulin*, Journal of Biomaterials Applications, 28(8) 2014, 1190-1199.
11. **S. Cavalu**, V. Simon, F. Banica, I. Oswald, E. Vanea, I. Akin, G. Goller, *Spectroscopic evidence of collagen electrodeposition on acrylic bone cement*, Studia UBB Chemia, LVI, 3, 2011, 27-33.
12. E. Vanea, **S. Cavalu**, F. Banica, Z. Benyey, G. Goller, V. Simon, *Adsorption and release studies of tetracycline from bioactive glass*, Studia UBB Chemia, LVI, 3, 2011, 239-246.
13. **S. Cavalu**, V. Simon, G. Goller, I. Akin, *Bioactivity and antimicrobial properties of PMMA/ Ag_2O acrylic bone cements collagen coated*, Digest J. Nanomaterials and Biostructures, 6[2], 2011, 779-790.
14. **S. Cavalu**, V. Simon, F. Banica, *In vitro study of collagen coating by electrodeposition on acrylic bone cement with antimicrobial potential*, Digest J. Nanomaterials and Biostructures, 6[1] 2010, 87-97.
15. E. Marian, **S. Cavalu**, T. Jurca, F. Banica, I. Bratu, *Synthesis, spectroscopic behavior and scanning electron microscopy of new complexes of theophylline with some transitional metallic ions*, Farmacia 58[6], 2010, 749-757.
16. Simon V., **Cavalu S.**, Mocuta H., Vanea E., Prinz M., Neumann M., *Surface functionalization of sol-gel derived aluminosilicates in simulated body fluids*, Solid State Ionics, vol.180, issues 9-10, 2009, 764-769.
17. T. Jurca, E. Marian, **S. Cavalu**, *Raman and SERS investigation of new synthesized nicotinic acid metallic complexes* Revista de Chimie, 3, 2009, 320-322.
18. **Cavalu S.**, Simon V., *Proteins adsorption to orthopedic biomaterials-vibrational spectroscopic evidence*, J. Optoelectronics and Advanced Materials, 9 (11) 2007, 3297-3302.

19. **Cavalu S.**, Cîntă Pînzaru S., Peica N., Damian G., Kiefer W., *Adsorption behavior of hyaluronidase onto silver nanoparticles and PMMA bone substitute*, J. Optoelectronics and Advanced Materials, 9[3] 2007, 689-693.
20. **Cavalu S.**, Simon V., Albon C., Hozan C., *Bioactivity evaluation of new silver doped bone cement for prosthetic surgery*, J. Optoelectronics and Advanced Materials, 9[3] 2007, 693-697.
21. **Cavalu S.**, Simon V., *Microstructure and bioactivity of acrylic bone cements for prosthetic surgery*, J. Optoelectronics and Advanced Materials, 8[4] 2006, 1520-1523.
22. **Cavalu S.**, *Complementary EPR spin label and Fourier deconvolution techniques studying the conformation and stability of pharmaceutical protein formulations*, Revista de Chimie, 57[2] 2006, 198-202.
23. **Cavalu S.**, *On the conformation and stability of pharmaceutical protein formulations by complementary spin label and Fourier deconvolution techniques*, Asian J. Physics, 15[2], 2006, 141-149.
24. Jurca T., **Cavalu S.**, Damian G., Banica F., *ATR- FTIR Studies of transitional nicotinamide metallic complexes*, Revista de Chimie, ISSN 0034-7752, vol.55, nr.7, pp.492-495, 2004.
25. **Cavalu S.**, Damian G., *Rotational correlation times of 3-carbamoyl-2,2,5,5-tetramethyl-3 pyrrolin-1-yloxy spin label with respect to heme and nonheme proteins*, Biomacromolecules, vol 4, No.6, 2003, 1630-1635.
26. **Cavalu S.**, Damian G., Dansoreanu M., *EPR study of non-covalent spin labeled serum albumin and hemoglobin*, Biophysical Chemistry, vol.92, issue 2, 2002, 181-188.
