



ROMÂNIA
UNIVERSITATEA BABEȘ-BOLYAI CLUJ-NAPOCA

Str. Mihail Kogălniceanu, nr. 1, 400084 Cluj-Napoca
Tel. (00) 40 - 264 - 40.53.00*; 40.53.01; 40.53.02 ; 40.53.22
Fax: 40 - 264 - 59.19.06
E-mail: staff@staff.ubbcluj.ro

RECTORATUL

Universitatea Babeș-Bolyai Competiția Excelenței 2010

Dosar individual

Notă: Toate datele se referă la perioada 2005-2009

| | |
|------------------------------|---|
| Nume, prenume, grad did. | IOSIN MONICA- |
| Facultatea, Catedra | Facultatea de Fizica, Catedra de Spectroscopie Moleculara |
| Domeniul științific | Fizica |
| Adresa paginii web personale | |
| Adresa e-mail | monica.iosin@phys.ubbcluj.ro |

Criteriul I – Output 60% (aplicat la total punctaj Criteriul I – Output)

- Articole științifice publicate în reviste indexate ISI (cu menționare factorului de impact în cazul celor cotate) Total: 627,145**
 - M. Iosin**, P. Baldeck, S. Astilean, *Study of tryptophan – assisted synthesis of gold nanoparticles by combining UV-Vis, fluorescence and SERS spectroscopy* Journal of Nanoparticle Research, DOI: 10.1007/s11051-010-9869-6 (Factor de impact- 2.299)
 - M. Iosin**, F. Toderas, P.L. Baldeck, S. Astilean, *Study of protein–gold nanoparticle conjugates by fluorescence and surface-enhanced Raman scattering*, Journal of Molecular Structure, 924-926 (2009) 196-200 (Factor de impact – 1.594)
 - M. Iosin**, P.L. Baldeck and S. Astilean, *Plasmon-enhanced fluorescence of dye molecules*, Nuclear Instruments and Methods in Physics Research B, 267 (2009) 403-405 (Factor de impact – 0.999)
 - F. Toderas, **M. Iosin** and S. Astilean, *Luminescence Properties of gold nanorods*, Nuclear Instruments and Methods in Physics Research B, 267 (2009) 400-402 (Factor de impact – 0.999)
 - M. Iosin**, F. Toderas, P. Baldeck and S. Astilean, *In Vitro Biosynthesis of Gold Nanotriangles for Surface-Enhanced Raman Spectroscopy*, Journal of Optoelectronics and Advanced Materials, 10(9) (2008) 2285-2288 (Factor de impact – 0.577)
 - M. Iosin**, O. Stephan, S. Astilean, A. Dupperay, P.L. Baldeck, *Microstructuration of protein matrices by laser-induced photochemistry*, Journal of Optoelectronics and Advanced Materials, 9(3), (2007) 716-720 (Factor de impact – 0.577)
- Alte articole științifice/capitole publicate în reviste/volume cu referenți Total: 5.089**
 - Patrice L. Baldeck, Teodora Scheul, Jocelyne Bosson, **Monica Iosin**, Chih-Lang Lin, Guy Vitrant and Olivier Stephan *Advances in Two-Photon Microstructuration of Polymers, Proteins and Metallic Materials with Q-switched Microlasers*, Nonlinear Optics, Quantum Optics, 2010 accepted
 - M. Iosin**, F. Toderas, P. Baldeck, S. Astilean, *Investigation of the binding constant of biocompatible gold nanoparticles to Bovine Serum Albumine using fluorescence and LSPR spectroscopy*, “New applications of micro and nanotechnologies”, Editura Academiei Romane (2009) 235-240, ISBN 978-973-27-1576

3. P.L. Baldeck, J. Bosson, **M. Iosin**, C.-L. Lin, N. Tosa, L. Vurtz, G. Vitrant and O. Stephan, *3D Laser Micro-Structuration of Polymers, Metals and Biomaterials by Two-Photon Induced Photochemistry*, Trends in Optics and Photonics (2009) 3-8.
4. **M. Iosin**, S. Astilean, O. Stephan, PL Baldeck, *Cross-linked protein nanostructures fabricated by two-photon laser induced photochemistry*, Progress in nanoscience and nanotechnologies, Editura Academiei Romane (2007) 102, ISBN 978-973-27-1576-5
5. F. Toderaş, **M. Iosin**, M. Baia and S. Aştilean, *Probing the interaction of bovine serum albumin (BSA) and gold nanoparticle*, Progress in nanoscience and nanotechnologies, Editura Academiei Romane (2007) 215-221, ISBN 978-973-27-1576-5

