

UNIVERSITATEA BABEȘ-BOLYAI
Facultatea de Fizică
Domeniul de licență: Științe Inginerești Aplicare
Programul de studii: Fizică Tehnologică

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.						
2	Conf dr. Habil Monica Olivia FOÇȘAN 43/19	FLR5609 Aplicațiile laserilor în tehnologie și biofotonică (curs, seminar, laborator)	Universitatea Babes-Bolyai/ Facultatea de Fizica/Fizica Medicala	Fizica	2 cărți (B1) 6 capitole de cărți (B2-B5) 95 lucrări indexate ISI (C1-C74), 4 lucrări neindexate (D1-D2) Teza (A) 4 brevete (E1-E4)	îndeplinit
3						
4						
5						
6						

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

<p>** 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</p>	<p>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.</p>
---	---

Universitatea Babeș Bolyai
 Facultatea de Fizică
 Catedra de Fizică Biomeculară
Conf. dr. Monica Focsan

LISTA

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Synthesis of Gold Nanoparticles and Microfabrication of Protein Structures for Biological Applications

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

1. **Book:** Edited by V. Chis, **M. Focsan**, M. de la Chapelle, R. Fausto, Journal of Molecular Structure Elsevier, Special Issue *Bridging molecules and nanoparticles the way from optical spectroscopy to cancer therapy*, vol 1254F1, 2022.
2. **Book:** **M. Focsan**, *Laser Microfabrication of Proteins for Biological Applications*, Monica Focsan, Editura Alma Mater, 2013, ISBN 978-606-504-164-6
3. **Book Chapter:** R. Borlan, A. Campu, **M. Focsan**, S. Astilean, Synergistic nano-photodynamic therapy/nano-photothermal therapy combination book chapter in NanoPDT Nanomaterials-Enhanced Photodynamic Therapy, - editors Saeid Moghasssemi, Ricardo Bentes Azevedo and Christiani Andrade Amorim, Elsevier 2026, 369-417, ISBN: 978-0-443-40431-3
4. **Book Chapter:** Daria Stoia, **Monica Focsan***, Multifunctional Polymeric Microspheres for Targeted Delivery and NIR-Light Stimulated Release of the Therapeutic Molecule Avastin at Human Retina Level, Biotechnology and Human Enhancement, Present Research and Future Perspectives, editors Luciano De Sio, Eyup Kuntay Turmus, 2025, 79-110, ISBN 978-94-024-2295-5
5. **Book Chapter:** V. Sprincean, A. Chirita, L. Leontie, S. Astilean, **M. Focsan**, A.M. Craciun, A. Paladi, V. Andruh, F. Paladi, Advanced Physical Technologies with the UVS Application in Environment Security, book chapter in Monitoring and Protection of critical infrastructure by unmanned systems, editors P. Daponte and F. Paladi, IOS Press, Amsterdam, 2023, 101- 113, ISBN 978-1-64368-376-8



6. **Book Chapter:** F. Petronella, D. Stoia, Y. Ziai, F. Zaccagnini, V. Scognamiglio, D. Maniu, C. Rinoldi, **M. Focsan**, A. Antonacci, F. Pierini, L. De Sio, Plasmonic-based biosensors for the rapid detection of harmful pathogens, book chapter in *Optical Materials and Applications: Volume 1 Novel Optical Materials*, Edited By: Iam Choon Khoo, Francesco Simoni and Cesare Umeton, World Scientific Publishing, https://doi.org/10.1142/9789811280603_0006, 2023, 155–194, ISBN 978-981-12-8059-7.
7. **Book Chapter:** M. Potara, A. Campu, S. D. Maniu, **M. Focsan***, I. Botiz, S. Astilean, *Advanced nanostructures for microbial contaminants detection by means of spectroscopic methods*, book chapter in *Advanced Nanostructures for Environmental Health*, editors L. Baia, Z. Pap, M. Baia and K. Hernadi, Elsevier Inc (2020) 347 - 384, ISBN: 978-0-12-815882-1. ***All authors contributed equally to this work.**
8. **Book Chapter:** M. Potara, **M. Focsan***, A.M. Craciun, I. Botiz and S. Astilean, *Polymer-coated plasmonic nanoparticles for environmental remediation: synthesis, functionalization and properties*, chapter in *New Polymer Nanocomposites for Environmental Remediation*, eds. C. M. Hussain and M. Ajay, Elsevier, eds. C. M. Hussain and M. Ajay, *Elsevier*, 2018, Pages 361-387, ISBN:9780128110331, ***All authors contributed equally to this work.**

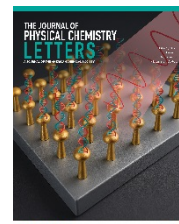
9. Lucrări indexate ISI/BDI publicate în ultimii 10 anii