27. **Cavalu S.**, Canta Panzaru S., Leopold N., Kiefer W., *Raman and surface enhanced Raman spectroscopy of labeled proteins: serum albumin and cytochrome c*, Biopolymers, vol.62, issue 6, 2001, 341-348.
28. Canta Panzaru S., **Cavalu S.**, Leopold N., Petry R., Kiefer W., *Raman and surface enhanced Raman spectroscopy of tempyo spin labeled ovalbumin*, J. Mol. Structure, vol. 565-566, 2001, 225-229.

c) International Data Base and Proceedings articles

1. A. Porumb, C. Ratiu, **S. Cavalu**, A. Muntean, *The assesment of ceramic dental materials during the treatment of severe adult cleft palate: a case study*, Key Engineering Materials vol. 695 (2016) 46-49.
2. C. A. Ratiu, **S. Cavalu**, G. Lazarescu, A. Porumb, *Immediate loading of dental implants - a case study*, Key Engineering Materials vol. 695 (2016) 31-34.
3. C. A. Ratiu, **S. Cavalu**, *Zirconia Neck Implants vs Bone Augmentation*, Key Engineering Materials vol. 695 (2016) 35-40.
4. **Simona Cavalu**, V. Laslo, F. Banica, S. Vicas, *Naturally derived matrix for controlled selenium nanoparticles delivery*, Key Engineering Materials vol. 695 (2016) 284-288.
5. L. Bandici, S. Vicas, G. E. Bandici, A. C. Teusdea, **Simona Cavalu**, *Bioactive compounds diffusion from grapes to wines under high frequency electromagnetic field treatments*, Key Engineering Materials vol. 695 (2016) 289-294.
6. **Simona Cavalu**, V. Simon, C. Ratiu, I. Oswald, S. Vlad, O. Ponta, *Alternative Approaches Using Animal Model for Implant Biomaterials: Advantages and Disadvantages*, Key Engineering Materials Vol. 583 (2014) 101-106.
7. I. Oswald, **Simona Cavalu**, A. Bumbu, C. Brisc, S. Vlad, É. Todoruț , O. Pop, *New Devices for Optimization of Renoureteral Lithiasis Treatment using ESWL*, Key Engineering Materials Vol. 583 (2014) 155-159.
8. **S. Cavalu**, V. Simon, C. Ratiu, V. Rus, I. Akin, G. Goller, *Titania versus ceria alumina zirconia composites: structural aspects and biological tolerance*, Key Engineering Materials Vols. 529-530 (2013) 595-600.
9. C. Ratiu, **S. Cavalu**, V. Miclaus, *Autologous Bone vs. Allograft Bone in Ridge Augmentation*, Key Engineering Materials Vols. 529-530 (2013) 270-274.

10. **S. Cavalu**, V. Simon, C. Ratiu, O. Ponta, I. Akin, G. Goller, Biological tolerance and osseointegration of new bioceramics for arthroplasty applications, *European Cells and Materials* Vol. 24. Suppl. 1, 2012 (page 41).
11. C. Ratiu, **S. Cavalu**, Porous Titanium to accelerate bone regeneration for oral implantology, *European Cells and Materials* Vol. 24. Suppl. 1, 2012 (page 60).
12. V Simon, S Cavalu, I Akin, G Goller, Structural characterisation of compact and porous alumina-zirconia composites, *European Cells and Materials* Vol. 24. Suppl. 1, 2012 (page 63).
13. **S. Cavalu**, V. Simon, C. Ratiu, I. Oswald, R. Gabor, O. Ponta, I. Akin, G. Goller, *Correlation between structural properties and in vivo biocompatibility of alumina/zirconia bioceramics*, Key Engineering Materials vols. 493-494 (2012) 1-6.
14. **S. Cavalu**, V. Simon, I. Akin, G. Goller, *Improving the bioactivity and biocompatibility of acrylic cements by collagen coating*, Key Engineering Materials vols. 493-494, (2012) 391-396.