Criteriul II – Prestigiu profesional 30% (aplicat la total punctaj Criteriul II)

1. **Citări ale articolelor ISI listate la Criteriul I** **Total: 20**
 1. F. Toderaş, **M. Iosin** and S. Astilean, *Luminescence Properties of gold nanorods*, Nuclear Instruments and Methods in Physics Research B, 267 (2009) 400-402
Citari: Highlights from recent literature, Gold Bulletin, 42 (2009) 3
10. **Participări la programe/granturi finanțate din sursă națională** **Total : 102.13**
 1. CEEEX 71: Contract nr. 71 / 28.07.2006 (2006-2008) total suma 1.021.333 lei
 Nanostructuri si nanoparticule de metale nobile cu proprietati plasmonice multifunctionale pentru aplicatii relevante in nanofotonica, biodetectie si spectroscopie laser (NANOBIOSPEC)
11. **Coordonări de programe/granturi finanțate din sursă internațională (se menționează și valoarea)** **Total: 5.4**
 1. Proiect “World Federation of Scientists” (total suma 6000 lei)
 Applications of Noble Metal Nanoparticles in Biology, Medicine and Biotechnology, 1.10.2006 – 1.10.2007, Sursa de finantare: World Federation of Scientists, ICSC – World Laboratory, Lausanne Switzerland
 2. Bourse de la Formation a la Recherche (total suma 37245)
 Développement de méthodes de biodétection plasmonique, 2007-2009, Sursa de finantare: Agence Universitaire de la Francophonie
12. **Coordonări de programe/granturi finanțate din sursă națională** **Total: 8.9**
 1. Proiect de cercetare pentru tineri doctorazi tip TD (total suma 42.500)
 Dezvoltarea unor metode de biodetectie plasmonica si nanostructurarea proteinelor prin absorptie laser, 2007 -2009 (nr. 295/1.10.2007), Planul National PN II, CNCISIS
 2. Bursa de cercetare stiintifica/creatie artistica pentru tinerii doctoranzi tip BD (total suma 46500)
 Dezvoltarea unor metode de biodetectie plasmonica si nanostructurarea proteinelor prin absorptie laser bifotonica, 2007-2009 (cod 174), Sursa de finantare: Bugetul de stat

III. Realizare remarcabilă 10% (aplicat la total punctaj Criteriul III)

Activitatea mea de cercetare realizata in cadrul Laboratorului de Nanobiofotonica al Institutului de Cercetari Experimentale Interdisciplinare, consta in dezvoltarea unor metode biologice, rapide si non toxice pentru sinteza intra si extracelulara de nanoparticule de aur. Un beneficiu imediat al sintezei de nanoparticule de aur asistata biologic consta in utilizarea nanomaterialelor direct in aplicatii biologice. Rezultatele obtinute au fost prezentate in cadrul tezei de doctorat, „Synthesis of Gold Nanoparticles and Fabrication of Protein Microstructures for Biological Applications” sustinuta recent. De asemenea, unul dintre cele mai importante rezultate stiintifice obtinute pana in prezent a constat in crearea de microreactoare enzimatice 3D in interiorul canalelor microfluidice, avand aplicabilitate directa in obtinerea de reactii multiple enzimatice in medii controlate. Dupa cunostiinta noastra, acest studiu reprezinta prima demonstratie de microfabricare de reactoare enzimatice 3D in canale microfluidice utilizand procesul fotochimic indus laser, fiind concretizat intr-o lucrare stiintifica intitulata *Laser Microstructuration of Three-Dimensional Enzyme Reactors in Microfluidic Channels*, Monica Iosin et al., trimisa spre publicare.

Total punctaj: $0.6 \cdot 632.23 + 0.3 \cdot 136.74 = 420.36$

Data: 15.03.2010

Semnătura:

Certific validitatea datelor prezentate

Sef de catedră, Prof dr Simion Astilean