1. O. Raducu, R. Borlan, A. Holca, A.-M. Craciun, S. Tripon, O. Soritau, G. Chereches, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Tunable gelatin-coated biosynthesized gold nanotriangles: Thermoplasmonic performance and in vitro therapeutic potential via on-demand visible-NIR LED activation, *Colloids and Surfaces B: Biointerfaces*, 262 (2026) 115476 (***corresponding author, IF 5.5**)
2. D. Stoia, A.-M. Craciun, G. Chereches, O. Soritau, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan**, DNA-hybridization on gold nanospheres: a dual-fluorescence investigation of surface loading and strand length effects, *J. Biomed. Opt.*, 31 (2026) 064304 (***corresponding author, IF 2.9**)
3. S. R. Ranamalla, L. Tefas, A. Porfire, E. Licarete, R. P. Parvathaneni, O. P Varghese, A. Sesarman, **M. Focsan***, I. Tomuta, M. Banciu, A quality by design strategy to develop curcumin and siRNA co-loaded lipoplexes to target osteoarthritis-related inflammation and oxidative stress *Int. J. Pharm.*, 691 (2026) 126532 (**IF 5.2**)
4. Q. Liu, A. Azziz, V. Cucuiet, M. Majdinasab, C. Arib, X. Yang, W. Fu, M. Focsan, F. Amiard, M. Edelya, M. Lamy de la Chapelle, Investigating the reproducibility and repeatability of commercial SERS substrates using a new methodological approach, *Anal. Methods* 18 (2026) 1917-1927 (**IF 2.7**)
5. A. M. Hada, S. Grecu, A. Timar-Gabor, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Ag Nanoparticles for Plasmon-Driven Conversion of pATP to DMAB under LED Excitation *ACS Applied Nano Materials*, 8 (2025) 24453–24465 (***corresponding author, IF 5.5**)



6. A. Holca, R. Borlan, A. Campu, S. Dragan, M. Muntean, A.-M. Craciun, A. Sesarman, M. Banciu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, LED-Activated NIR-II Gold Nanorods for Photothermal Therapy of 3D Melanoma Spheroids, *ACS Applied Nano Materials* 8, 2025, 19796–19809 (***corresponding author, IF 5.5**)
- 
7. V. Cucuiet, D. Maniu, A.M. Craciun, S. Tripton, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Probing the Local Field Enhancement Using SERS Detection of DNA Strands with Different Lengths and Grafting Strategies on Graphene Oxide Plasmonic Nanoplatforms, *J. Phys. Chem. Lett.*, 16, 2025, 435–442, *Nature index* (***corresponding author, IF 4.6**)
- 
8. D. Stoia, E. Fazio, C. Corsaro, A. Campu, O. Soritau, A.-M. Craciun, G. Chereches, **M. Focsan***, G. Neri, A Piperno, Graphene-Poly (methacrylic acid)-Gold bipyramids hybrid plasmonic nanocomposite for in vitro bioimaging and photothermal therapy, *J. Mater. Chem. B*, 13, 2025, 4433-4446 (***corresponding author, IF 5.7**)
9. R. Lapusan, A. Balmus, R. Fechete, B. Neamtu, J. Ponti, R. Borlan, and **M. Focsan***, From fundamentals to applications: magnetic nanoparticles for MRI imaging and NIR-induced thermal activation in tissue-mimicking environments, *J. Mater. Chem. B*, 13, 2025, 12056-12072 (***corresponding author, IF 5.7**)
- 
10. V. Cucuiet, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan*** SERS detection of DNA hybridization on a graphene oxide plasmonic nanoplatform: Influence of DNA sequence length, *Appl. Phys. Lett.*, 127, 2025, 063701 *Nature index* (***corresponding author, IF 3.6**)
11. V. Cucuiet, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan*** Graphene-mediated surface enhanced Raman spectroscopy for DNA Detection&hybridization: Breakthroughs and challenges, *Biosens. Bioelectron.*, 286, 2025, 117610 (***corresponding author, IF 10.7**)
12. A. Campu, I. A. Brezestean, S.C. Tripon, S. Astilean and **M. Focsan*** Advancing thermoplasmonic sensing: gold nanobipyramids for enhanced light-to-heat conversion, *J. Mater. Chem. C*, 13, 2025, 16378 – 16386 (***corresponding author, IF 5.1**)
- 
13. A.-M. Hada, M.-M. Moruz, A. Holca, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Plasmon-Driven Catalytic Inhibition of pATP Oxidation as a Mechanism for Indirect Fe²⁺ Detection on a SERS-Active Platform, *Catalysts* 15(7), 2025, 667 (***corresponding author, IF 4.0**)
14. A.-M. Hada, M. Lamy de la Chapelle, **M. Focsan**, Simion Astilean, Recent Advances in Metal Nanoclusters: From Novel Synthesis to Emerging Applications, *Molecules* 2025, 30(19), 3848 (**IF 4.6**)