15. C. Ratiu, **S. Cavalu**, V. Miclaus, C. Ober, I. Ratiu, O. Ponta, *Grafting materials for major sinus lift*, Key Engineering Materials vols. 493-494 (2012) 609-614.
16. Z. Benyey, E. Vanea, T. Simon, **S. Cavalu**, V. Simon, *Tetracycline loading and release from bioactive glass microspheres*, Studia UBB Physica LVI, 2, (2011) 15-23.
17. V. Simon, **S. Cavalu**, I. Akin, O. Yucel, G. Goller, *XRD and FTIR investigation of zirconia-toughened composites*, Studia UBB Physica nr.1 (2011) 67-73.
18. I. Oswald, **S. Cavalu**, T.T. Maghiar, D. Osvat, *Identification of the urinary stone composition upon extracorporeal shock wave lithotripsy*, Rom. J. Biophys. Vol. 21/2 (2011)107-112.
19. **S. Cavalu**, A. Pirte, *Microscopic and spectroscopic analysis of interface formation in dental restoration using Zr/Si composite*, Journal of Optoelectronics and Biomedical Materials, Vol. 1/1(2010) 5 –11.
20. **S. Cavalu**, F. Banica, V. Simon, *Comparison between nanostructured aluminosilicate systems with yttrium /dysprosium and iron: structural investigation and biocompatibility evaluation*, J Optoelectronics and Advanced Materials- Symposia, vol.2, nr.1 (2010) 140-145.
21. F. Banica, **S. Cavalu**, C. Moisa, E. Marian, T. Jurca, R. Sandulescu, *The construction and evaluation of an carbon paste selective diazepam electrode for the potentiometric titration of diazepam(II)*, Timisoara Medical Journal, Vol 58, Supliment 2 (2008) 15-20.
22. **S. Cavalu**, V. Simon, F. Banica, C. Deleanu, *Fibrinogen adsorption onto bioglass aluminosilicates*, Rom. J. Biophys, 17, 4 (2007) 237–245.
23. **S. Cavalu**, S. Canta –Panzaru, V. Chis, *Captopril adsorption to silver nanostructures*, Rom. J. Biophys. 17, 3(2007) 195-203.
24. **S. Cavalu**, V. Miclaus, N. Vedeanu, C. M. Lucaciu, *EPR and ATR FTIR investigation of lyophilized cytochrome c at different pH*, Rom. J. Biophysics, vol.17, 3 (2007) 139-148.
25. **Cavalu S.**, Simon V., Banica F., *Iron influence on structure and biocompatibility of aluminosilicate bioglasses*, European Biophys J., ISSN 0175-7571 , 36, Suppl 1, S 206, 2007. IF=2.437.
26. **S. Cavalu**, *On the conformation and stability of pharmaceutical protein formulations by complementary spin label and Fourier deconvolution techniques*, Asian J. Physics, vol. 15, No 2(2006) 141-149.
27. G. Damian, **S. Cavalu**, *Comparative study of amide I and amide III bands of ovalbumin and bovine serum albumin by FTIR spectroscopy*, Asian Chemistry Letters, vol 9, No 1-2 (2005)3-7.
28. **S. Cavalu**, S. Canta-Panzaru, *Qualitative and quantitative aspects in analysis of ginseng pharmaceuticals using vibrational spectroscopy*, Romanian J. Biophysics, no. 15, vol.1-4 (2005) 61-66.
29. **S. Cavalu**, *Qualitative and quantitative second derivative FT-IR investigation regarding the starch and saponine content in Ginseng species*, Farmacia nr.6 (2005) 56-61.
30. **S. Cavalu**, G. Damian, S. Cinta-Pinzaru, T. Jurca, *Analysis of amide I and III bands of bovine serum albumine by ATR-FTIR and Raman spectroscopy*, Studia Universitatis Physica, XLIX, 3(2004)17-23.

31. T. Jurca, **S. Cavalu**, S. Cinta-Pinzaru, V. Simon, F. Banica, *Vibrational FTIR, FTRaman and EPR studies of pyrazinamide and complex combination with Cu(II)*, Studia Universitatis Physica, XLIX, 3 (2004) 63-71.
