

List of publications

1. A.S. Tatar, S. Boca, **A. Falamas**, D. Cuibus, C. Farcau (20223), *Self-assembled PVP-gold nanostar films as plasmonic substrates for surface-enhanced spectroscopies: influence of the polymeric coating on the enhancement efficiency*, *Analyst*, 148 (17), 3992-4001
2. C.M. Muntean, D. Cuibus, S. Boca, **A. Falamas**, N. Tosa, I.A. Brezestean, A. Bende, L. Barbu-Tudoran, R. Moldovan, E. Bodoki, C. Farcau (2023), *Gold vs. Silver Colloidal Nanoparticle Films for Optimized SERS Detection of Propranolol and Electrochemical-SERS Analyses*, *Biosensors-Basel*, 13 (5), 530
3. **A. Falamas**, D. Cuibus, N. Tosa, I. Brezestean, C.M. Muntean, K. Milenko, E. Vereshchagina, R. Moldovan, E. Bodoki, C. Farcau (2023), *Toward microfluidic SERS and EC-SERS applications via tunable gold films over nanospheres*, *Discover Nano*, 18 (1), 73
4. **A. Falamas**, I. Marica, F. Nekvapil, M. Stefan, G.S. Macavei, L. Barbu-Tudoran, C. Farcau (2023), *Surface enhanced fluorescence potential of ZnO nanoparticles and gold decorated ZnO nanostructures embedded in a polyvinyl alcohol matrix*, *Journal of Photochemistry and Photobiology A-Chemistry*, 438, 114516
5. M. Stefan, A. Popa, D. Toloman, C. Leostean, L. Barbu-Tudoran, **A. Falamas** (2023), *Enhanced Plasmonic Photocatalysis of Au-Decorated ZnO Nanocomposites*, *Inorganics*, 11 (4), 157
6. I. Marica, M. Stefan, S. Boca, **A. Falamas**, C. Farcau (2023), *A simple approach for coffee-ring suppression yielding homogeneous drying patterns of ZnO and TiO₂ nanoparticles*, *Journal of Colloid and Interface Science*, 635, 117-127
7. C. Lar, S. Radu, E. Gal, **A. Falamas**, J.Z. Szucs-Balazs, C. Filip, A. Petran (2022), *Novel Synthetic Dopamine Analogues: Carbon-13/Nitrogen-15 Isotopic Labeling and Fluorescence Properties*, *Analytical Letters*, 56 (2), 170-182
8. A. Bende, A.A. Farcas, **A. Falamas**, A. Petran (2022), *New insight into catechol photochemistry: the role of different monomer and dimer configurations in radiation-less decay of the S-1 electronic excited state*, *Physical Chemistry Chemical Physics*, 24(47), 29165-29175