15. A. M. Craciun, D. Stoia, A. Azziz, S. Astilean, **M. Focsan***, Investigation of local field enhancement near plain and shell-coated gold nanospheres for the optimization of surface enhanced spectroscopy *RSC Advances*, 15 (2025) 20848-20862 (***corresponding author, IF 4.6**)
16. D. Stoia, D. Maniu, M. Potara, A. M. Craciun, M. Edely, S. Grecu, A. Timar-Gabor, S. Astilean, **M. Focsan***, M. Lamy de la Chapelle, Unveiling DNA Hybridization Dynamics via High-Sensitivity SERS Detection: Insights into Conformational Changes and Oligonucleotide Length Effects *J. Phys. Chem. Lett.*, 16 (2025) 5610-5618 *Nature index* (***corresponding author, IF 4.6**)
17. A. Holca, V. Cucuiet, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Recent advances in gold nanoparticle-graphene hybrid nanoplatforms with visible to near-infrared response for photodynamic and photothermal therapy and bioimaging, *RSC Advances*, 5, 2025, 111902-11922 (***corresponding author, IF 4.6**)
18. A.-M. Craciun, A. Colnita, D. Marconi, L. Barbu-Tudoran, I. Turcu, **M. Focsan**, A. Vasilescu, M. Potara, S. Astilean, Fabrication and characterization of large-scale ordered silver-coated polystyrene microspheres films for surface-enhanced Raman spectroscopy, *Phys. Scr.* 100, 2005, 045524 (**IF 2.6**)
19. B. Balázs, B. Stoean, É. Molnár, E. Fischer-Fodor, O. Balacescu, R. Borlan, **M. Focsan**, A. Grozav, P. Achimas-Cadariu, G. Emese, L. Gaina, Meso-substituted AB 3-type phenothiazinyl-porphyrins and their indium and zinc complexes photosensitizing properties, cytotoxicity and phototoxicity on ovarian cancer cells, *RSC Med. Chem.* 16, 2025, 747-766 (**IF 3.6**)
20. P. Achimas-Cadariu, P. Kubelac, A. Pasca, V. Gata, B. Fetica, O. Balacescu, E. Fischer-Fodor, **M. Focsan**, S. Astilean, C. Vlad, Intraoperative imaging of residual ovarian cancer after neoadjuvant chemotherapy using indocyanine green, *Int. J. Gynecol. Cancer* 2025 1-8. (**IF 4.7**)
21. M. Negrutiu, S. Danescu, M. Focsan, S. C. Vesa, A. Cadar, S. Vaida, A. Oiegar and A. Baican, Enhancing Diagnosis in Squamous Cell Carcinoma: Non-Invasive Imaging and Multimodal Approach, *Diagnostics*, 15(8), 2025, 1018 (**IF 3.3**)
22. A.M. Craciun, S. Astilean, **M. Focsan***, M. Lamy de la Chapelle, Gold nanoparticles conjugated with fluorophore-labeled DNA: Overview of sensing and imaging applications, *TrAC Trends in Analytical Chemistry*, 180, 2024, 117913 (***corresponding author, IF 12**)
23. D. Stoia, L de Sio, F. Petronella, **M. Focsan***, Recent advances towards point-of-care devices for fungal detection: Emphasizing the role of plasmonic nanomaterials in current and future technologies, *Biosensors and Bioelectronics*, 255, 2024, 116243 (***corresponding author, IF 10.5**)
24. M. Tudor, R. Borlan, D. Maniu, S. Astilean, M. Lamy de la Chapelle, **M. Focsan***, Plasmon-Enhanced Photocatalysis: New Horizons in Carbon Dioxide Reduction Technologies, *Science of the Total Environment*, 932, 2024, 172792 (***corresponding author, IF 8**)



25. R. Lapusan, R. Borlan, **M. Focsan***, Advancing MRI with magnetic nanoparticles: a comprehensive review of translational research and clinical trials, *Nanoscale Advances*, **6**, 2024, 2234-2259 (***corresponding author, IF 4.6, Back Cover of Nanoscale Advances**).
- 
26. S. Danescu, M. Negrutiu, **M. Focsan**, A. Baican, An overview of cutaneous squamous cell carcinoma imaging diagnosis methods, *Frontiers in Medicine*, **11**, 2024 (**IF 3**).
27. C. Gherasim, **M. Focșan**, C. Ciont, A. Bunea, D. Rugină, A. Pinte, Stability and Bioaccessibility of Carotenoids from Sea Buckthorn Pomace Encapsulated in Alginate Hydrogel Beads, *Nutrients* **16**, 2024, 2726 (**IF 5**).
28. M. Gal, L. Gaina, T. Lovasz, E. Gal, A-M Craciun, **M. Focsan**, A. Turza, D. Rugina, A. MV Brânzanic, S. Pesek, R. Silaghi-Dumitrescu, C. Cristea, Sonochemical synthesis, optical properties and DFT studies on novel (N-arylamino)phenothiazinium dyes suitable for fluorescence cells imaging, *Spectrochimica Acta, Part A: Molecular and Biomolecular Spectroscopy* **322**, 5 2024, 124768 (**IF 4.6**).
29. I. Abid, J. González-Colsa, C. Naveaux, A. Campu, C. Arib, **M. Focsan**, P. Albella, M. Edely, M. Lamy de La Chapelle Correlation between Plasmonic and Thermal Properties of Metallic Nanoparticles, *Nanomaterials* **14**(10), 2024, 820 (**IF 4.3**).
30. A. Campu, I. Muresan, M. Potara, D. Lazar, L. Lazar, S. Cainap, D. M. Olinic, D. Maniu, S. Astilean and **M. Focsan***, Portable Microfluidic Plasmonic Chip for Fast Real-Time Cardiac Troponin I Biomarker Thermoplasmonic Detection, *Journal of Materials Chemistry B*, **12**, 2024, 962-972 (***corresponding author, IF 5.7, Front Cover of Journal of Materials Chemistry B**).
- 
31. M. Negrutiu, S. Danescu, T. Popa, **M. Focșan**, ȘC Vesa, A Baican, Advancements in Basal Cell Carcinoma Diagnosis: Non-Invasive Imaging and Multimodal Approach, *Journal of Clinical Medicine* **13** (1), 2024, 39 (**IF 2.9**).
32. A. Campu, I. Muresan, A-M Craciun, A. Vulpoi, S. Cainap, S. Astilean, and **M. Focsan***, Innovative, Flexible, and Miniaturized Microfluidic Paper-Based Plasmonic Chip for Efficient Near-Infrared Metal Enhanced Fluorescence Biosensing and Imaging, *ACS Applied Materials & Interfaces*, **15**, 48, 2023, 55925–55937 (***corresponding author, IF 8.3**).
33. R. Borlan, O. Soritau, D. Maniu, A. Hada, A. Florea, S. Astilean, **M. Focsan***, Albumin Nanoparticles with Tunable Ultraviolet-to-Red Autofluorescence for Label-Free Cell Imaging and Selective Biosensing of Copper Ions, *International Journal of Biological Macromolecules*, **242**, 2023, 125129 (***corresponding author, IF 7.7, TOP 10 % articles**).
34. V. Cucuiet, M. Iliuț, M. Potara, K. Magyari, S. Tripon, O. Soritau, D. Maniu, S. Astilean, **M. Focsan***, Gelatin-assisted fabrication of reduced NanoGraphene Oxide for dual-modal imaging of melanoma cells, *Colloids and Surfaces B: Biointerfaces*, **231**, 2023, 113546 (***corresponding author, IF 5.4**).