32. **B27.** E. Marian, T. Jurca, F. Banica, **S. Cavalu**, T.S. Nemeth, *Spectroscopic behavior of copper complexes of tolbutamide*, Studia Universitatis Physica, XLIX, 3 (2004) 71-75.
33. T. Jurca, V. Chis, V. Simon, **S. Cavalu**, F. Banica, *Synthesis and spectroscopic characterization of pyrazinamide and its complex combination with CuCl₂*, Farmacia vol. LIII NR.4,(2004) 80-85.
34. **S. Cavalu**, *Practical aspects of Fourier transform infrared spectroscopic analysis of proteins*, Archives of the Balcan Medical Union, nr.3, vol.39 (2004) 5-9.
35. **S. Cavalu**, T. Jurca, *Free radicals in cytostatic drugs*, Archives of the Balcan Medical Union, nr.3,vol. 39 (2004)123-127.
36. G. Damian, **S. Cavalu**, M. Dansoreanu, S. Imre, C.M. Lucaciu., *Characterization and free radical kinetics of some gama-irradiated antiemetic drugs*, Farmacia nr.3, vol.LII, (2004) 81-89.
37. **Cavalu S.**, Canta-Panzaru S., *Advantages and shortcoming in FT-Raman and SERS/SERRS of hemic proteins*, Timisoara Medical Journal vol.53, suppl.2 (2003) 45-51.
38. **Cavalu S.**, *Advantages and shortcoming in FT-Raman and Surface enhanced Raman scattering of different enzymes*, Studia Universitatis Babes-Bolyai, Physica, issue 2, XLVIII (2003) 457-459.
39. T. Jurca, **S. Cavalu**, S. Cinta Pinzaru, V. Simon, *Vibrational and EPR analysis of new complexes of pyrazinamide with Cu(II)*, Studia Universitatis Babes-Bolyai, Physica, issue2, XLVIII (2003) 457-459.
40. **Cavalu S.**, Jurca T., Chis V., *Efecte ale iradierii gamma in antiinflamatoare*, Farmacia nr.3, vol.LI (2003) 83-91.
41. Damian G., **Cavalu S.**, *Investigation of some gamma irradiated citostatic drugs*, Farmacia nr.4, vol.LI,(2003) 99-106.
42. **Cavalu S.**, Jurca T., Damian G., *Synthesis and spectroscopic studies of metallic nicotinamide complexes*, Farmacia nr.3, vol.LI (2003) 92-99.
43. E. C. Gagyi , **S. Cavalu**, M. Tripsa, C. Tarmure, *The study of superoxide dismutase from Hordeum Vulgare*, Farmacia,vol. XLIX, nr. 3, (2001)65-72.
44. **Cavalu S.**, Simon S., Damian G., Dansoreanu M., Lucaciu C.M., *Correlation time and magnetic interactions between tempyo spin label and blood proteins*, Studia Universitatis Babes-Bolyai, Physica, XLVI, 1(2001) 21-29.
45. **Cavalu S.**, Canta-Panzaru S., Leopold N., Kiefer W., *Vibrational Raman study of free and adsorbed tempyo labeled cytochrome c on silver colloidal surface*, Studia Universitatis Babes-Bolyai, Physica, XLVI, 1(2001)32-38.
46. S. Cinta-Panzaru, **S. Cavalu**, N. Leopold, W. Kiefer, *Hemoglobin and human blood adsorption on silver colloidal particles; Surfaces Enhanced Resonance Raman studies*, Studia Universitatis Babes-Bolyai Physica Special Issue (2001) 458-465.
47. Damian G., **Cavalu S.**, Dansoreanu M., Simon S., Lucaciu C.M., *EPR Investigations of noncovalent spin labeled cytochrome c and ovalbumin*, Studia Universitatis Babes-Bolyai, Physica,Special Issue 2, (2001)465-470.