9. C.I. Faur, **A. Falamas**, M. Chirila, R.C. Roman, H. Rotaru, M.A. Moldovan, S. Albu, M. Baciut, I. Robu, M. Hedesiu (2022), *Raman spectroscopy in oral cavity and oropharyngeal cancer: a systematic review*, International Journal of Oral and Maxillofacial Surgery, 51(11), 1373-1381
10. C.M. Muntean, R. Stefan, A. Taraban, A. Bende, **A. Falamas**, L.E. Olar (2022), *Characterization of the Structural Changes of the Genomic DNA of Staphylococcus aureus Due to Femtosecond Laser Irradiation by Fourier Transform Infrared (FT-IR) Spectroscopy*, Analytical Letters, DOI 10.1080/00032719.2023.2222002
11. **A. Falamas**, I. Marica, A. Popa, D. Toloman, S. Pruneanu, F. Pogacean, F. Nekvapil, T. D. Silipas, M. Stefan (2022), *Size-dependent spectroscopic insight into the steady-state and time-resolved optical properties of ZnO photocatalysts*, Materials Science in Semiconductor Processing, 145, 106644
12. R. Moldovan, E. Vereshchagina, K. Milenko, B. C. Iacob, A. E. Bodoki, **A. Falamas**, N. Tosa, C. M. Muntean, C. Farcau, E. Bodoki (2022), *Review on combining surface-enhanced Raman spectroscopy and electrochemistry for analytical applications*, Analytica Chimica Acta, 1209, 339250
13. I. Marica, F. Nekvapil, M. Stefan, C. Farcau, **A. Falamas** (2022), *Zinc oxide nanostructures for fluorescence and Raman signal enhancement: a review*, Beilstein Journal of Nanotechnology, 53(5), 872-879
14. **A. Falamas**, A. Petran, A. M. Hada, A. Bende (2022), *Dopamine Photochemical Behaviour under UV Irradiation*, International Journal of Molecular Sciences, 23(10), 5483
15. F. Nekvapil, M. Stefan, I. Marica, **A. Falamas** (2022), *A novel observation upon the near-resonant Raman excitation of zinc oxide nanoparticles: Widening of the E-2(high) band*, Journal of Raman Spectroscopy, 53(5), 872-879
16. M. Stefan, C. Leostean, D. Toloman, A. Popa, S. Macavei, **A. Falamas**, R. Suci, L. Barbu-Tudoran, O. Marincas, O. Pana, (2021), *New emerging magnetic, optical and photocatalytic properties of Tb doped TiO₂ interfaced with CoFe₂O₄ nanoparticles*, Applied Surface Science, 570, 151172
17. C.M. Muntean, R. Stefan, A. Tabaran, C. Tripon, A. Bende, **A. Falamas**, L. M. Colobatiu, L. E. Olar, (2021), *The Influence of UV Femtosecond Laser Pulses on Bacterial DNA Structure, as Proved by Fourier Transform Infrared (FT-IR) Spectroscopy*, ChemistrySelect, 6(27), 6957-6972
18. C.M. Muntean, N.E. Dina, I. Bratu, **A. Falamas**, S. Nitu, A. Halmagyi, A. Coste, (2021), *Effects of Femtosecond UV Laser Pulses on the Structure and Surface Dynamics of Medicinal Plants DNA, Monitored by Surface-Enhanced Raman Spectroscopy*, Journal of Molecular Structure, 1239, 130482
19. **A. Falamas**, C.I. Faur, S. Ciupe, M. Chirila, H. Rotaru, M. Hedesiu, S.C. Pinzaru, (2021), *Rapid and noninvasive diagnosis of oral and oropharyngeal cancer based on micro-Raman and FT-IR spectra of saliva*, Spectrochimica Acta Part A-Molecular and Biomolecular Spectroscopy, 119477

20. **A. Falamas**, C.I. Faur, M. Baciut, H. Rotaru, M. Chirila, S.C. Pinzaru, M. Hedesiu, (2021), *Raman Spectroscopic Characterization of Saliva for the Discrimination of Oral Squamous Cell Carcinoma*, Analytical Letters, 54(1-2), 57-69
21. A.S. Porav, M. Bocaneala, **A. Falamas**, D.F. Bogdan, L. Barbu-Tudoran, A. Hegedus, N. Dragos, (2020), *Sequential aqueous two-phase system for simultaneous purification of cyanobacterial phycobiliproteins*, Bioresource Technologies, 315, 123794
22. **A. Falamas**, H. Rotaru, M. Hedesiu, (2020), *Surface-enhanced Raman spectroscopy (SERS) investigations of saliva for oral cancer diagnosis*, Lasers in Medical Science, 35(6), 1393-1401
23. **A. Falamas**, S.A. Porav, V. Tosa, (2020), *Investigations of the Energy Transfer in the Phycobilisome Antenna of Arthrospira platensis Using Femtosecond Spectroscopy*, Applied Sciences-Basel, 10(11), 4045
24. C.M. Muntean, N.E. Dina, A. Tabaran, A.M.R. Gherman, **A. Falamas**, L.E. Olar, L. M. Colobatiu, R. Stefan, (2020), *Identification of Salmonella Serovars before and after Ultraviolet Light Irradiation by Fourier Transform Infrared (FT-IR) Spectroscopy and Chemometrics*, Analytical Letters, 54(1-2), 150-172
25. M. Harta, O. Borsai, C.M. Muntean, N.E. Dina, **A. Falamas**, L.E. Olar, K. Szabo, D. Pamfil, R. Stefan, (2020), *Assessment of Genetic Relationships between Streptocarpus x hybridus V. Parents and F1 Progenies Using SRAP Markers and FT-IR Spectroscopy*, Plants-Basel, 9(2), 160
26. **A. Falamas**, V. Tosa, C. Farcau, (2019), *Hybrid architectures made of nonlinear-active and metal nanostructures for plasmon-enhanced harmonic generation*, Optical Materials, 88, 653-666
27. I. Simon, M. Hedesiu, P. Virag, B. Salmon, V. Tarmure, M. Baciut, S. Bran, R. Jacobs, **A. Falamas** (2019), *Raman Micro-Spectroscopy of Dental Pulp Stem Cells: An Approach to Monitor the Effects of Cone Beam Computed Tomography Low-Dose Ionizing Radiation*, Analytical Letters, 52(7), 1097-1111
28. **A. Falamas**, C.A. Dehelan, S. Cinta Pinzaru (2018), *Monitoring of betulin nanoemulsion treatment and molecular changes in mouse skin cancer using surface enhanced Raman spectroscopy*, Vibrational Spectroscopy, 95, 44-50
29. **A. Falamas**, N. Tosa, V. Tosa (2017), *Measuring the frequency chirp of white-light continuum in a pump-probe system*, Journal of Optoelectronics and Advanced Materials, 19(5-6), 291-297
30. C. Marutoiu, I. Bratu, O.F. Nemes, I.I. Dit, R. Comes, C. Tanaselia, **A. Falamas**, M. Miclaus, V.C. Marutoiu, R. Moraru (2017), *Instrumental analysis of materials and topology of the Imperial Gates belonging to the Apahida wooden church, Cluj County*, Vibrational Spectroscopy, 89, 131-136