35. M. Raileanu, R. Borlan, A. Campu, L. Janosi, I. Turcu, **M. Focsan***, M. Bacalum, No country for old antibiotics! Antimicrobial peptides (AMPs) as next-generation treatment for skin and soft tissue infection, *International Journal of Pharmaceutics*, 642 2023 123169 (***corresponding author, IF 5.3**).
36. G. Marc, A. Stana, M. Tertiş, C. Cristea, A. Ciorîţă, Ş.-M. Drăgan, V.-A. Toma, R. Borlan, **M. Focşan**, A. Pîrnău, L. Vlase, S. Oniga, O. Oniga, Discovery of New Hydrazone-Thiazole Polyphenolic Antioxidants through Computer-Aided Design and In Vitro Experimental Validation, *International Journal of Molecular Sciences*, 24 13277 2023 (**IF 4.9**).
37. I. Székely, Z. Kovács, M. Rusu, T. Gyulavári, M. Todea, **M. Focşan**, M. Baia, Z. Pap, Tungsten Oxide Morphology-Dependent Au/TiO₂/WO₃ Heterostructures with Applications in Heterogenous Photocatalysis and Surface-Enhanced Raman Spectroscopy, *Catalysts* 13(6), 2023, 1015 (**IF 3.8**).
38. A. Urcan, A. Criste, K. Szanto, R. Ştefan, M. Zahan, A. Muscă, **M. Focsan**, R. Burtescu, N. Olah, Antimicrobial and Antiproliferative Activity of Green Synthesized Silver Nanoparticles Using Bee Bread Extracts, *Pharmaceutics* 15(7), 2023, 1797 (**IF 4.9**).
39. D. Stoia, M. Nistor, M. Suciu, R. Borlan, A. Campu, D. Rugina, D. Maniu, S. Astilean, **M. Focsan***, NIR photothermal-activable drug-conjugated microcapsules for in vitro targeted delivery and release: an alternative treatment of diabetic retinopathy, *International Journal of Pharmaceutics*, 635, 2023, 122700 (***corresponding author, IF 5.3**).
40. Z.-R. Tóth, D. Debreczeni, T. Gyulavári, I. Székely, M. Todea, G. Kovács, **M. Focşan**, K. Magyari, L. Baia, Z. Pap, K. Hernadi, Rapid Synthesis Method of Ag₃PO₄ as Reusable Photocatalytically Active Semiconductor, *Nanomaterials*, 13, 2023, 89 (**IF 4.4**).
41. D. Stoia, R. Pop, A. Campu, M. Nistor, S. Astilean, A. Pinte, M. Suciu, D. Rugina, **M. Focsan**, Hybrid polymeric therapeutic microcarriers for thermoplasmonic-triggered release of resveratrol, *Colloids and Surfaces B: Biointerfaces*, 220, 2022, 112915 (**corresponding author, IF 5.3**).
42. L. Susu, A. Vulpoi, S. Astilean, **M. Focsan***, Portable Plasmonic Paper-Based Biosensor for Simple and Rapid Indirect Detection of CEACAM5 Biomarker via Metal-Enhanced Fluorescence *International Journal of Molecular Sciences*, 23(19), 2022, 11982 (***corresponding author, IF 4.9**).
43. A. Hada, M. Zetes, **M. Focsan**, S. Astilean A-M Craciun, Photoluminescent Histidine-Stabilized Gold Nanoclusters as Efficient Sensors for Fast and Easy Visual Detection of Fe Ions in Water Using Paper-Based Portable Platform, *International Journal of Molecular Sciences*, 23(14), 2022, 7728 (**IF 5.6**).
44. A. Campu, I. Muresan, A-M. Craciun, S. Cainap, S. Astilean, **M Focsan***, Cardiac Troponin Biosensor Designs: Current Developments and Remaining Challenges, *International Journal of Molecular Sciences*, 23(14), 2022, 7728 (***corresponding author, IF 5.6**).
45. A. Hada, A-M Craciun, **M. Focsan**, A. Vulpoi, E.-L. Borcan, S. Astilean, Glutathione-capped gold nanoclusters as near-infrared-emitting efficient contrast agents for confocal

- fluorescence imaging of tissue-mimicking phantoms, *Microchimica Acta*, 189, 2022, 337 (IF 5.7).
46. M. Mic, A. Pîrnău, C. G. Floare, R. Borlan, **M. Focsan**, O. Oniga, O. Bogdan, L. Vlase, I. Oniga, G. Marc, Antioxidant Activity Evaluation and Assessment of the Binding Affinity to HSA of a New Catechol Hydrazinyl-Thiazole Derivative, *Antioxidants* 11(7), 2022, 1245 (IF 7).
 47. B. Stoean, L. Gaina, C. Cristea, R. Silaghi-Dumitrescu, A. Branzanic, **M. Focsan**, E. Fischer-Fodor, B. Tigu, C. Moldovan, A. Cegan, P. Achimas-Cadariu, S. Astilean, L. Silaghi-Dumitrescu, New methylene blue analogues with N-piperidinyl-carbinol units: Synthesis, optical properties and in vitro internalization in human ovarian cancer cells, *Dyes and Pigments* 205, 2022, 110460 (IF 4.5).
 48. M. Potara, S. Suarasan, A-M. Craciun, **M. Focsan**, A-M. Hada, S. Astilean, Probing polyvinylpyrrolidone-passivated graphene oxide nanoflakes as contrast agents inside tissue-like phantoms via multimodal confocal microscopy, *Talanta* 247, 2022, 123581 (IF 6.1).
 49. D. R. Lazar, F. L. Lazar, C. Homorodean, C. Cainap, **M. Focsan**, S. Cainap, D. M. Olinic, High-Sensitivity Troponin: A Review on Characteristics, Assessment, and Clinical Implications, *Disease Markers*, 2022, 9713326 (IF 3.4).
 50. B. Boga, I. Székely, **M. Focsan**, M. Baia, T. Szabó, L. Nagy, Z. Pap, Sensor surface via inspiration from Nature: The specific case of electron trapping in TiO₂/WO₃ (· 0.33 H₂O) and reaction center/WO₃ (· 0.33 H₂O) systems, *Applied Surface Science* 572, 2022, 151139 (IF 6.7).
 51. R. Ghiman, R. Pop, D. Rugina, **M. Focsan**, Recent progress in preparation of microcapsules with tailored structures for bio-medical applications, *Journal of Molecular Structure* 1248, 2022, 131366 (IF 3.8).
 52. V. Chis, **M. Focsan**, M. de la Chapelle, R. Fausto, *Journal of Molecular Structure* 1250, 2022, 131971 (IF 3.8).
 53. A. Campu, F. Lerouge, D. Maniu, K. Magyari, **M. Focsan***, Ultrasensitive SEIRA detection using gold nanobipyramids: Toward efficient multimodal immunosensor, *Journal of Molecular Structure* 1246, 2021, 131160 (corresponding author, IF 3.8).
 54. A.-M. Hada, M. Zetes, **M. Focsan**, T. Nagy-Simon, A. M. Craciun, Novel paper-based sensing platform using photoluminescent gold nanoclusters for easy, sensitive and selective naked-eye detection of Cu²⁺, *Journal of Molecular Structure* 1244, 2021, 130990 (IF 3.8).
 55. S. Suarasan, C. Tira, M. M. Rusu, A.-M. Craciun, **M. Focsan***, Controlled Fluorescence Manipulation by Core-Shell Multilayer of Spherical Gold Nanoparticles: Theoretical and Experimental evaluation *Journal of Molecular Structure* 1244, 2021, 130950 (*corresponding author, IF 3.8).
 56. T. Nagy-Simon, O. Diaconu, **M. Focsan**, A. Vulpoi, I. Botiz, A.-M. Craciun, Pluronic stabilized conjugated polymer nanoparticles for NIR fluorescence imaging and dual phototherapy applications, *Journal of Molecular Structure* 1243, 2021, 130931 (IF 3.8).