31. N.E. Dina, C.M. Muntean, N. Leopold, **A. Falamas**, A. Halmagyi, A. Coste (2016), *Structural Changes Induced in Grapevine (Vitis vinifera L.) DNA by Femtosecond IR Laser Pulses: A Surface-Enhanced Raman Spectroscopic Study*, *Nanomaterials*, 6, 96
32. **A. Falamas**, I. Turcu (2016), *Processes in Isotopes and Molecules (PIM 2015)*, 23–25 September 2015, Cluj-Napoca, Romania, *Analytical Letters*, 49(16), 2537-2539
33. **A. Falamas**, N. Tosa, V. Tosa (2015), *Dynamics of laser excited colloidal gold nanoparticles functionalized with cysteine derivatives*, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 162, 207-212
34. A. Khatab, O.M. Lemine, A. Alkaoud, **A. Falamas**, M. Aziz, Y.G. Gobato, M. Henin (2013), *Photoluminescence intensity enhancement in self-assembled In As quantum dots grown on (311)B and (100) GaAs substrates and coated with gold nanoparticles*, *Physica E-Low Dimensional Systems and Nanostructures*, 54, 233-236
35. S.C. Pinzaru, **A. Falamas**, C. Dehelean, C. Morari, M. Venter (2013), *Double Amino Functionalized Ag Nanoparticles as SERS Tags in Raman Diagnostic*, *Croatica Chemica Acta*, 86 (3), 233-244
36. C. Danciu, **A. Falamas**, C. Dehelean, C. Soica, H. Radeke, L. Barbu-Tudoran, F. Bojin, S. Cinta Pinzaru, M.F. Munteanu (2013), *A characterization of four B16 murine melanoma cell sublines molecular fingerprint and proliferation behavior*, *Cancer Cell International* 13, 75
37. S. Cinta Pinzaru, **A. Falamas**, C.A. Dehelean (2013), *Molecular conformation changes along the malignancy revealed by optical nanosensors*, *Journal of Cellular and Molecular Medicine*, 17(2), 277-286
38. O.M. Gui, **A. Falamas**, L. Barbu Tudoran, M. Aluas, B. Giambra, S. Cinta Pinzaru (2013), *Surface-enhanced Raman scattering (SERS) and complementary techniques applied for the investigation of an Italian cultural heritage canvas*, *Journal of Raman Spectroscopy*, 44(2), 277-282
39. **A. Falamas**, S. Kalra, V. Chis, I. Notingher (2013), *Monitoring the RNA Distribution in Human Embryonic Stem Cells using Raman Micro-Spectroscopy and Fluorescence Imaging*, *Processes in Isotopes and Molecules*, AIP Conference Proceedings, 1565, 43-47
40. B. Lekprasert, V. Korolkov, **A. Falamas**, V. Chis, C.J. Roberts, S.J.B. Tendler, I. Notingher (2012), *Investigations of the Supramolecular Structure of Individual Diphenylalanine Nano- and Microtubes by Polarized Raman Microspectroscopy*, *Biomacromolecules*, 13(7), 2181-2187
41. L. Szabo, K. Herman, N.E. Mircescu, **A. Falamas**, L.F. Leopold, N. Leopold, C. Buzumurga, V. Chis (2012), *SERS and DFT investigation of 1-(2-pyridylazo)-2-naphthol and its metal complexes with Al(III), Mn(II), Fe(III), Cu(II), Zn(II) and Pb(II)*, *Spectrochimica Acta Parta: Molecular and Biomolecular Spectroscopy*, 93, 266-273