57. N. Sharma, Z. Pap, I. Székely, M. **Focsan**, G. Karacs, Z. Nemet, S. Garg, K. Hernadi, Combination of iodine-deficient BiOI phases in the presence of CNT to enhance photocatalytic activity towards phenol decomposition under visible light, *Applied Surface Science* 565, 2021, 150605 (IF 7.392).
58. M. Nistor, M. **Focsan**, L. Gaina, M. Cenariu, A. Pinteaa, C. Socaciu, D. Rugina, Real-time fluorescence imaging of anthocyanins complexed with diphenylboric acid 2-aminoethyl inside B16–F10 melanoma cells, *Phytochemistry* 189, 2021, 112849 (IF 4.004).
59. R. Borlan, D. Stoia, L. Gaina, A. Campu, G. Marc, M. Perde-Schrepler, M. Sillion, D. Maniu, M. **Focsan**^{*}, S. Astilean, Fluorescent Phtalocyanine-Encapsulated Bovine Serum Albumin Nanoparticles: Their Deployment as Therapeutic Agents in the NIR Region, *Molecules*, 26, 2021, 4679 (*corresponding author, IF 4.927).
60. R. Borlan, M. **Focsan**^{*}, M. Perde-Schrepler, O. Soritau, A. Campu, L. Gaina, E. Pall, B. Pop, O. Baldasici, C. Gherman, D. Stoia, D. Maniu, S. Astilean, Antibody Functionalized Theranostic Protein Nanoparticles for Synergistic Deep Red Fluorescence Imaging and Multimodal Therapy of Ovarian Cancer, *Biomaterials Science* 9, 2021, 6183-6202 (*corresponding author, IF 7.59).
61. M. Potara, T. Nagy-Simon, M. **Focsan**, E. Licarete, O. Soritau, A. Vulpoi, S. Astilean, Folate-targeted Pluronic-chitosan nanocapsules loaded with IR780 for near-infrared fluorescence imaging and photothermal-photodynamic therapy of ovarian cancer, *Colloids Surf. B Biointerfaces*, 203, 2021, 111755 (IF 5.999).
62. R. Ghiman, M. Nistor, M. **Focsan**^{*}, A. Pinteaa, S. Aştilean and D. Rugina, Fluorescent Polyelectrolyte System to Track Anthocyanins Delivery inside Melanoma Cells, *Nanomaterials* 11, 2021, 782 (corresponding author, IF 5.076).
63. B. Stoean, D. Rugina, M. **Focsan**, A-M. Craciun, M. Nistor, T. Lovasz, A. Turza, I-D. Porumb, E. Gál, C. Cristea, L. Silaghi-Dumitrescu, S. Astilean and L. Gaina, Novel (Phenothiazinyl)Vinyl-Pyridinium Dyes and Their Potential Applications as Cellular Staining Agents, *International Journal of Molecular Sciences*, 22, 2021, 2985 (IF 6.208).
64. R. Borlan, M. **Focsan**^{*}, D. Maniu, S. Astilean, Interventional NIR Fluorescence Imaging of Cancer: Review on Next Generation of Dye-Loaded Protein-Based Nanoparticles for Real-Time Feedback During Cancer Surgery, *International Journal of Nanomedicine*, 16, 2021, 2147—2171 (*corresponding author, IF 7.033).
65. A.M Craciun, S. Suarasan, M. **Focsan**, S. Astilean, One-photon excited photoluminescence of gold nanospheres and its application in prostate specific antigen detection via fluorescence correlation spectroscopy (FCS), *Talanta*, 228, 2021, 122242 (IF 6.556).
66. L. De Sio, B. Ding, M. **Focsan**, K. Kogermann, P. Pascoal-Faria, F. Petronella, G. Mitchell, E. Zussman, F. Pierini, Personalized Reusable Face Masks with Smart Nano-Assisted Destruction of Pathogens for COVID-19: A Visionary Road, *Chem. Eur. J.*, 27, 2021, 1-20 (IF 5.02, FRONTISPIECE, Most downloaded in Chem. Eur. J, Wiley).



67. A.-M. Hada, A.-M. Craciun, M. Focsan, R. Borlan, O. Soritau, M. Todea, S. Astilean, Folic acid functionalized gold nanoclusters for enabling targeted fluorescence imaging of human ovarian cancer cells, *Talanta*, 225, 2021, 121960 (IF 6.556).
68. A. Campu, M. Focsan*, F. Lerouge, R. Borlan, L. Tie, D. Rugina, S. Astilean, ICG-loaded gold nano-bipyramids with NIR activatable dual PTT-PDT therapeutic potential in melanoma cells, *Colloids and Surfaces B: Biointerfaces* 194, 2020, 111213 (*corresponding author, IF 5.268).
69. L. Susu, A. Campu, S. Astilean and M Focsan*, Calligraphed Selective Plasmonic Arrays on Paper Platforms for Complementary Dual Optical “ON/OFF Switch” Sensing, *Nanomaterials* 10(6), 2020, 1025 (*corresponding author, IF 5.076).
70. A. Campu, F. Lerouge, A.-M. Craciun, T. Murariu, I. Turcu, S. Astilean and M. Focsan*, Microfluidic platform for integrated plasmonic detection in laminar flow, *Nanotechnology* 31(33), 2020, 335502 (*corresponding author, IF 3.874).
71. R. Borlan, A.S. Tatar, O. Soritau, D. Maniu, G. Marc, A. Florea, M. Focsan*, S. Astilean, Design of fluorophore-loaded human serum albumin nanoparticles for specific targeting of NIH: OVCAR3 ovarian cancer cells, *Nanotechnology* 31 (31), 2020, 315102 (*corresponding author, IF 3.874).
72. A.-I. Pricopie, M. Focșan*, I. Ionuț, G. Marc, L. Vlase, L. Găină, D. C. Vodnar, E. Simon, G. Barta, A. Pîrnău and O. Oniga, Novel 2,4-Disubstituted-1,3-Thiazole Derivatives: Synthesis, Anti-Candida Activity Evaluation and Interaction with Bovine Serum Albumine, *Molecules* 25(5), 2020, 1079 (*corresponding author, IF 4.412).
73. L. Tie, M. Răileanu, M. Bacalum, I. Codita, Ș. M. Negrea, C.Ș. Caracoti, E.C Drăgulescu, A. Campu, S. Astilean and M. Focsan*, Versatile Polypeptide-Functionalized Plasmonic Paper as Synergistic Biocompatible and Antimicrobial Nanoplatform, *Molecules* 25(14), 2020, 3182 (*corresponding author, IF 4.412).
74. D. Caccamo, M. Currò, R. Ientile, E AM Verderio, A. Scala, A. Mazzaglia, R. Pennisi, M. Musarra-Pizzo, R. Zagami, G. Neri, C. Rosmini, M. Potara, M. Focsan, S. Astilean, A. Piperno and M. T. Sciortino, Intracellular Fate and Impact on Gene Expression of Doxorubicin/Cyclodextrin-Graphene Nanomaterials at Sub-Toxic Concentration, *International Journal of Molecular Sciences*, 21(14), 2020, 4891 (IF 5.984).
75. E. Molnar, E. Gal, L. Gaina, C. Cristea, E. Fischer-Fodor, M. Perde-Schrepler, P. Achimas-Cadariu, M. Focsan, L. Silaghi-Dumitrescu, Novel Phenothiazine-Bridged Porphyrin-(Hetero)aryl dyads: Synthesis, Optical Properties, In Vitro Cytotoxicity and Staining of Human Ovarian Tumor Cell Lines, *International Journal of Molecular Sciences*, 21(9), 2020, 3178 (IF 5.984).
76. A. Terec, A. Crisan, A.M. Craciun, I. Mihalache, M. Focsan, C. Socaci, D. Maniu, S. Astilean, M. Veca, Surface passivation of carbon nanoparticles with 1,2-phenylenediamine towards photoluminescent carbon dots, *Rev. Roum. Chim*, 65, 2020, 559-566 (IF 0.278).