42. S. Ciurlea, C.A. Dehelean, S.C. Pinzaru, **A. Falamas**, A. Muresan, F. Loghin (2012), *Raman spectroscopy investigations of the CD1 NU/NU mouse skin pre-carcinoma damages*, Farmacia, 60 (3), 448-456
43. **A. Falamas**, S. Cinta Pinzaru, V. Chis, C.A. Dehelean (2011), *Spectroscopic investigations of newly formed betulin-cyclodextrin guesthost type complexes as potential anti skin cancer candidates*, Journal of Molecular Structure, 993 (1-3), 297-301
44. **A. Falamas**, C.A. Dehelean, S. Cinta Pinzaru (2011), *Raman and SERS characterization of normal pathological skin*, Studia Universitatis Babeş-Bolyai Chemia, 56(4), 89-96
45. **A. Falamas**, S. Cinta Pinzaru, C.A. Dehelean, C.I. Peev, C. Soica (2011), *Betulin and its natural resource as potential anticancer drug candidate seen by FT-Raman and FT-IR spectroscopy*, Journal of Raman Spectroscopy, 42(1), 97-107
46. S. Cinta Pinzaru, C.A. Dehelean, **A. Falamas**, N. Leopold, C. Lehene (2010), *Cancer tissue screening using Surface Enhanced Raman Scattering*, Laser Applications in Life Sciences, Proceedings of SPIE, 7376, 73760T
47. **A. Falamas**, C.A. Dehelean, S. Cinta Pinzaru, M.M. Venter (2010), *Raman imaging of in vivo damaged skin tissues from mice specimens*, Studia Universitatis Babeş-Bolyai Chemia, 55 (2), 273-281

Book chapter

1. Cinta Pinzaru S., **Falamas A.**, Dehelean C. A. (2018), *Raman spectroscopy: a key analytical tool for new drugs research and development*, Book chapter in Studies in Natural Products Chemistry (Bioactive Natural Products), volume 61, pages 211-250, Editor Atta-ur-Rahman, Elsevier Science Publishers, Amsterdam

Patents

1. I. Dorobantu, L. Neagu, A. S. Porav, **A. Falamas**, M. Bocaneala, (2020), *Procedeu de separare a anticorpilor specifici din antiseruri policlonale antifolicocianină pe coloană de afinitate utilizând nanoimunosorbentul SiO₂-Ovalbuminaficocianină*, OSIM

Presentations at national and international conferences

1. *ZnO nanoparticles and metal-ZnO nanomaterials as substrates for surface enhanced Raman scattering and surface enhanced fluorescence*, 14th International Conference on Physics of Advanced Materials (ICPAM-14), September 8-15, 2022, Dubrovnik, Croatia

2. *Investigations of the Energy Transfer in the Phycobilisome Antenna of Arthrospira Plantensis Using Time Resolved Absorption and Fluorescence Spectroscopy*, Attosecond Chemistry (Attochem), September 9-11, 2020, on-line
3. *Raman Spectroscopic Characterization of Saliva for the Discrimination of Oral Squamous Cell Carcinoma*, Conferinta Nationala de Biofizica (CNB), June 14-16, 2020, Brasov, Romania
4. *Raman microspectroscopy of stem cells: approach to monitor the CBCT radiation effect*, 13th Greta Pifat Mrzljak International School of Biophysics, September 1-10, 2016, Split, Croatia
5. *My laser experience*, Lasers in Medicine and Lifesciences Summer School, July 18, 2014, Szeged, Hungary
6. *Cancer tissue screening using Surface Enhanced Raman Scattering*, XII International Conference on Laser Applications in Life Sciences (LALS2010), June 9-12, 2010, Oulu ,Finland
7. *Raman and FT-IR imaging of the in-vivo damaged tissue induced by 7,12-dimethylbenzanthracene (DMBA) in mouse models*, National Biophysics Conference (CNB2009), September 1-3, 2009, Cluj-Napoca, Romania