77. C. Tudor, T. Bohn, M. Iddir, F. V. Dulf, **M. Focșan**, D. Rugină, and A. Pinte, Sea Buckthorn Oil as a Valuable Source of Bioaccessible Xanthophylls, *Nutrients* 12(1), 2020, 76 (IF 5.719).
78. A. Campu, AM Craciun, **M Focșan***, S Astilean, Assessment of the photothermal conversion efficiencies of tunable gold bipyramids under irradiation by two laser lines in a NIR biological window, *Nanotechnology* 30(40), 2019, 405701 (*corresponding author, IF 3.551).
79. D. Rugină*, R. Ghiman*, **M. Focșan***, F. Tăbăran, F. Copaciuc, M. Suciuc, A. Pinte, S. Aștilean, Resveratrol-delivery vehicle with anti-VEGF activity carried to human retinal pigmented epithelial cells exposed to high-glucose induced conditions, *Colloids and Surfaces B: Biointerfaces* 181, 2019, 66-75. (*These authors contributed equally to this work, IF 4.389).
80. S. Suarasan, AM Craciun, E Licarete, **M Focșan**, K Magyari, S Astilean, Intracellular dynamic disentangling of Doxorubicin release from luminescent nanogold carriers by Fluorescence Lifetime Imaging Microscopy (FLIM) under two-photon excitation, *ACS applied materials & interfaces*, 118, 2019, 7812-7822 (IF 8.758).
81. A. Piperno, A. Mazzaglia, A. Scala, R. Pennisi, R. Zagami, G. Neri, S. M. Torcasio, C. Rosmini, P. G. Mineo, M. Potara, **M. Focșan**, S. Astilean, G. G. Zhou, M.T Sciortino, Casting Light on Intracellular Tracking of a New Functional Graphene-Based MicroRNA Delivery System by FLIM and Raman Imaging, *ACS Applied Materials & Interfaces*, 11, 2019, 46101-46111 (IF 8.758).
82. L. Tie, **M Focșan***, J Bosson, C Tira, A Campu, A Vulpoi, S Astilean Controlling the end-to-end assembly of gold nanorods to enhance the plasmonic response in near infrared, *Materials Research Express* 6 (9), 2019, 095038 (*corresponding author, IF 1.929).
83. Sz. Fodor, L.Baia, **M. Focșan**, K. Hernadi, Sz Papp, Designed and controlled synthesis of visible light active copper(I)oxide photocatalyst: From the cubes towards the polyhedrons - with Cu nanoparticles, *Applied Surface Science* 484, 2019, 175-183 (IF 6.182).
84. A. Campu, L. Susu, F. Orzan, D. Maniu, AM Craciun, A. Vulpoi, L. Roiban, **M. Focșan***, S. Astilean, Multimodal Biosensing on Paper-Based Platform Fabricated by Plasmonic Calligraphy Using Gold Nanobipyramids Ink, *Frontiers in Chemistry*, 7, 2019, 55 (*corresponding author, IF 3.693).
85. A. Campu, F. Lerouge, D. Chateau, F. Chaput, P. Baldeck, S. Parola, D. Maniu, A M Craciun, A. Vulpoi, S. Astilean, **M. Focșan***, Gold NanoBipyramids Performing as Highly Sensitive Dual-Modal Optical Immunosensors, *Analytical Chemistry*, 90, 2018, (14), 8567-8575 (*corresponding author, IF 6.350).
86. L. Susu, A. Campu, A. M Craciun, A. Vulpoi, S. Astilean, **M. Focșan***, Designing Efficient Low-Cost Paper-Based Sensing Plasmonic Nanoplatfoms, *Sensors* 18 (2018) 3035 (*corresponding author, IF 3.031).

87. B. Hampel, G. Kovács, Z. Czekes, K. Hernádi, V. Danciu, O. Ersen, M. Girleanu, **M. Focșan**, L. Baia, Z. Pap, Mapping the Photocatalytic Activity and Ecotoxicology of Au, Pt/TiO₂ Composite Photocatalysts, *ACS Sustainable Chemistry & Engineering*, 6 2018, 12993-13006 (**IF 6.970**)
88. **M. Focșan**, A. M. Craciun, M. Potara, C. Leordean, D. Maniu, S. Astileana, Flexible and Tunable 3D Gold Nanocups Platform as Plasmonic Biosensor for Specific Dual LSPR-SERS Immuno-Detection, *Scientific Reports* (Nature Publishing Group), 7 (2017) 14240 (**first-author, Top 100 read chemistry papers for Scientific Reports in 2017, first-author, IF 4.122**).
89. A.M Craciun*, **M. Focșan***, K. Magyari*, A. Vulpoi*, Z. Pap*, Surface Plasmon Resonance or Biocompatibility—Key Properties for Determining the Applicability of Noble Metal Nanoparticles, article review, *Materials* 10 836 (2017) 1-37 (* **These authors contributed equally to this work, IF 2.476**).
90. A. M. Craciun, **M. Focșan**, L. Gaina, S. Astilean, Enhanced one- and two-photon excited fluorescence of cationic (phenothiazinyl)vinyl-pyridinium chromophore attached to polyelectrolyte-coated gold nanorods, *Dyes And Pigments* 136 (2017) 24-30 (**IF 3.767**).
91. M. Focșan, A.M. Craciun, S. Astilean, P. Baldeck, Two-photon fabrication of three-dimensional silver microstructures in microfluidic channels for volumetric surface-enhanced Raman scattering detection, *Optical Materials Express* 6 (2016) 1587-1593 (**first-author, IF 2.591**).
92. A. M. Craciun, A. Diac, **M. Focșan**, C. Socaci, K. Magyari, D. Maniu, I. Mihalache, L. M. Veca, S. Astilean, A. Terec, Surface passivation of carbon nanoparticles with p-phenylenediamine towards photoluminescent carbon dots, *RSC Advances* 6 (2016) 56944-56951 (**IF = 3.108**).
93. J. Laura Da Silva Gonçalves, S. R. Valandro, H.F. Wu, Y-H. Lee, B. Mettra, C. Monnereau, C. C. Cavalheiro; A. Pawlicka; M. Focșan; C.-L. Lin; P. L. Baldeck, *3D printing of natural organic materials by photochemistry*, Proc. SPIE 9745 (2016).
94. **M. Focșan**, A. Campu, A.M Craciun, M. Potara, C. Leordean, D. Maniu, S. Astilean, A Simple and Efficient Design to Improve the Detection of Biotin-Streptavidin Interaction with Plasmonic Nanobiosensors, *Biosensors and Bioelectronics* 86 (2016) 728-735 (**first-author, IF 7.78**).
95. S. Suarasan, **M. Focșan**, M. Potara, O. Soritau, A. Florea, D. Maniu, S. Astilean, Doxorubicin-Incorporated Nanotherapeutic Delivery System Based on Gelatin-Coated Gold Nanoparticles: Formulation, Drug Release, and Multimodal Imaging of Cellular Internalization, *ACS Applied Materials and Interfaces* 8 (2016) 22900-22913 (**IF 7.504**).



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

1. I. Mahboub, M. Potara, S. Tripon, S. Astilean, M. Focsan, M. Lamy de la Chapelle, Développement d'une nanoplateforme SERS simple et abordable à base de papier pour la détection rapide d'acides nucléiques, Les actes du symposium de la recherche scientifique francophone en europe centrale et orientale – Tome II (2025) 69 – 71
2. V. Sprincean, A. Chirita, S. Astilean, **M. Focsan**, A-M Craciun, F. Paladi, Airborne pollutants collection and analysis based on their fluorescence spectral measurements: a case study on diesel exhaust combustion particles, *Discover Environment*, 2, 2024, 37.
3. R. Borlan, **M. Focsan**, S. Astilean and P. Achimas-Cadariu, NIR Fluorescence Captures Clear Images of Cancerous Tumors During Surgery, *BioPhotonics*, September/October (2021) 38-41.
4. F Orzan, A Campu, S Suarasan, S Astilean, **M Focsan***, Engineering paper platform loaded with gold nanospheres to improve SERS performance for analyte detection, *Studia UBB Physica* 63 (1-2) 2018 143-151 (***corresponding author**).

1. - Selecție cu maximum 20 lucrări în volume de conferințe

E. Brevete obținute în întreaga activitate

1. **M. Focsan**, A. Campu, S. Astilean, T. Murariu, I. Turcu, *Plasmonic microfluidic device based on gold bipyramidal nanoparticles*; Brevet Național O.S.I.M. RO 133447 B1; 2021 – **granted**
2. **M. Focsan**, A. Campu, A. M. Craciun, S. Astilean; *Microfluidic detection device fabricated through the integration of calligraphed plasmonic paper in polydimethylsiloxane*; Brevet Național O.S.I.M. RO 135233 A0; 2021 – **granted** RO135233 (B1)
3. M. Moruz, A. Campu, S. Astilean, **M. Focsan** *Miniaturized electrochemical sensor based on integrated gold electrodes on a flexible support*, O.S.I.M., Romania, A100091 - **granted**
4. A. Campu, M. Moruz, M.Potara, S. Astilean, **M. Focsan**, *Metallized micro-rough flexible polydimethylsiloxane substrate for dual SPR-SERS detection*; Brevet Național O.S.I.M. RO 137390 B1; 2025 – **granted**

Data:
8.05.2026

Semnătura:

