

Curriculum Vitae



*Professor Emeritus at the Faculty of Physics,
Corresponding Member of Romanian Academy,*

*Director of Nanobiophotonics and Laser Microspectroscopy
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Personal data

Born 6 March 1956, Tioletur (Corneşti), county of Cluj, Romania

Education

1990-1993: *PhD in Physics* at the Joseph Fourier University, Grenoble, France

Thesis: Transfert photoinduit de protons dans des cristaux mixtes pentacene-acide benzoique caractérisé par spectroscopie optique

Qualification « *Très honorable avec félicitations* » PhD advisor: Dr H. P. Trommsdorff

1980-1981: *MSc. in Physics (solid state physics)*, Faculty of Physics,

Babeş-Bolyai University, Cluj-Napoca, Romania

1976-1980: *BSc in Physics*, Faculty of Physics,

Babeş-Bolyai University, Cluj-Napoca, Romania

Employment

since 2021: *Professor Emeritus*, Babeş-Bolyai University Cluj-Napoca, Romania

2003 – 2021: *Professor*, Babeş-Bolyai University Cluj-Napoca, Romania

1996 – 2002: *Associate Professor* Babeş-Bolyai University, Cluj-Napoca, Romania

1994 - 1996: *Lecturer*, Babeş-Bolyai University, Cluj-Napoca, Romania

1986 - 1994: *Assistant Professor*, Babeş-Bolyai University, Cluj-Napoca, Romania

1981 - 1986: *High school teacher*, Dej, county of Cluj, Romania

Visiting Scientist

1-30.06.2015, University Paris 13, Bobigny, Paris (invited professor, Ref. Prof Marc Lamy de la Chapelle)

1-30.06 /2007, University „Denis Diderot” Paris VII, Paris (invited professor)

Project: *Plasmonic nanostructures for Surface-Enhanced Vibrational Spectroscopy* (Ref. Prof Jean Aubard)

1/06-31/06 (2006): Laboratoire d'Etudes des Propriétés Electroniques des Solides, CNRS, Grenoble, France (invited professor)

Project: *Designing new experiments for single-molecule optical detection* (Ref: Dr Tomas-Lopez Rios)

1/06-30/08 (2003): University Joseph Fourier, Laboratoire de Spectrométrie Physique, Grenoble, France (invited professor)

Project: *Photoinduced structural modifications in organic crystals* (Ref: Prof. Roger Casalegno)

1/01 (2001) – 31/12 (2002): University of Exeter, Photonics Group, UK (visiting scientist)

Project: *Photonic control of light-molecule interactions.*(Prof WL Barnes)

1/01-31/12 (2000): The Weizmann Institut of Science, Rehovot, Israel (visiting scientist)

Project: *Single-molecule detection by Raman and fluorescence spectroscopy* (Ref: Dr Gilad Haran)

01/02-31/11 (1997): Institut d'Optique Theorique et Appliquee, Paris, France (post-doc)

Project: *Design and fabrication of periodically nanostructured films for diffractive elements* (Ref: Dr. Philippe Lalanne)

Current Research Directions

► *Development of new nano-systems based on plasmonic nanoparticles incorporating specific biomolecules, anti-cancer drugs and molecular reporters for applications in nanomedicine and, particularly, in cancer nano-therapy (targeted cancer nano-chemotherapy, nano-photodynamic therapy, plasmonic hyperthermia, multimodal therapy, molecular imaging and diagnostic, etc.)*

► *Development of plasmonic nano-biosensors and nanodevices based on (periodically) nanostructured metallic films or colloidal nanoparticles for detection and identification of various biomarkers and (bio)chemical agents via vibrational spectroscopy including ordinary*

Raman and SERS, localized surface plasmon resonance LSPR-UV-VIS, steady-state and time-resolved fluorescence including metal-enhanced fluorescence (MEF), FCS and FRET, etc.

► *Implementation of reliable and less expansive nanofabrication and nano-structuration procedures (self-assembling, nanosphere lithography, thin film deposition, chemical synthesis and bio-synthesis of plasmonic nanoparticles, CVD, RIE processing, etc.)*

Areas of Research Expertise

► *Nanomaterials, nanofabrication and characterization* (noble metal nanoparticles, graphene and carbon dots, hybrid nanoparticles, surface activation and biofunctionalization; colloidal self-assembly, nanosphere lithography, thin film deposition, plasma cleaning and etching, reactive ion etching; atomic force microscopy, electron microscopy, etc)

► *Optical and laser spectroscopy*: confocal Raman and fluorescence microscopy including time-resolved fluorescence, FCS, FRET, SERS, FT-IR, UV-VIS, dark-field and DIC microscopy, dynamic light scattering (DLS), ‘hole-burning’ optical spectroscopy, etc..

► *Simulations in optics and photonics*: FDTD-finite-difference time-domain, RCWA-rigorous coupled wave analysis, DDA-discrete dipole approximation.

Achievements

► Author and co-author of over 250 *scientific papers, of which 223 are ISI and more than half are published in Q₁ top journals* (Web of Science Core Collection);

► *Included in the list of the first 2% most cited scientists in the world in his field of research in 2020 and 2021 (World’s Ranking of 2% most cited Top Scientists, Stanford Univ. and Elsevier by Scopus)*

► Over 6450 *international citations* (excluding self-citations, ISI Web of Science);

► Hirsch index H= 42;

► Co-author of scientific book published by Springer Verlag Ed.;

► Invited contributor of 5 chapters in international books;

► Co-author of 3 scientific books published in Romanian;

► Co-editor of one scientific book published in Romania;

► 30 invited/plenary lectures in international meetings (conferences)

► Principal investigator of 9 national research projects +3 bilateral international projects.

► Advisor of 25 PhD students (22 defended, 3 on progress, 2 international join program).

- ▶ Guest Editor for a special issue on SERS published in Journal of Nanotechnology (2012)
<http://www.hindawi.com/journals/jnt/2012/413156/>;
- ▶ Co-Editor for a special issue in J. Mol. Structure (2013) for a collection of papers presented at the XXXIst European Congress on Molecular Spectroscopy, Cluj-N, Romania, Aug 26-31, 2012;
- ▶ Co-chairman of the European Congress on Molecular Spectroscopy (EUCMOS 2012) in Cluj-Napoca <http://www.phys.ubbcluj.ro/eucmos2012/> ;
- ▶ Member of the International Scientific Committee of European Congress on Molecular Spectroscopy (<http://eucmos2016.mke.org.hu/organizers-and-committees.html>)
- ▶ Member of the International Scientific Committee of European Conference in Spectroscopy of Biological Molecules (<http://www.ecsbm2015.de/general-information/organizational-remarks/>);
- ▶ 2 articles featured on the front cover of Nanotechnology Journal:
<http://ej.iop.org/pdf/nano/vol22/na2205-webcover.pdf>; Nanotechnology, Vol 26 (5), 2015,
- ▶ 1 article featured on the front cover of Applied Material & Interfaces Journal Vol 5(4), 2013
<http://pubs.acs.org/toc/aamick/5/4>
- ▶ Invited paper in Journal of Optics highlighted in Lab Talk on IOPscience:
<http://iopscience.iop.org/2040-8986/labtalk-article/63085>
- ▶ Review paper in Polymer International 65 (2016) 157—163 highlighted in Materials Views: <http://www.materialsviews.com/towards-more-efficient-oleds-enhancing-the-emission-properties-of-polymeric-semiconductors/>;
- ▶ Research paper highlighted in the Editorial of Nanotechnology dedicated to the International Year of Light 2015 “<http://iopscience.iop.org/0957-4484/26/9/090201/article>”
- ▶ Research paper featured on nanotechweb.org (Lab Talk):
<http://iopscience.iop.org/0957-4484/labtalk-article/48366>

Honors and Awards

1. „Dragomir Hurmuzescu” Romanian Academy Award (1990);
2. Diploma of Scientific Excellence (Babes-Bolyai University in 2008, 2010, 2016).

Functions and Academic Responsibilities

1. Member of CNATDCU (2016-2020)
2. Member of CNATDCU -Appeal Commission (2015-2016)
3. Member of CNDI (2011-2012)
4. Director of Doctoral School (2017-2022);
5. Member of Scientific Council of Babes-Bolyai University (2016-present);

Publications

► Articles in ISI journals

- 228.** *Hybrid Polymeric Therapeutic Microcarriers for Thermoplasmonic-Triggered Release of Resveratrol* D. Stoia, R. Pop, A. Campu, M. Nistor, **S. Astilean**, A. Pintea, M. Suciuc, D. Rugina, M. Focsan, **Colloid Surf. B Biointerfaces**, 220 (2022) 112915 (IF = 5.999)
- 227.** *Assessing the efficiency of triangular gold nanoparticles as NIR photothermal agents in in vitro and melanoma tumor model*, S. Suarasan, A. Campu, A. Vulpoi, M. Banciu, **S. Astilean**, **Int. J. Mol. Sci.**, 23 (2022) 13724 (IF = 6.208)
- 226.** *Photoluminescent Histidine-Stabilized Gold Nanoclusters as Efficient Sensors for Fast and Easy Visual Detection of Fe Ions in Water Using Paper-Based Portable Platform*, A.-M. Hada, M. Zetes, M. Focsan, S. Astilean, A.-M. Craciun, **Int. J. Mol. Sci.**, 23 (2022) 12410 (IF = 6.208)
- 225.** *Portable Plasmonic Paper-Based Biosensor for Simple and Rapid Indirect Detection of CEACAM5 Biomarker via Metal-Enhanced Fluorescence*, L. Susu, A. Vulpoi, **S. Astilean**, M. Focsan, **Int. J. Mol. Sci.**, 23 (2022) 11982 (IF = 6.208)
- 224.** *New methylene blue analogues with N-piperidiny-carbinol units: Synthesis, optical properties and in vitro internalization in human ovarian cancer cells*, B. Stoean, L. Gaina, C. Cristea, R. Silaghi-Dumitrescu, A. Branzanic, M. Focsan, E. Fiser-Fodor, B. Tigiu, C. Moldovan, A. Cegan, P. Achimas-Cadariu, **S. Astilean**, L. Silaghi-Dumitrescu, **Dyes Pigm.** 205 (2022) 110460 (IF = 5.122)
- 223.** *Linezolid nanoAntibiotics and SERS-nanoTags based on polymeric cyclodextrin bimetallic core-shell nanoarchitectures*, A.-M. Hada, M. Potara, S. Astilean, A. Cordaro, G. Neri, M. Malanga, A. Nostro, A. Mazzaglia, A. Scala, A. Piperno, **Carbohydr. Polym.**, 293 (2022) 119736
- 222.** *Glutathione-capped gold nanoclusters as near-infrared-emitting efficient contrast agents for confocal fluorescence imaging of tissue-mimicking phantoms*, A.M. Hada, A.M. Craciun, M. Focsan, A. Vulpoi, E.L. Borcan, S. Astilean, **Microchim. Acta**, 189 (2022) 337
- 221.** *Probing polyvinylpyrrolidone-passivated graphene oxide nanoflakes as contrast agents inside tissue-like phantoms via multimodal confocal microscopy*, M. Potara, S. Suarasan, A.-M. Craciun, M. Focsan, A.-M. Hada, S. Astilean, **Talanta**, 247 (2022) 123581
- 220.** *Cardiac Troponin Biosensor Designs: Current Developments and Remaining Challenges*, A. Campu, I. Muresan, A.M. Craciun, S. Cainap, S. Astilean, M. Focsan, **Int. J. Mol. Sci.**, 23 (2022) 7728

- 219.** *Development and evaluation of a gold nanourchin (GNU)-based sandwich architecture for SERS immunosensing in liquid*, A.S. Tatar, C. Farcau, A. Vulpoi, S. Boca, S. Astilean, **Spectrochim. Acta A Mol. Biomol. Spectrosc.**, 273 (2022) 121069
- 218.** *Size and surface coverage density are major factors in determining thiol modified gold nanoparticles characteristics*, A. Farcas, L. Janosi, S. Astilean, **Comput. Theor. Chem.**, 1209 (2022) 113581
- 217.** *Intrinsic Photoluminescence of Solid-State Gold Nanoclusters: Towards Fluorescence Lifetime Imaging of Tissue-Like Phantoms Under Two-Photon Near-Infrared Excitation*, A.-M. Hada, A. M. Craciun, S. Astilean, **Front. Chem.**, 9 (2021) 761711
- 216.** *Gold nanoclusters performing as contrast agents for non-invasive imaging of tissue-like phantoms via two-photon excited fluorescence lifetime imaging*, A.-M. Hada, A. M. Craciun, S. Astilean, **Analyst**, 146 (2021) 7126-7130
- 215.** *Fluorescent Phtalocyanine-Encapsulated Bovine Serum Albumin Nanoparticles: Their Deployment as Therapeutic Agents in the NIR Region*, R. Borlan, D. Stoia, L. Gaina, A. Campu, G. Marc, M. Perde-Schrepler, M. Sillion, D. Maniu, M. Focsan, S. Astilean., **Molecules**, 26 (2021) 4679
- 214.** *Antibody Functionalized Theranostic Protein Nanoparticles for Synergistic Deep Red Fluorescence Imaging and Multimodal Therapy of Ovarian Cancer*, 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, **Biomaterials Science**, 9 (2021) 6183-6202
- 213.** *Folate-targeted Pluronic-chitosan nanocapsules loaded with IR780 for near-infrared fluorescence imaging and photothermal-photodynamic therapy of ovarian cancer*, M. Potara, T. Nagy-Simon, M. Focsan, E. Licarete, O. Soritau, A. Vulpoi, S. Astilean, **Colloids Surf. B Biointerfaces**, 203 (2021) 111755
- 212.** *New Insight on the Aptamer Conformation and Aptamer/protein Interaction by Surface Enhanced Raman Scattering and Multivariate Statistical Analysis*, W. Safar, A.-S. Tatar, A. Leray, M. Potara, L. Qiqian, M. Edely, N. Djaker, J. Spadavecchia, W. Fu, S. Gam Derouich, N. Felidj, S. Astilean, E. Finot, M. Lamy de la Chapelle, **Nanoscale**, 13 (2021) 12443-12453
- 211.** *One-photon excited photoluminescence of gold nanospheres and its application in prostate specific antigen detection via fluorescence correlation spectroscopy (FCS)*, A-M Craciun, S. Suarasan, M. Focsan, S. Astilean, **Talanta**, 228 (2021) 122242
- 210.** *Folic acid functionalized gold nanoclusters for enabling targeted fluorescence imaging of human ovarian cancer cells*, A.-M. Hada, A.-M. Craciun, M. Focsan, R. Borlan, O. Soritau, M. Todea, S. Astilean, **Talanta**, 225 (2021) 121960
- 209.** *Novel (Phenothiazinyl)Vinyl-Pyridinium Dyes and Their Potential Applications as Cellular Staining Agents*, 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, **Int. J. Mol. Sci.**, 22 (2021) 2985

208. *Fluorescent Polyelectrolyte System to Track Anthocyanins Delivery inside Melanoma Cells*, R. Ghiman, M. Nistor, M. Focșan, A. Pinteau, S. Aștilean and D. Rugina, **Nanomaterials**, 11 (2021) 782

207. *SERS characterization of aggregated and isolated bacteria deposited on silver-based substrates*, C. C. Andrei, A. Moraillon, E. Larquet, M. Potara, S. Astilean, E. Jakab, J. Bouckaert, L. Rosselle, N. Skandrani, R. Boukherroub, F. Ozanam, S. Szunerits, A. Chantal Gouget-Laemmel, **Anal. Bioanal. Chem.**, 413 (2021) 1417-1428

206. *Interventional NIR Fluorescence Imaging of Cancer: Review on Next Generation of Dye-Loaded Protein-Based Nanoparticles for Real-Time Feedback During Cancer Surgery*, R. Borlan, M. Focșan, D. Maniu, S. Astilean, **Int. J. Nanomedicine**, 16 (2021) 2147—2171

205. *A new, fast and facile synthesis method for reduced graphene oxide in N, N-dimethylformamide*, R. Tarcan, M. Handrea-Dragan, O.Todor-Boer, I. Petrovai, C. Farcau, M. Rusu, A. Vulpoi, M. Todea, S. Astilean, I. Botiz, **Synthetic Metals** 269 (2020) 116576

204. *ICG-loaded gold nano-bipyramids with NIR activatable dual PTT-PDT therapeutic potential in melanoma cells*, A. Campu, M. Focșan, F. Lerouge, R. Borlan, L. Tie, D. Rugina, S. Astilean, **Colloid Surf. B**, 194 (2020) 111213

203. *Microfluidic Platform for Integrated Plasmonic Detection in Laminar Flow*, A. Campu, F. Lerouge, A. M. Craciun, T. Murariu, I. Turcu, S. Astilean, M. Focșan, **Nanotechnology**, 31 (2020) 335502

202. *Design of Fluorophore Loaded Human Serum Albumin Nanoparticles for Specific Targeting of NIH:OVCA3 Ovarian Cancer Cells*, R. Borlan, A. S. Tatar, O. Soritau, D. Maniu, G. Marc, A. Florea, M. Focșan, S. Astilean, **Nanotechnology**, 31 (2020) 315102

201. *Intracellular Fate and Impact on Gene Expression of Doxorubicin/Cyclodextrin-Graphene Nanomaterials at Sub-Toxic Concentration*, D. Caccamo, M. Currò, R. Ientile, E. Verderio, A. Scala, A. Mazzaglia, R. Pennisi, M. Musarra-Pizzo, R. Zagami, G. Neri, C. Rosmini, M. Potara, M. Focșan, S. Astilean, A. Piperno, M. Sciortino, **Int. J. Mol. Sci.**, 21 (2020) 4891

200. *Versatile Polypeptide-Functionalized Plasmonic Paper as Synergistic Biocompatible and Antimicrobial Nanoplatform*, L. Tie, M. Răileanu, M. Bacalum, I. Codita, Ș. Negrea, C. Caracoti, E. Drăgulescu, A. Campu, S. Astilean, M. Focșan, **Molecules**, 25 (2020) 3182

199. *Surface Passivation of Carbon Nanoparticles with 1,2-Phenylenediamine towards Photoluminescent Carbon Dots*, A. P. Crisan A.-M. Craciun, I. Mihalache, M. Focșan, C. Socaci, D. Maniu, S. Astilean, L. M. Veca, A. Terec, **Rev. Roum. Chim.**, 65 (2020) 559-566

- 198.** *Calligraphed Selective Plasmonic Arrays on Paper Platforms for Complementary Dual Optical "ON/OFF Switch" Sensing*, L. Susu, A. Campu, S. Astilean, M. Focsan, **Nanomaterials**, 10 (2020) 1025
- 197.** *Control of Microstructure in Polymer: Fullerene Active Films by Convective Self-Assembly*, O. Todor-Boer, I. Petrovai, R. Tarcan, L. David, S. Astilean, I. Botiz, **Thin Solid Films**, 697 (2020) 137780
- 196.** *Reduced Graphene Oxide Today*, R. Tarcan, O. Todor-Boer, I. Petrovai, C. Leordean, S. Astilean, I. Botiz, **J. Mater. Chem. C**, 8 (2020)1198-1224
- 195.** *Casting Light on Intracellular Tracking of a New Functional Graphene-based microRNA Delivery System by FLIM and Raman Imaging*, A. Piperno, A. Mazzaglia, A. Scala, R. Pennisi, R. Zagami, G. Neri, S. M. Torcasio, C. Rosmini, P. G. Mineo, M. Potara, M. Focsan, S. Astilean, G. G. Zhou, M. T. Sciortino, **ACS Appl. Mater. Interfaces**, 11 (2019) 46101 – 46111
- 194.** *Enhancing Photoluminescence Quenching in Donor-Acceptor PCE11:PPCBMB Films through the Optimization of Film Microstructure*, O. Todor-Boer, I. Petrovai, R. Tarcan, A. Vulpoi, L. David, S. Astilean, I. Botiz, **Nanomaterials**, 9 (2019) 1757
- 193.** *CD19-targeted, Raman Tagged Gold Nanourchins as Theranostic Agents Against Acute Lymphoblastic Leukemia*, A.S. Tatar, A. Jurj, C. Tomuleasa, A. Florea, I. Berindan-Neagoe, D. Cialla-May, J. Popp, S. Astilean, S. Boca, **Colloid Surf. B**, 184 (2019) 110478
- 192.** *Assessment of the Photothermal Conversion Efficiencies of Tunable Gold Bipyramids under Irradiation by Two Laser Lines in NIR Biological Window*, A. Campu, A. M. Craciun, M. Focsan, S. Astilean, **Nanotechnology**, 30 (2019) 405701
- 191.** *Efficient Combined Near-Infrared-Triggered Therapy: Phototherapy over Chemotherapy in Chitosan-Reduced Graphene Oxide-IR820 Dye-Doxorubicin Nanoplatfoms*, D. Zaharie-Butucel, M. Potara, S. Suarasan, E. Licarete, S. Astilean, **J. Colloid. Interface Sci**, 552 (2019) 218 – 229
- 190.** *Resveratrol-Delivery Vehicle with anti-VEGF Activity Carried to Human Retinal Pigmented Epithelial Cells Exposed to High-Glucose Induced Conditions*, D. Rugină, R. Ghiman, M. Focșan, F. Tăbăran, F. Copaciuc, M. Suci, A. Pinte, S. Aștilean, **Colloid Surf. B**, 181 (2019) 66 – 75
- 189.** *Controlling the End-to-End Assembly of Gold Nanorods to Enhance the Plasmonic Response in Near Infrared*, L. Tie, M. Focsan, J. Bosson, C. Tira, A. Campu, A. Vulpoi, S. Astilean, **Mater. Res. Express**, 6 (2019) 095038
- 188.** *Fabrication of Gold-Silver Core-Shell Nanoparticles for Performing as Ultrabright SERS-Nanotags Inside Human Ovarian Cancer Cells*, A. M. Hada, M. Potara, S. Suarasan, A. Vulpoi, T. Nagy-Simon, E. Licarete, S. Astilean, **Nanotechnology**, 30 (2019) 315701

- 187.** *Marine Bacterial Exopolymers-Mediated Green Synthesis of Noble Metal Nanoparticles with Antimicrobial Properties*, A. Scala, A. Piperno, A.-M. Hada, S. Astilean, A. Vulpoi, G. Ginestra, A. Marino, A. Nostro, V. Zammuto, C. Gugliandolo, **Polymers**, 11 (2019) 1157-1167
- 186.** *Altering the Optoelectronic Properties of Neat and Blended Conjugated Polymer Films by Controlling the Process of Film Deposition*, O. Todor-Boer, I. Petrovai, R. Tarcan, A.-M. Craciun, L. David, S. B. Angyus, S. Astilean, I. Botiz, **J. Optoelectron. Adv. Mat.**, 21 (2019) 367-372
- 185.** *Intracellular Dynamic Disentangling of Doxorubicin Release from Luminescent Nanogold Carriers by Fluorescence Lifetime Imaging Microscopy (FLIM) under Two-Photon Excitation*, S. Suarasan, A.-M. Craciun, E. Licarete, M. Focsan, K. Magyari, S. Astilean, **ACS Appl. Mater. Interfaces**, 11 (2019) 7812-7822
- 184.** *Multimodal Biosensing on Paper-Based Platform Fabricated by Plasmonic Calligraphy Using Gold Nanopyramids Ink*, A. Campu, L. Susu, F. Orzan, D. Maniu, A. M. Craciun, A. Vulpoi, L. Roiban, M. Focsan, S. Astilean, **Front. Chem.**, 7 (2019) 55
- 183.** *Adsorption of trans- and cis-Resveratrol on Graphene*, R. A. Domokos, M. Potara, S. Astilean, V. Chis, **Phys. Status Solidi B**, 256 (2019) 1800335
- 182.** *Designing Efficient Low-Cost Paper-Based Sensing Plasmonic Nanoplatforms*, L. Susu, A. Campu, A. M. Craciun, A. Vulpoi, S. Astilean, M. Focsan, **Sensors**, 18 (2018) 3035
- 181.** *Gold NanoBipyramids Performing as Highly Sensitive Dual-Modal Optical Immunosensors*, A. Campu, F. Lerouge, D. Chateau, F. Chaput, P. Baldeck, S. Parola, D. Maniu, A. M. Craciun, A. Vulpoi, S. Astilean, M. Focsan, **Anal. Chem.** 90 (2018) 8567-8575
- 180.** *Probing Cellular Uptake and Tracking of Differently Shaped Gelatin-coated Gold Nanoparticles Inside of Ovarian Cancer Cells by Two-Photon Excited Photoluminescence Analyzed by Fluorescence Lifetime Imaging (FLIM)*, S. Suarasan, E. Licarete, S. Astilean, A.-M. Craciun, **Colloids Surf. B**, 166 (2018) 135-143
- 179.** *IR780-dye Loaded Gold Nanoparticles as New Near Infrared Activatable Nanotheranostic Agents for Simultaneous Photodynamic and Photothermal Therapy and Intracellular Tracking by Surface Enhanced Resonant Raman Scattering Imaging*, T. Nagy Simon, M. Potara, A. M. Craciun, E. Licarete, S. Astilean, **J. Colloid Interf Sci.** 517 (2018) 239-250
- 178.** *Functional Micrococcus Lysodeikticus Layers Deposited by Laser Technique for the Optical Sensing of Lysozyme*, V. Dinca, D. Zaharie-Butucel, L. Stanica, S. Brajnicova, V. Marascu, A. Bonciu, A. Cristoccea, L. Gaman, M. Gheorghiu, S. Astilean, A. Vasilescu, **Colloids Surf. B**, 162 (2018) 98-107
- 177.** *Ruxolitinib-conjugated Gold Nanoparticles for Topical Administration: An Alternative for Treating Alopecia?*, S. Boca, C. Berce, A. Jurj, B. Petrushev, L. Pop, G.-A. Gafencu, S. Selicean, V. Moisoiu, D. Temian, W.-T. Micu, S. Astilean, C. Braicu, C. Tomuleasa, I. Berindan-Neagoe, **Med. Hypotheses**, 109 (2017) 42-45

- 176.** *Flexible and Tunable 3D Gold Nanocups Platform as Plasmonic Biosensor for Specific Dual LSPR SERS Immuno-Detection*, M. Focsan, A.M. Craciun, M. Potara, C. Leordean, A. Vulpoi, D. Maniu, S. Astilean, **Sci Rep-UK**, 7 (2017) 14240
- 175.** *Carboplatin-Loaded, Raman-Encoded, Chitosan-Coated Silver Nanotriangles as Multimodal Traceable Nanotherapeutic Delivery Systems and pH Reporters inside Human Ovarian Cancer Cells*, M. Potara, T. Nagy Simon, A. M. Craciun, S. Suarasan, E. Licarete, F. Imre Lucaci, S. Astilean, **ACS Appl. Mater. Interfaces**, 9 (2017) 32565-32576
- 174.** *Shaping Light Spectra and Field Profiles in Metal-coated Monolayers of Etched Microspheres*, C. Tira, I. Ly, R. Vallee, S. Astilean, C. Farcau, **Opt. Mat. Express**, 7 (2017) 2847
- 173.** *Antibody Conjugated, Raman Tagged Hollow Gold–Silver Nanospheres for Specific Targeting and Multimodal Dark-Field/SERS/Two Photon-FLIM Imaging of CD19(+) B Lymphoblasts*, T. Nagy Simon, A. Tatar, A. M. Craciun, A. Vulpoi, M. A. Jurj, A. Florea, C. Tomuleasa, I. Berindan-Neagoe, S. Astilean, S. Boca, **ACS Appl. Mater. Interfaces**, 9 (2017) 21155-21168
- 172.** *Revealing the Structure and Functionality of Graphene Oxide and Reduced Graphene Oxide/Pyrene Carboxylic Acid Interfaces by Correlative Spectral and Imaging Analysis*, D. Zaharie-Butucel, M. Potara, A.M. Craciun, R. Boukherroub, S. Szunerits, S. Astilean, **Phys. Chem. Chem. Phys.**, 19 (2017) 16038-16046
- 171.** *Convective Self-assembly of pi-Conjugated Oligomers and Polymers*, I. Botiz, M-A. Codescu, C. Farcau, C. Leordean, S. Astilean, C. Silva, N. Stingelin, **J. Mater. Chem. C**, 5 (2017) 2513-2518
- 170.** *Flexible Transparent Sensors from Reduced Graphene Oxide Micro-Stripes Fabricated by Convective Self-Assembly*, D. Zaharie-Butucel, L. Digianantonio, C. Leordean, L. Ressler, S. Astilean, C. Farcau, **Carbon**, 113 (2017) 361-370
- 169.** *Enhanced One- and Two-Photon Excited Fluorescence of Cationic (phenothiazinyl)vinylpyridinium Chromophore Attached to Polyelectrolyte-Coated Gold Nanorods*, A. M. Craciun, M. Focsan, L. Gaina, S. Astilean, **Dyes Pigm.**, 136 (2017) 24-30
- 168.** *A Simple and Efficient Design to Improve the Detection of Biotin-Streptavidin Interaction with Plasmonic Nanobiosensors*, M. Focsan, A. Campu, A.M Craciun, M. Potara, C. Leordean, D. Maniu, S. Astilean, **Biosens. Bioelectron.**, 86 (2016) 728-735
- 167.** *Nanomedicine Approaches in Acute Lymphoblastic Leukemia*, A. Tatar, T. Nagy Simon, C. Tomuleasa, S. Boca, S. Astilean, **J. Control. Release**, 238 (2016) 123-138
- 166.** *Doxorubicin-Incorporated Nanotherapeutic Delivery System Based on Gelatin-Coated Gold Nanoparticles: Formulation, Drug Release, and Multimodal Imaging of Cellular Internalization*, S. Suarasan, M. Focsan, M. Potara, O. Soritau, A. Florea, D. Maniu, S. Astilean, **ACS Appl. Mater. Interfaces**, 8 (2016) 22900-22913

- 165.** *Gold Nanoparticles Conjugated with Rituximab for the Treatment of Chronic Lymphocytic Leukemia*, S. Boca, C. Lucan, I. Frinc, B. Petrushev, T. Simon, C. Berce, G.-A. Gafencu, D.Dima, A. Tanase, S. Selicean, V. Pileczki, L. Pop, V. Moisoiu, A. Buzoianu, A. Florea, A. Irimie, S. Astilean, A. Bojan, I. Berindan-Neagoe, C. Tomuleasa, **Farmacia**, 64 (2016) 688-698
- 164.** *Spherical and Flower-Shaped Gold Nanoparticles Characterization by Scattering Correlation Spectroscopy*, N. Djaker, S. Sultana, D.Issaad, S. Boca, H. Moustauoui, J.Spadavecchia, A. Medjahed, M. Bouafia, S. Astilean, M. Lamy de la Chapelle, **J. Phys. Chem. C**, 120 (2016) 11700-11708
- 163.** *Gelatin-coated Gold Nanoparticles as Carriers of FLT3 Inhibitors for Acute Myeloid Leukemia Treatment*, S. Suarasan, T. Simon, S. Boca, C. Tomuleasa, S. Astilean, **Chem. Biol. Drug. Des.**, 87 (2016) 927-935
- 162.** *Two-Photon Fabrication of Three-dimensional Silver Microstructures in Microfluidic Channels for Volumetric Surface-Enhanced Raman Scattering Detection*, M. Focsan, A. M. Craciun, S. Astilean, P. L. Baldeck, **Opt. Mater. Express**, 6 (2016) 1587-1593
- 161.** *Efficient Etching-Free Transfer of High Quality, Large-Area CVD Grown Graphene onto Polyvinyl alcohol Films*, B. Marta, C. Leordean, T. Istvan, I. Botiz, S. Astilean, **Appl. Surf. Sci.**, 363 (2016) 613-618
- 160.** *Metanephrine Neuroendocrine Tumor Marker Detection by SERS Using Au Nanoparticle/Au Film Sandwich Architecture*, S. Boca, C. Farcau, M. Baia, S. Astilean, **Biomed. Microdevices**, 18 (2016) 12:1-10
- 159.** *Altering the Emission Properties of Conjugated Polymers*, I. Botiz, S. Astilean, N. Stingelin, **Polym. Int.**, 65 (2016) 157-163
- 158.** *In vivo Assessment of Bone Marrow Toxicity by Gold Nanoparticle-Based Bioconjugates in Crl:CD1(ICR) Mice*, C. Berce, C. Lucan, B. Petrushev, S. Boca, M. Miclean, O. Sarpataki, S. Astilean, A. Buzoianu, C. Tomuleasa, A. Bojan, **Int. J. Nanomedicine**, 11 (2016) 5261-5273
- 157.** *Surface Passivation of Carbon Nanoparticles with p-phenylenediamine towards Photoluminescent Carbon Dots*, A. M. Craciun, A. Diac, M. Focsan, C. Socaci, K. Magyari, D. Maniu, I. Mihalache, L. M. Veca, S. Astilean, A. Terec, **RSC Adv.**, 6 (2016) S6944-S6951
- 156.** *Novel Strategies for the Improvement of Stem Cells' Transplantation in Degenerative Retinal Diseases*, S. D. Nicoara, S. Susman, O. Tudoran, O. Barbos, G. Chereches, S. Astilean, M. Potara, O. Soritau, **Stem Cells Int.**, 2016 (2016) 1236721
- 155.** *Gold Nanoparticles Enhance the Effect of Tyrosine Kinase Inhibitors in Acute Myeloid Leukemia Therapy*, B. Petrushev, S. Boca, T. Simon, C. Berce, I. Frinc, D. Dima, S. Selicean, G.-A. Gafencu, A. Tanase, M. Zdrenghia, A. Florea, S. Suarasan, L. Dima, R. Stanciu, A. Jurj, A. Buzoianu, A. Cucuianu, S. Astilean, A. Irimie, C. Tomuleasa, I. Berindan-Neagoe, **Int. J. Nanomedicine**, 11 (2016) 641-660

154. *Chemiresistive/SERS Dual Sensor Based on Densely Packed Gold Nanoparticles*, S. Boca, C. Leordean, S. Astilean, C. Farcau, **Beilstein J. Nanotechnol.**, 6 (2015)
153. *Designing Chitosan–Silver Nanoparticles–Graphene Oxide Nanohybrids with Enhanced Antibacterial Activity Against Staphylococcus Aureus*, B. Marta, M. Potara, M. Iliut, E. Jakob, T. Radu, F. Imre-Lucaci, G. Katona, O. Popescu, S. Astilean, **Colloids Surf. A Physicochem. Eng. Asp.**, 487 (2015) 113–120
152. *Metallo Complexes of Meso-phenothiazinylporphyrins: Synthesis, Linear and Nonlinear Optical Properties*, B. Brem, E. Gal, L. Gaina, C. Cristea, A. M. Gabudean, S. Astilean, L. Silaghi-Dumitrescu, **Dyes Pigm.**, 123 (2015) 386-395
151. *Design of FLT3 Inhibitor - Gold Nanoparticle Conjugates as Potential Therapeutic Agents for the Treatment of Acute Myeloid Leukemia*, T. Simon, C. Tomuleasa, A. Bojan, I. Berindan-Neagoe, S. Boca, S. Astilean, **Nanoscale Res. Lett.**, 10 (2015) 466
150. *Polarized SERS on Linear Arrays of Silver Half-Shells: SERS re-Radiation Modulated by Local Density of Optical States*, C. Farcau, R. A. L. Vallee, S. Boca, S. Astilean, **J. Opt.**, 17 (2015) 114007
149. *Fabrication of Highly Active and Cost Effective SERS Plasmonic Substrates by Electrophoretic Deposition of Gold Nanoparticles on a DVD Template*, C. Leordean, B. Marta, A.-M. Gabudean, M. Focsan, I. Botiz, S. Astilean, **Appl. Surf. Sci.**, 349 (2015) 190-195
148. *Biosynthesized Silver Nanoparticles Performing as Biogenic SERS-Nanotags for Investigation of C26 Colon Carcinoma Cells*, M. Potara, M. Bawaskar, T. Simon, S. Gaikwad, E. Licarete, A. Ingle, M. Banciu, A. Vulpoi, S. Astilean, M. Rai, **Colloids Surf. B**, 133 (2015) 296-303
147. *Designing Theranostic Agents Based on Pluronic Stabilized Gold Nanoaggregates Loaded with Methylene Blue for Multimodal Cell Imaging and Enhanced Photodynamic Therapy*, T. Simon, M. Potara, A. M. Gabudean, E. Licarete, M. Banciu, S. Astilean, **ACS Appl. Mater. Interfaces**, 7 (2015) 16191-16201
146. *One-pot, Green Synthesis of Gold Nanoparticles by Gelatin and Investigation of their Biological Effects on Osteoblast Cells*, S. Suarasan, M. Focsan, O. Soritau, D. Maniu, S. Astilean, **Colloids Surf. B**, 132 (2015) 122-131
145. *Surface Modeling of Nanopatterned Polymer Films Obtained by Colloidal Templated Electropolymerization*, A. Cernat, E. Bodoki, C. Farcau, S. Astilean, S. Griveau, F. Bedioui, R. Sandulescu, **J. Nanosci. Nanotechnol.**, 15 (2015) 3359-3364
144. *Fabrication of Stable Network-Like Gold Nanostructures in Solution and their Assessment as Efficient NIR-SERS Platforms for Organic Pollutants Detection*, D. S. Tira, M. Potara, S. Astilean, **Mater. Res. Bull.**, 64 (2015) 267–273

- 143.** *Comparative Toxicity Evaluation of Flower-Shaped and Spherical Gold Nanoparticles on Human Endothelial Cells*, S. Sultana, S. Boca, N. Djaker, M. Salerno, N. Charnaux, S. Astilean, H. Hlawaty and M. L. de la Chapelle, **Nanotechnology**, 26 (2015) 055101
- 142.** *Covalent Conjugation of Carbon Dots with Rhodamine B and Assessment of their Photophysical Properties*, A. Diac, M. Focsan, C. Socaci, A. M. Gabudean, C. Farcau, D. Maniu, E. Vasile, A. Terec, L. M. Veca, S. Astilean, **RSC Adv.**, 5 (2015) 77662-77669
- 141.** *Emission Properties of MEH-PPV in Thin Films Simultaneously Illuminated and Annealed at Different Temperatures*, I. Botiz, P. Freyberg, C. Leordean, A.-M. Gabudean, S. Astilean, A. C.-M. Yang, N. Stingelin, **Synth. Met.**, 199 (2015) 33-36
- 140.** *Surface-Enhanced Spectroscopy on Plasmonic Oligomers Assembled by AFM Nanoxerography*, P. Moutet, N. M. Sangeetha, L. Ressler, N. Vilar-Vidal, M. Comesana-Hermo, S. Ravaine, R. A. L. Vallee, A. M. Gabudean, S. Astilean, C. Farcau, **Nanoscale**, 7 (2015) 2009-2022
- 139.** *Comparative Evaluation by Scanning Confocal Raman Spectroscopy and Transmission Electron Microscopy of Therapeutic Effects of Noble Metal Nanoparticles in Experimental Acute Inflammation*, A. Filip, M. Potara, A. Florea, I. Baldea, D. Olteanu, P. Bolfa, S. Clichici, L. David, B. Moldovan, L. Olenic, S. Astilean, **RSC Adv.**, 5 (2015) 67435-67448
- 138.** *Controlling the Luminescence of Carboxyl- Functionalized CdSe/ZnS Core-Shell Quantum Dots in Solution by Binding with Gold Nanorods*, M. Focsan, A. M. Gabudean, A. Vulpoi, S. Astilean, **J. Phys. Chem. C**, 118 (2014) 25190-25199
- 137.** *Steady-State and Time-Resolved Fluorescence Studies on the Conjugation of Rose Bengal to Gold Nanorods*, A. Gabudean, R. Groza, D. Maniu, S. Astilean, **J. Mol. Struct.**, 1073 (2014) 97-101
- 136.** *Periodically Nanostructured Substrates for Surface Enhanced Raman Spectroscopy*, C. Farcau, S. Astilean, **J. Mol. Struct.**, 1073 (2014) 102-111
- 135.** *Finite-Difference Time-Domain (FDTD) Design of Gold Nanoparticle Chains with Specific Surface Plasmon Resonances*, C. Tira, D.S. Tira, T. Simon, S. Astilean, **J. Mol. Struct.**, 1072 (2014) 137-143
- 134.** *Multiscale Electromagnetic SERS Enhancement on Self-Assembled Micropatterned Gold Nanoparticle Films*, C. Leordean, M. Potara, S. Boca-Farcau, A. Vulpoi, S. Astilean, C. Farcau, **J. Raman Spectrosc.**, 45 (2014) 627-635
- 133.** *Enhancing the Photoluminescence Emission of Conjugated MEH-PPV by Light Processing*, I. Botiz, P. Freyberg, C. Leordean, A.-M. Gabudean, S. Astilean, A. C.-M. Yang, N. Stingelin, **ACS Appl. Mater. Interfaces**, 6 (2014) 4974-4979

- 132.** *Negative Index Optical Chiral Metamaterial Based on Asymmetric Hexagonal Arrays of Metallic Triangular Nanoprisms*, M. Giloan, S. Astilean, **Opt. Commun.**, 315 (2014) 122-129
- 131.** *Rhodamine B-Coated Gold Nanoparticles as Effective "Turn-on" Fluorescent Sensors for Detection of Zinc II Ions in Water*, D.S. Tira, M. Focsan, S. Ulinici, D. Maniu, S. Astilean, **Spectrosc. Lett.**, 47 (2014) 153-159
- 130.** *Folic Acid-Conjugated, SERS-Labeled Silver Nanotriangles for Multimodal Detection and Targeted Photothermal Treatment on Human Ovarian Cancer Cells*, S. Boca-Farcu, M. Potara, T. Simon, A. Juhem, P. Baldeck, S. Astilean, **Mol. Pharm.**, 11 (2014) 391-399
- 129.** *Pluronic-Coated Silver Nanoprisms: Synthesis, Characterization and their Antibacterial Activity*, B. Marta, E. Jakab, M. Potara, T. Simon, F. Imre-Lucaci, L. Barbu-Tudoran, O. Popescu, S. Astilean, **Colloids Surf. A Physicochem. Eng. Asp.**, 441 (2014) 77-83
- 128.** *Monitoring the Effects of Ultraviolet and Visible Light on Rb and Vitamin A in Milk*, M. Iliut, M. Iosin, S. Astilean, **Environ. Eng. Manag. J.**, 12 (2013) 2443-2448
- 127.** *LED-Activated Methylene Blue-Loaded Pluronic-Nanogold Hybrids for in vitro Photodynamic Therapy*, T. Simon, S. Boca, A. M. Gabudean, P. Baldeck, S. Astilean, **J. Biophotonics**, 6 (2013) 950-959
- 126.** *Riboflavin Enhanced Fluorescence of Highly Reduced Graphene Oxide*, M. Iliut, A. M. Gabudean, C. Leordean, T. Simon, C. M. Teodorescu, S. Astilean, **Chem. Phys. Lett.**, 586 (2013) 127-131
- 125.** *Enhanced Thermal Stability of Gelatin Coated Gold Nanorods in Water Solution*, V. Canpean, A.M. Gabudean, S. Astilean, **Colloids Surf. A Physicochem. Eng. Asp.**, 433 (2013) 9-13
- 124.** *Spectroscopic Investigation of PVA-TiO₂ Membranes Gamma Irradiated*, M. Todica, L. Udrescu, G. Damian, S. Astilean, **J. Mol. Struct.**, 1044 (2013) 328-330
- 123.** *S-acetyl-calix[8]arene Adsorption on Polycrystalline Au Surface: A Kinetic Study*, A. Killyenia, A. Nicoara, V. Canpean, A. Kun, S. Astilean, I.C. Popescu, **Electrochim. Acta**, 102 (2013) 225-232
- 122.** *Localised Surface Plasmon Resonance Biosensor for the Protein Detection*, M. Cottat, N. Thioune, A.M. Gabudean, N. Lidgi-Guigui, M. Focsan, S. Astilean, M. Lamy de la Chapelle, **Plasmonics**, 8 (2013) 699-704
- 121.** *Dual-Band Optical Negative Index Metamaterial Based on Hexagonal Arrays of Triangular Nanoholes in Metal-Dielectric Films*, M. Giloan, S. Astilean, **Opt. Commun.**, 296 (2013) 141-148
- 120.** *Gold-Pluronic Core-Shell Nanoparticles: Synthesis, Characterization and Biological Evaluation*, T. Simon, S. Boca, D. Biro, P. Baldeck, S. Astilean, **J. Nanopart. Res.**, 15 (2013) 1578
- 119.** *Gelatin-Nanogold Bioconjugates as Effective Plasmonic Platforms for SERS Detection and Tagging*, S. Suarasan, M. Focsan, D. Maniu, S. Astilean, **Colloids Surf. B**, 103 (2013) 475-481

- 118.** *Polarization-Sensitive Linear Plasmonic Nanostructures via Colloidal Lithography with Uniaxial Colloidal Arrays*, V. Saracut, M. Giloin, M. Gabor, S. Astilean, C. Farcau, **ACS Appl. Mater. Interfaces**, 5 (2013) 1362-1369 *This publication has been highlighted on the front cover of the journal*
- 117.** *Chemical Decomposition of CdTe and CdBr₂ Dopants in KBr*, A. Bensouici, M. Ayadi, M. Iosin, G. Damian, J. L. Plaza, S. Astilean, M. Sebais, 2013 15th International Conference On Transparent Optical Networks (ICTON 2013) Book Series: **IEEE**, International Conference on Transparent Optical Networks-ICTON (2013) proceedings paper
- 116.** *Study of Gold Nanorods – Protein Interaction by Localized Surface Plasmon Resonance Spectroscopy*, N. Thioune, N. Lidgi-Guigui, M. Cottat, A.-M. Gabudean, M. Focsan, H.M. Benoist, S. Astilean, M. Lamy de la Chapelle, **Gold Bull.**, 46 (2013) 275-281
- 115.** *Easy and Cheap Fabrication of Ordered Pyramidalshaped Plasmonic Substrates for Detection and Quantitative Analysis Using Surface-Enhanced Raman Spectroscopy*, C. Leordean, A. M. Gabudean, V. Canpean, S. Astilean, **Analyst** 138 (2013) 4975-4981
- 114.** *Chitosan-Coated Triangular Silver Nanoparticles as A Novel Class of Biocompatible, Highly Sensitive Plasmonic Platforms for Intracellular SERS Sensing and Imaging*, M. Potara, S. Boca, E. Licarete, A. Damert, M.-C. Alupeii, M. T. Chiriac, O. Popescu, U. Schmidt, S. Astilean, **Nanoscale**, 5 (2013) 6013-6022
- 113.** *A New Green, Ascorbic Acid-Assisted Method for Versatile Synthesis of Au-Graphene Hybrids As Efficient Surface-Enhanced Raman Scattering Platforms*, M. Iliut, C. Leordean, V. Canpean, C. M. Teodorescu, S. Astilean, **J. Mater. Chem. C**, 1 (2013) 4094-4104
- 112.** *Reliable Plasmonic Substrates for Bioanalytical SERS Applications Easily Prepared by Convective Assembly of Gold Nanocolloids*, C. Farcau, M. Potara, C. Leordean, S. Boca, S. Astilean, **Analyst**, 138 (2013) 546-552
- 111.** *Hybrid Plasmonic Platforms Based on Silica-Encapsulated Gold Nanorods as Effective Spectroscopic Enhancers for Raman and Fluorescence Spectroscopy*, A. Gabudean, D. Biro, S. Astilean, **Nanotechnology**, 23 (2012) 485706
- 110.** *Optical Properties of Single Silver Triangular Nanoprism*, F. K Guedje, M. Giloin, M. Potara, M N Hounkonnou, S. Astilean, **Phys. Scr.**, 86 (2012) 055702
- 109.** *Temperature Effect on the SERS Signature of p-aminothiophenol: A New Evidence for the Production of p,p'-dimercaptoazobenzene on Metallic Nanostructures*, V. Canpean, S. Astilean, **Spectrochim. Acta A**, 96 (2012) 862-867
- 108.** *Pluronic-Nanogold Hybrids: Synthesis and Tagging with Photosensitizing Molecules*, T. Simon, S. Boca, S. Astilean, **Colloids Surf. B**, 97 (2012) 77-83

- 107.** *Gold Nanorods Performing as Dual-Modal Nanoprobes via Metal-Enhanced Fluorescence (MEF) and Surface-Enhanced Raman Scattering (SERS)*, A. Gabudean, M. Focsan, S. Astilean, **J. Phys. Chem. C**, 116 (2012) 12240-12249
- 106.** *Designing Polarization Insensitive Negative Index Metamaterial for Operation in Near Infrared*, M. Giloan, S. Astilean, **Opt. Commun.**, 285 (2012) 2195-2200
- 105.** *Visible Frequency Range Negative Index Metamaterial of Hexagonal Arrays of Gold Triangular Nanoprisms*, M. Giloan, S. Astilean, **Opt. Commun.**, 285 (2012) 1533-1541
- 104.** *Understanding Plasmon Resonances of Metal-Coated Colloidal Crystal Monolayers*, C. Farcau, M. Giloan, E. Vinteler, S. Astilean, **Appl. Phys. B**, 106 (2012) 849–856
- 103.** *Chitosan-Coated Anisotropic Silver Nanoparticles as a SERS Substrate for Single-Molecule Detection*, M. Potara, M. Baia, C. Farcau, S. Astilean, **Nanotechnology**, 23 (2012) 055501 *This publication has been highlighted on the journal web page: <http://iopscience.iop.org/0957-4484/labtalk-article/48366>*
- 102.** *Surface-Enhanced Raman Scattering (SERS) Analysis of Urea Trace in Urine, Fingerprint, and Tear Samples*, C. Leordean, V. Canpean, S. Astilean, **Spectrosc. Lett.**, 45 (2012) 550-555
- 101.** *Microarrays of Gold Nanoparticle Clusters Fabricated by Stop&Go Convective Self-Assembly for SERS-Based Sensor Chips*, C. Farcau, N. M. Sangeetha, N. Decorde, S. Astilean, L. Ressler, **Nanoscale**, 4 (2012) 7870-7877
- 100.** *Study of ZnO Nanoparticles Growth Through Successive Chemical Solution Deposition onto Solid Substrates Patterned with Metallic Nanoparticles*, V. Canpean, S. Astilean, **Part. Sci. Technol.**, 30 (2012) 416-423
- 99.** *Chitosan-Coated Triangular Silver Nanoparticles as A Novel Class of Biocompatible, Highly Effective Photothermal Transducers for Cancer Treatment*, S. Boca, M. Potara, A. M. Gabudean, A. Juhem, P. Baldeck, S. Astilean, **Cancer Lett.**, 311 (2011) 131-140 *This publication has been highlighted among the most downloaded articles published in 2011 in Cancer Letters, see Top 25 Hottest Articles*
- 98.** *Interplay Between Gold Nanoparticle Biosynthesis and Metabolic Activity of Cyanobacterium Synechocystis sp. PCC 6803*, M. Focsan, I. I. Ardelean, C. Craciun, S. Astilean, **Nanotechnology**, 22 (2011) 485101
- 97.** *Formation of Size and Shape Tunable Gold Nanoparticles in Solution by Bio-Assisted Synthesis with Bovine Serum Albumin in Native and Denaturated State*, M. Focsan, A. M. Gabudean, V. Canpean, D. Maniu, S. Astilean, **Mater. Chem. Phys.**, 129 (2011) 939-942
- 96.** *Simple Colloidal Lithography Approach to Generate Inexpensive Stamps for Polymer Nano-Patterning*, C. Farcau, S. Astilean, **Mater. Lett.**, 65 (2011) 2190-2192

95. *Light Transmission and Local Field Enhancement in Arrays of Silver Nanocylinders*, M. Giloan, S. Zaiba, G. Vitrant, P. L. Baldeck, S. Astilean, **Opt. Commun.**, 284 (2011) 3629-3634
94. *Localized Surface Plasmon Resonance (LSPR) and Surface-Enhanced Raman Scattering (SERS) Studies of 4-Aminothiophenol Adsorption on Gold Nanorods*, A.M. Gabudean, D. Biro, S. Astilean, **J. Mol. Struct.**, 993 (2011) 420-424
93. *Synergistic Antibacterial Activity of Chitosan–Silver Nanocomposites on Staphylococcus Aureus*, M. Potara, E. Jakab, A. Damert, O. Popescu, V. Canpean, S. Astilean, **Nanotechnology**, 22 (2011) 135101
92. *Uptake and Biological Effects of Chitosan-Capped Gold Nanoparticles on Chinese Hamster Ovary Cells*, S. Boca, M. Potara, F. Toderas, O. Stephan, P. L. Baldeck, S. Astilean, **Mater. Sci. Eng. C**, 31 (2011) 184–189
91. *Laser Microstructuring of Three-Dimensional Enzyme Reactors in Microfluidic Channels*, M. Iosin, T. Scheul, C. Nizak, O. Stephan, S. Astilean, P. Baldeck, **Microfluid. Nanofluid.**, 10 (2011) 685 – 690
90. *Flower-Shaped Gold Nanoparticles: Synthesis, Characterization and their Application as SERS-Active Tags Inside Living Cells*, S. Boca, D. Rugina, A. Pintea, L. Barbu, S. Astilean, **Nanotechnology**, 22 (2011) 055702 *This publication has been highlighted on the front cover of Nanotechnology Journal*
89. *Spectroscopic Studies on pH- and Thermally Induced Conformational Changes of Bovine Serum Albumin Adsorbed onto Gold Nanoparticles*, M. Iosin, V. Canpean, S. Astilean, **J. Photochem. Photobiol. A.**, 217 (2011) 395 – 401
88. *Numerically Modelling The O₃/Uv Advanced Oxidation Reactors by Using the Computational Fluid Dynamics Method*, S.C. Ulinici, G. Vlad, B. Humoreanu, S. Astilean, **Stud. U. Babeş-Bolyai. Chem.**, 56 (2011) 169-180
87. *Evidence of A Surface Plasmon-Mediated Mechanism in the Generation of the SERS Background*, C. Farcau, S. Astilean, **Chem. Commun.**, 47 (2011) 3861 *Invited paper*
86. *Solution Phase, Dual LSPR-SERS Plasmonic Sensors of High Sensitivity and Stability Based on Chitosan-Coated Anisotropic Silver Nanoparticles*, M. Potara, A.-M. Gabudean, S. Astilean, **J. Mater. Chem.**, 11 (2011) 3625-3633
85. *Raman Imaging Investigation on PAA-Clotrimazole System*, C.V. Pop, T. Stefan, S. Astilean, M. Todica, **Stud. U. Babeş-Bolyai. Chem.**, 56 (2011) 35-42
84. *Disentangling SERS Signals from Two Molecular Species: A New Evidence for the Production Of p,p'-Dimercaptoazobenzene by Catalytic Coupling Reaction of p-Aminothiophenol on Metallic Nanostructures*, V. Canpean, M. Iosin, S. Astilean, **Chem. Phys. Lett.**, 500 (2010) 277 – 282

83. *Study of Tryptophan – Assisted Synthesis of Gold Nanoparticles by Combining Uv-Vis, Fluorescence and SERS Spectroscopy*, M. Iosin, P.L. Baldeck, S. Astilean, **J. Nanopart. Res.**, 12 (2010) 2843-2849
82. *Study of the Interaction Between CdSe/ZnS Core-Shell Quantum Dots and Bovine Serum Albumin by Spectroscopic Techniques*, M. M. Dzagli, V. Canpean, M. Iosin, M. A. Mohou, S. Astilean, **J. Photochem. Photobiol. A**, 215 (2010) 118 - 122
81. *Mapping the SERS Efficiency and Hot-Spots Localization on Gold Film over Nanospheres Substrates*, C. Farcau, S. Astilean, **J. Phys. Chem. C**, 114 (2010) 11717-11722
80. *Detoxification of Gold Nanorods by Conjugation With Thiolated Poly(Ethylene Glycol) and their Assessment as SERS-Active Carriers of Raman Tags*, S. Boca, S. Astilean, **Nanotechnology**, 21 (2010) 235601
79. *Extending Nanosphere Lithography for the Fabrication of Periodic Arrays of Subwavelength Metallic Nanoholes*, V. Canpean, S. Astilean, **Mater. Lett.**, 63 (2009) 2520-2522
78. *Silver Half-Shell Arrays with Controlled Plasmonic Response for Fluorescence Enhancement Optimization*, C. Farcau, S. Astilean, **Appl. Phys. Lett.**, 95 (2009) 193110
77. *Convective Assembly of Two-Dimensional Nanosphere Lithographic Masks*, V. Canpean, S. Astilean, T. Petrisor Jr., M. Gabor and I. Ciascai, **Mater. Lett.**, 63 (2009) 1834-1836
76. *The Synthesis of Biocompatible and SERS-Active Gold Nanoparticles Using Chitosan*, M. Potara, D. Maniu, S. Astilean, **Nanotechnology**, 20 (2009) 315602
75. *Multilayer Structures of Self-Assembled Gold Nanoparticles as a Unique SERS and SEIRA Substrate*, M. Baia, F. Toderas, L. Baia, D. Maniu, S. Astilean, **ChemPhysChem**, 10 (2009) 1106-1111
74. *Study of Protein–Gold Nanoparticle Conjugates by Fluorescence and Surface-Enhanced Raman Scattering*, M. Iosin, F. Toderas, P.L. Baldeck, S. Astilean, **J. Mol. Struct.**, 924 - 926 (2009) 196 – 200
73. *An Ethylene-Glycol Decorated Ruthenium (II) Complex for Two-Photon Photodynamic Therapy*, S. Boca, M. Four, A. Bonne, B. van der Sanden, S. Astilean, P. L. Baldeck, G. Lemerrier, **Chem. Commun.**, 30 (2009) 4590-4592
72. *Multifunctional Plasmonic Sensors on Low-Cost Subwavelength Metallic Nanoholes Arrays*, V. Canpean, S. Astilean, **Lab Chip**, 9 (2009) 3574-3579
71. *Disorder Effects in Reflectance Spectra of Colloidal Photonic Crystals*, E. Vințeler, C. Farcău, S. Aștilean, **Nucl. Instrum. Methods Phys. Res. B**, 267 (2009) 393-396
70. *Interaction of Light with Metallic Nanohole Arrays*, V. Canpean, S. Astilean, **Nucl. Instrum. Methods Phys. Res. B**, 267 (2009) 397-399

69. *Luminescence Properties of Gold Nanorods*, F. Toderas, M. Iosin, S. Astilean, **Nucl. Instrum. Meth. B.**, 267 (2009) 400 – 402
68. *Plasmon-Enhanced Fluorescence of Dye Molecules*, M. Iosin, P.L. Baldeck, S. Astilean, **Nucl. Instrum. Methods Phys. Res. B**, 267 (2009) 403 – 405
67. *The Study of Raman Enhancement Efficiency as Function of Nanoparticle Size and Shape*, S. Boca, C. Farcau, S. Astilean, **Nucl. Instrum. Methods Phys. Res. B**, 267 (2009) 406 – 410
66. *Experimental and Theoretical Investigation of Optical Properties of Colloidal Photonic Crystal Films*, C. Farcău, E. Vinteler, S. Aștilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 3165-3168
65. *Tuning of Gold Nanoparticles Plasmon Resonances by Experiment and Simulation*, F. Toderas, M. Baia, V. Farcau, S. Astilean, S. Ulinici, **J. Optoelectron. Adv. Mat.**, 10 (2008) 3265-3269
64. *Tuning the Plasmon Resonances of Gold Nanoparticles by Controlling Their Size and Shape*, F. Toderas, M. Baia, D. Maniu, S. Astilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 2282-2284
63. *In Vitro Biosynthesis of Gold Nanotriangles for Surface-Enhanced Raman Spectroscopy*, M. Iosin, F. Toderas, P. Baldeck and S. Astilean, **J. Optoelectron. Adv. M.**, 10 (9) (2008) 2285-2288
62. *Designing the Colour of Photonic Crystals for Sensors Applications*, E. Vințeler, C. Farcău, S. Aștilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 2298-2302
61. *Ultrasound-Assisted Synthesis of Highly Disperse Zinc Sulphide Powders*, A.R. Tomsa, E.J. Popovici, A.I. Cadis, M. Stefan, L. Barbu-Tudoran, S. Astilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 2342-2345
60. *Periodically Nanostructured Noble-Metal Thin Films with Enhanced Optical Properties*, C. Farcau, V. Canpean, M. Gabor, T. Petrisor Jr., S. Astilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 809-812
59. *Raman Investigation of Some Polymeric Gels of Pharmaceutical Interest*, M. Todica, E. Dinte, C.V. Pop, C. Farcau, S. Astilean, **J. Optoelectron. Adv. Mat.**, 10 (2008) 823-825
58. *Bridging Biomolecules with Nanoparticles: Surface-Enhanced Raman Scattering from Colon Carcinoma and Normal Tissue*, S. Cinta Panzaru, L.M. Andronie, I. Domsa, O. Cozar, S. Astilean, **J. Raman Spectrosc.**, 39 (2008) 331-334
57. *Probing the Unusual Optical Transmission of Silver Films Deposited on Two-dimensional Regular Arrays of Polystyrene Microspheres*, C. Farcau, S. Astilean, **J. Opt. A: Pure Appl. Opt.**, 9 (2007) S345-S349
56. *Preliminary Investigation by Raman Spectroscopy of Some Polymeric Matrix with Pharmaceutical Applications*, M. Todica, C.V. Pop, E. Dinte, C. Farcau, S. Astilean, **Mod. Phys. Lett. B**, 21 (2007) 987-995

55. *Controlling Gold Nanoparticle Assemblies for Efficient Surface-Enhanced Raman Scattering and Localized Surface Plasmon Resonance*, F. Toderas, M. Baia, L. Baia, S. Astilean, **Nanotechnology**, 18 (2007) 255702
54. *Shake-Induced Order in Nanosphere Systems*, F. Jarai-Szabo, Z. Neda, S. Astilean, C. Farcau, A. Kuttesch, **Eur. Phys. J. E**, 23 (2007) 153-159
53. *NMR Hole Burning in Magnetic Field Gradient*, M. Todica, S. Astilean, C.V. Pop, B. Bluemich, **J. Optoelectron. Adv. Mat.**, 9 (2007) 916-918
52. *Synthesis and Raman Characterization of Single-Walled Carbon Nanotubes Growth by Injection Chemical Vapour Deposition*, Zs. Szekrenyes, P. Nemes-Incze, Al. Darabont, N.S. Daroczi, A. A. Koos, Z.E. Horvath, S. Astilean, D.R.T. Zahn, L.P. Biro, **J. Optoelectron. Adv. Mat.**, 9 (2007) 605-609
51. *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. Optoelectron. Adv. Mat.**, 9 (2007) 625 – 628
50. *Two-Photon Laser Deposition of Gold Nanowires*, N. Tosa, G. Vitrant, P.L. Baldeck, O. Stephan, S. Astilean, I. Grosu, **J. Optoelectron. Adv. Mat.**, 9 (2007) 641-645
49. *Microstructuring of Protein Matrices by Laser-Induced Photochemistry*, M. Iosin, O. Stephan, S. Astilean, A. Dupperay, P.L. Baldeck, **J. Optoelectron. Adv. Mat.**, 9 (2007) 716 – 720
48. *Density Functional Theory Investigation of P-Aminothiophenol Molecules Adsorbed on Gold Nanoparticles*, D. Maniu, V. Chis, M. Baia, F. Toderas, S. Astilean, **J. Optoelectron. Adv. Mat.**, 9 (2007) 733-736
47. *Raman Structural Investigation of Manganese Doped Tellurite Glasses*, D. Maniu, I. Ardelean, T. Iliescu, S. Astilean, N. Muresan, **J. Optoelectron. Adv. Mat.**, 9 (2007) 737-740
46. *Understanding Plasmonic Properties and Surface-Enhanced Raman Scattering of Silver Coated Colloidal Crystals*, C. Farcau, S. Astilean, **J. Optoelectron. Adv. Mat.**, 9 (2007) 772-775
45. *Noble-Metal Nanostructures for Controlling Surface Plasmons and Sensing Molecules*, S. Astilean, **Radiat. Phys. Chem.**, 76 (2007) 436-439
44. *Observation of Optical Dispersion Effects in Metallic Nanostructures Fabricated by Laser Illumination of An Organic Polymer Matrix Doped with Metallic Salts*, G. Vitrant, J. Bosson, N. Tosa, T. Rosenzweig, O. Stephan, S. Astilean, P.L. Baldeck, **Proc. SPIE**, 6470 (2007) 647000
43. *Interplay Between Photonic and Plasmonic Modes in Optical Properties of Silver-Coated Two Dimensional Colloidal Crystals*, C. Farcau, A. Kuttesch, T. Petrisor, L. Barbu-Tudoran, C. Craciun, S. Astilean, **Proc. SPIE**, 6785 (2007) 678518

42. *Controlled Deposition of Photonic Polystyrene-Nanosphere Films*, A. Kuttesch, C. Farcau, Z. Neda, S. Astilean, **Proc. SPIE**, 6785 (2007) 678500
41. *Gold Films Deposited Over Regular Arrays of Polystyrene Nanospheres As Highly Effective SERS Substrates from Visible to NIR*, L. Baia, M. Baia, J. Popp, S. Astilean, **J. Phys. Chem. B**, 110 (2006) 23982-2398
40. *Spring-Block Type Models for Capillarity-Driven Self-Organized Nanostructures*, F. Jarai-Szabo, A. Kuttesch, S. Astilean, Z. Neda, N. Chakrapami, P.M. Ajayan, R. Vajtai, **J. Optoelectron. Adv. Mat.**, 8 (2006) 1083-1087
39. *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 (2006) 127 – 132
38. *Surface-Enhanced Raman Scattering Efficiency of Truncated Tetrahedral Ag Nanoparticle Arrays Mediated by Electromagnetic Couplings*, M. Baia, L. Baia, S. Astilean, J. Popp, **Appl. Phys. Lett.**, 88 (2006) 143121
37. *Optical Properties of Metallic Nanostructures Fabricated by Two-Photon Induced Photoreduction*, N. Tosa, J. Bosson, M. Pierre, C. Rambaud, M. Bouriau, G. Vitrant, O. Stephan, S. Astilean, P.L. Baldeck, **Proc. SPIE**, 6195 (2006) 619501
36. *Optical and Structural Characterization of Periodic Silver-Polystyrene Nanocomposites*, C. Farcau, S. Astilean, **J. Optoelectron. Adv. Mat.**, 7 (2005) 2721-2725
35. *Understanding Self-Assembled Nanosphere Patterns*, F. Jarai-Szabo, S. Astilean, Z. Neda, **Chem. Phys. Lett.**, 408 (2005) 241-246
34. *Gold Nanostructured Films Deposited on Polystyrene Colloidal Crystal Templates for Surface-Enhanced Raman Spectroscopy*, M. Baia, L. Baia, S. Astilean, **Chem. Phys. Lett.**, 404 (2005) 3-8
33. *Transition from Localized Surface Plasmon Resonance to Extended Surface Plasmon-Polariton As Metallic Nanoparticles Merge to Form a Periodic Hole-Array*, W. A. Murray, S. Astilean, W. L. Barnes, **Phys. Rev. B**, 69 (2004) 165407
32. *Controlling the Fluorescence Lifetime of Dyes in Nanostructured Geometries*, S. Astilean, S. Garrett, P. Andrew, W.L. Barnes, **J. Mol. Struct.**, 651-653 (2003) 277-283
31. *Quantum Efficiency and the Photonic Control of Molecular Fluorescence in the Solid State*, S. Astilean, W. L. Barnes, **Applied Physics B**, 75 (2002) 1-4
30. *Surface-Enhanced Raman Scattering Study of Silver Deposition on Thin Alq(3) Layers*, G. Salvan, Y. Sakurai, A.Y Kobitski, R. Scholz, S. Astilean, T.U. Kampen, D.R.T. Zahn, H. Ishii, K. Seki, **Appl. Surf. Sci.**, 120 (2002) PII S0169-4332(01)00863-7

29. *Microenvironmental Investigation of Polymer-Bound Fluorescent Chelator by Fluorescence Microscopy and Optical Spectroscopy*, Y. Wang, S. Astilean, G. Haran, A. Warshawsky, **Anal. Chem.**, 73 (2001) 4096-4103
28. *Light Transmission Through Metallic Channels Much Smaller Than the Wavelength*, S. Astilean, P. Lalanne, M. Palamaru, **Opt. Commun.**, 175 (2000) 265-273
27. *One-Mode Model and Airy-Like Formulae for One-Dimensional Metallic Gratings*, P. Lalanne, J.P. Hugonin, S. Astilean, M. Palamaru, K.D. Maller, **J. Opt. A-Pure Appl. Op.**, 2 (2000) 48-51
26. *Calculations of The Near-Field Enhancement in Surface Enhanced Raman Scattering on Periodically Structured Metallic Substrates*, M. Palamaru, S. Astilean, **Proc. SPIE**, 4068 (2000) 466-471
25. *Resonant-Enhanced Light Transmission Through Metal Nanochannels*, S. Astilean, P. Lalanne, M. Palamaru, **Proc. SPIE**, 4068 (2000) 513-519
24. *Sub-Wavelength Metallic Gratings of Very High Transmission Efficiency*, M. Palamaru, S. Astilean, **J. Optoelectron. Adv. Mat.**, 1 (1999) 35-40
23. *1,4-Benzodiazepine Drugs Adsorption on the Ag Colloidal Surface*, S. Cinta, T. Iliescu, S. Astilean, L. David, O.Cozar, W. Kiefer, **J. Mol. Struct.**, 482 (1999) 685-688
22. *Design and Fabrication of Blazed Binary Diffractive Elements with Sampling Periods Smaller Than the Structural Cutoff*, P. Lalanne, S. Astilean, P. Chavel, E. Cambрил, H. Launois, **J. Opt. Soc. Am. A Opt. Image. Sci. Vis.**, 16 (1999) 1143-1156
21. *Blazed Binary Subwavelength Gratings with Efficiencies Larger Than Those of Conventional Echelette Gratings*, P. Lalanne, S. Astilean, P. Chavel, E. Cambрил, H. Launois, **Opt. Lett.**, 23 (1998) 1081-1083
20. *High-Efficiency Subwavelength Diffractive Element Patterned in A High-Refractive-Index Material for 633 nm*, S. Astilean, P. Lalanne, P. Chavel, E. Cambрил, H. Launois, **Opt. Lett.**, 23 (1998) 552-554
19. *FT-IR and X-Ray Spectroscopic Investigations of Na-Diclofenac-Cyclodextrins Interactions*, I. Bratu, S. Astilean, C. Ionescu, E. Indrea, J.P. Huvenne, P. Legrand, **Spectrochim. Acta A**, 54 (1998) 191-196
18. *pH Influence on The Raman Spectra of PP Vitamin in Silver Sol*, T. Iliescu, S. Cinta, Astilean, I. Bratu, **J. Mol. Struct.**, 410 (1997) 193-196
17. *A New Graphic Code for A Computer Generated Hologram*, M. Giloan, S. Astilean, **Opt. Commun.**, 139 (1997) 7-10

16. *NMR Spectroscopy of Inclusion Complex of Sodium Diclofenac with Beta-Cyclodextrin in Aqueous Solution*, S. Astilean, C. Ionescu, Gh. Cristea, S.I. Farcas, I. Bratu, R. Vitoc, **Biospectroscopy**, 3 (1997) 233-239
15. *Vibrational and Rotational Relaxation of the $\nu(\text{C-Br})$ Mode of 2-bromopropane*, T. Iliescu, S. Astilean, I. Bratu, R. Grecu, D. Maniu, **J. Chem. Soc. Faraday Trans.**, 92 (1996) 175-178
14. *Raman Study of 9-Methylacridine Adsorbed on Silver Sol*, T. Iliescu, M. Vlassa, M. Caragiu, I. Marian, S. Astilean, **Vib. Spectrosc.**, 8 (1995) 451-456
13. *Photoinduced Protons Transfer Reaction in Pentacene Doped Benzoic Acid Crystals*, S. Astilean, A. Corval, H. P. Trommsdorff, **Proc. SPIE**, 2461 (1995) 350-352
12. *FT-IR and X-Ray Spectroscopic Investigations of Na-Diclofenac-Cyclodextrins Interactions*, I. Bratu, S. Astilean, C. Ionescu, E. Indrea, J.P. Huvenne, P. Legrand, **Spectroscopy of Biological Molecules**, (1995) 549-550 proceedings paper
11. *Photoinduced Proton Disorder in Pentacene-Doped Benzoic-Acid Crystals - A Model System for Hole-Burning in Glasses*, S. Astilean, A. Corval, R. Casalegno, H.P. Trommsdorff, **J. Lumin.**, 62 (1994) 245-252
10. *Resonant Intersystem Crossing in Pentacene*, A. Corval, C. Kryski, S. Astilean, H.P. Trommsdorff, **J. Phys. Chem.**, 98 (1994) 7376-7381
9. *Pathways of Spontaneous and Photoinduced Hydrogen Tunneling in Organic-Crystals*, R. Casalegno, S. Astilean, A. Corval, H.P. Trommsdorff, **J. Photochem. Photobiol. A**, 80 (1994) 351-354
8. *Singlet-Triplet Level-Crossings in Matrix-Isolated Pentacene*, S. Astilean, V. Chitta, A. Corval, R.J.D. Miller, H.P. Trommsdorff, **Chem. Phys. Lett.**, 219 (1994) 95-100
7. *Relaxation and Photochemistry in Pentacene Doped Benzoic-Acid Crystals*, S. Astilean, A. Corval, R. Casalegno, H.P. Trommsdorff, **J. Lumin.**, 58 (1994) 275-277
6. *Proton Motions and Holeburning Mechanisms in Molecular-Solids*, H.P. Trommsdorff, S. Astilean, R. Casalegno, A. Corval, **Mol. Cryst. Liq. Cryst. Sci. Tech. Mol. Cryst. Liq. Cryst.**, 234 (1993) 561-568
5. *Deuteration Effect on Photoinduced Hydrogen Motions in Low-Temperature Mixed Molecular-Crystals*, R. Casalegno, A. Corval, S. Astilean, H.P. Trommsdorff, **J. Lumin.**, 53 (1992) 211-214
4. *Deuteration of Pentacene In Benzoic-Acid - Monitoring the Reaction-Kinetics via Low-Temperature Optical Spectroscopy*, A. Corval, R. Casalegno, S. Astilean, H.P. Trommsdorff, **J. Phys. Chem.**, 96 (1992) 5393-5395
3. *Laser-Induced Hydrogen Motion in Organic-Crystals at Low-Temperature*, S. Astilean, R. Casalegno, A. Corval, H.P. Trommsdorff, **Journal de Physique IV**, 1 (1991) 451-454

2. *Raman-Study of Vibrational-Relaxation of Dimethylsulfoxide in Solutions*, T. Iliescu, S. Astilean, I. Bratu, **J. Mol. Liq.**, 47 (1990) 129-137

1. *Isotopic-Substitution Effects on the Molecular Relaxation of Dimethylsulfoxide in Pure Liquid and Different Media*, I. Bratu, K. Klostermann, T. Iliescu, S. Astilean, **J. Mol. Liq.**, 45 (1990) 57-63

► Patents

1. *Efficient plasmonic nanosensor based on gold nanobipyramids for the multimodal detection of the cardiac troponin I biomarker*, A. Campu, I. Muresan, M. Potara, S. Astilean, S. Cainap, M. Focsan, National Patent Application O.S.I.M., Romania,(2022) A 00293

2. *Microfluidic Detection Device fabricated through the Integration of Calligraphed Plasmonic Paper in Polydimethylsiloxane*, M. Focsan, A. Campu, A. M. Craciun, S. Astilean, National Patent Application O.S.I.M., Romania, (2021) RO 135233 (A0)

3. *Method for detecting pathogenic bacteria in aqueous media*, M. Potara, S. Astilean, I. Turcu, T. Szőke-Nagy, E. Jakab, R. I. Jakab, National Patent Application O.S.I.M., Romania, RO134994-A0

4. *Plasmonic microfluidic device based on gold bipyramidal nanoparticles*, M. Focsan, A. Campu, S. Astilean, T. Murariu, I. Turcu, National Patent Application O.S.I.M., Romania (2018) RO 133447 (B1) - granted

► International books/Chapters in international books

1. *Raman and SERS Investigation of Pharmaceuticals*, M. Baia, S. Astilean, T. Iliescu, **Springer-Verlag**, Berlin Heidelberg, 2008.

2. *Surface-Enhanced Raman Scattering: Fundamentals and Biosensing Applications*, Cosmin Farcau and Simion Astilean, contributed chapter in Handbook of Enhanced Spectroscopies, **Pan Stanford Publishing Pte. Ltd.**, USA, 2015.

3. *Detection of Environmental Pollutants by Surface-Enhanced Raman Spectroscopy*, M. Potara, C. Farcau, I. Botiz, S. Astilean contributed chapter in Advanced Environmental Analysis: Applications of Nanomaterials, Volume 1, **Royal Society of Chemistry**, 2017, pp 479-503, ISBN: 978-1-78262-144-7.

4. *Polymer-Coated Plasmonic Nanoparticles for Environmental Remediation: Synthesis, Functionalization, and Properties*, M. Potara, M. Focsan, A.M. Craciun, I. Botiz, S. Astilean contributed chapter in New Polymer Nanocomposites for Environmental Remediation, **Elsevier Inc**, 2018, pp 361-387, ISBN: 978-012811034-8.

5. *Plasmonic-based SERS Traceable Drug Nanocarriers in Cancer Theranostic*, M. Potara, T. Nagy-Simon, S. Suarasan, S. Astilean contributed chapter in *Plasmonics in Chemistry and Biology*, **Pan Stanford Publishing PTE LTD**, 2019, pp 159-198, ISBN: 978-981480003-7.

6. *Advanced Nanostructures for Microbial Contaminants Detection by Means of Spectroscopic Methods*, M. Potara, A. Campu, S. D. Maniu, M. Focsan, I. Botiz, S. Astilean contributed chapter in *Advanced Nanostructures for Environmental Health*, **Elsevier Inc**, 2020 pp 347-384 ISBN: 978-0-12-815882-1.

► National books/Chapters in national books

1. *Aplicatii ale spectroscopiei vibrationale*, Traian Iliescu, Simona Cinta-Pinzaru, Dana Maniu, Rodica Grecu, Simion Astilean, Editura Casa Cartii de Stiinta, Cluj-Napoca, 2002, 308 pp

2. *Metode și tehnici moderne de spectroscopie optica vibrationala*, S. Astilean, Editura Casa Cartii de Stiinta, Cluj-Napoca, 2002, 126 pp

3. *Nanomedicine in cancer chemotherapy*, S. Boca, S. Astilean, chapter in *Nanopharmacology in leukemia chemotherapy / Andrei Cucuianu, Ciprian Tomuleasa, Simion Astilean*,.– Cluj-Napoca: Editura Școala Ardeleană ISBN 978-606-8699-74-5; București : Eikon, ISBN 978-606-711-304-4, 2015

4. *Conjugation of gold nanoparticles to anti-leukemic drugs*, T. Simon, S. Suarasan, S. Boca, S. Astilean, chapter in *Nanopharmacology in leukemia chemotherapy / Andrei Cucuianu, Ciprian Tomuleasa, Simion Astilean*,.– Cluj-Napoca: Editura Școala Ardeleană ISBN 978-606-8699-74-5; București : Eikon, ISBN 978-606-711-304-4, 2015

5. *Nanopharmacology for acute myeloid leukemia*, B. Petrushev, I. Frinc, D. Dima, C. Berce, S. Boca, T. Simon, S. Selicean, G. Gafencu, M. M. Marta, M. Zdrenghea, A. Florea, S. Astilean, I. Berindan-Neagoe, A. Bojan, A. Cucuianu, C. Tomuleasa, chapter in *Nanopharmacology in leukemia chemotherapy / Andrei Cucuianu, Ciprian Tomuleasa, Simion Astilean*,.– Cluj-Napoca: Editura Școala Ardeleană ISBN 978-606-8699-74-5; București : Eikon, ISBN 978-606-711-304-4, 2015

6. *Nanopharmacology in chronic lymphocytic leukemia*, I. Frinc, D. Dima, C. Berce, S. Boca, B. Petrushev, T. Simon, S. Selicean, G. Gafencu, A. Buzoianu, A. Florea, S. Astilean, I. Berindan-Neagoe, O. Muresan, O. Ursa, A. Bojan, C. Tomuleasa, A. Cucuianu, chapter in *Nanopharmacology in leukemia chemotherapy / Andrei Cucuianu, Ciprian Tomuleasa, Simion*

Astilean,.- Cluj-Napoca: Editura Școala Ardeleană ISBN 978-606-8699-74-5; București : Eikon, ISBN 978-606-711-304-4, 2015

7. *Progress in nanoscience and nanotechnologies*, Iosin Monica-Olivia, Toderas Felicia, Baia Monica-Maria, Astilean Simion, EDITURA ACADEMIEI ROMANE (2007)

8. *Fabrication of periodic arrays of metallic nanoholes and their structural and plasmonic properties*, V. Canpean and S. Astilean, , Series in Micro and Nanoengineering, Vol. 14, New applications of micro- and nanotechnologies, Romanian Academy Editure, 2009, p.228-234. ISBN 978-973-27-1576

9. *Investigation of the binding constant of biocompatible gold nanoparticles to Bovine Serum Albumine using fluorescence and LSPR spectroscopy*, M. Iosin, F. Toderas, P. Baldeck, S Astilean, , "New applications of micro and nanotechnologies", Editura Academiei Romane (2009) 235-241, ISBN 978-973-27-1576

10. *Cross-linked protein nanostructures fabricated by two-photon laser induced photochemistry*, M. Iosin, S. Astilean, O. Stephan, PL Baldeck, Progress in Nanoscience and Nanotechnologies, Editura Academiei Romane (2007) 102, ISBN 978-973-27-1576-5

11. *Probing the interaction of bovine serum albumin (BSA) and gold nanoparticle*, F. Toderas, M. Iosin, M. Baia and S. Aștilean, in Progress in Nanoscience and Nanotechnologies, Editura Academiei Romane (2007) 215-221, ISBN 978-973-27-1576-5

12. *Antireflective properties of polystyrene nanosphere self-assembled films*, V. Canpean, C. Farcau, E. Vinteler and S. Astilean, in Progress in Nanoscience and Nanotechnologies Series Micro and Nanoengineering, Romanian Academy Editure, 2007, p.68. ISBN 978-973-27-1576-5

13. *Spectroscopie de fluorescence si Raman de molecule individuale*, S. Astilean, in Methodes avancees d'analyse spectroscopique et applications, (Eds I Cozar , R. Casalegno), 2001, Presa Universitara Clujeana, ISBN 973-610-009-X, pp.13-27

► Articles in non-ISI journals

1. *Optimization of various parameters for graphene synthesis by thermal chemical vapor deposition (CVD) on copper substrate*, Marta Bogdan - Iuliu, Leordean Ioan-Cosmin, Todor Istvan - Szabolcs, Barițchi Raul - Vasile, Astilean Simion, Studia Universitatis Babes Bolyai Physica (2014)

2. *Synthesis and Stabilization of Gold Nanoparticles by Gelatin Biopolymer*, Suărășan Sorina-Maria, Iosin (Focsan) Monica-Olivia, Maniu Dana-Sorina, Astilean Simion, *Studia Universitatis Babes Bolyai Physica* (2011)
3. *Experimental and Theoretical Investigation of Optical Properties of Periodic Monolayers of Etched Nanospheres*, Astilean Simion, Vinteler Emil, Farcau Cosmin Adrian, Canpean Valentin-Nicolae 2010 JOAM-Symposia
4. *Time-dependent SERS of copper-glicine complex adsorbed on silver colloid* Maniu Dana-Sorina, Iliescu Traian, Astilean Simion, Marcu Anca Oana 2010 *Journal of Optoelectronics and Advanced Materials – Symposia*
5. *Synthesis and characterization of silica-encapsulated gold nanorods* Gabudean Ana-Maria, Biro Dominic, Astilean Simion 2010 *Studia UBB Physica* 55, nr. 2
6. *Fluorescence sensors for detection of Zn²⁺ in water* Astilean Simion, Ulinici Sorin Claudiu, Tira Daniela 2010 *ECOTERRA- Journal of Environment Research and Protection, year VII*
7. *Formation of gold nanoparticles aggregates by chemical cross linking: UV-vis spectroscopy and Surface Enhanced Raman Scattering studies* Astilean Simion, Boca-Farcau Sanda Cosmina, Dzagli Milohum 2009 *Studia Universitatis Babes Bolyai Physica*
8. *Chitosan-coated bimetallic gold-silver nanoparticles: synthesis, characterization and SERS activity*, A.-M. Hada, M. Potara, S. Suarasan, A. Vulpoi, S. Astilean, *Studia UBB Physica*, 62 (LXII), 1-2 (2017) 5-14.
9. *Finite Difference Time Domain (FDTD) Calculations of Surface Plasmon Resonance of Different Size and Shape Metallic Nanoparticles* F. K. Guedje, S. Boca, M. Potara, A. Modrea, S. Astilean, , *Studia Universitatis Babes-Bolyai Physica LIV 1* (2009) 39-48
10. *Detection Of Zn²⁺ Ions In Water by Local Surface Plasmon Resonance (LSPR) Sensors*, D. S. Tira, M. Potara, F. Toderas, S. Ulinici, S. Astilean, *Studia Universitatis Babes-Bolyai Physica LIII 1* (2008) 93-99.
11. *Colorimetric detection of single- and double- stranded DNA on gold nanoparticles* Boca-Farcau Sanda-Cosmina, Lupan Iulia, Popescu Octavian, Astilean Simion 2008 *Studia Universitatis Seria Physica*
12. *A Rapid, Straightforward Method for Synthesis of Bio-Compatible Gold Nanoparticles*, M. Potara, D. Maniu, C. Farcau, S. Astilean, *Studia Universitatis Babes-Bolyai Physica LIII 1* (2008) 79-85.
13. *Raman study of potassium borate glasses* Maniu Dana-Sorina, Iliescu Traian, Ardelean Ioan,

Astilean Simion 2006 Asian Journal of Physics

14. *Silver film deposited on colloidal crystals template as high sensitivity SERS substrate* Astilean Simion, Farcau Cosmin Adrian 2006 Asian J. Phys.

15. *Some Properties of the Nmr Spin-Spin Relaxation of the Polybutadiene-Toluene Solutions* Astilean Simion, Pop Viorel Cornel, Todica Mihai 2006 Studia Universitatis Babes-Bolyai Physica

16. *Aplicatii ale plasmelor de joasa temperatura in decontaminarea si conditionarea suprafetelor in vederea depunerii de nanoparticole de metal nobil cu potential in detectia poluantilor* Astilean Simion, Ulinici Sorin Claudiu 2006 Environment & Progress

17. *Noble metal nanoparticle array for surface enhanced Raman spectroscopy* Astilean Simion, Farcau Cosmin Adrian 2005 Studia Univ. Babes-Bolyai, Physica

18. *Fabrication and characterization of silver-polystyrene two-dimensional composite nanostructures* Astilean Simion, Farcau Cosmin Adrian 2004 Studia Physica

19. *Method and equipment for cleaning and functionalizing surfaces using plasma of a DBD (Dielectric Barrier Discharge) at atmospheric pressure* Astilean Simion, Ulinici Sorin Claudiu, Vlad Grigore 2004 The Annals of the University „Dunarea de Jos”, Galati, Fascicle IIMathematics, Physics, Chemistry, Informatics

20. *Data acquisition in Magnetic Resonance Imaging* Buzas Gavrilă, Todica Mihai, Astilean Simion, Nicula Alexandru 1989 Studia Univ. Babes-Bolyai, Physica

21. *Experiments in C.W. NMR Imaging* Nicula Alexandru, Todica Mihai, Astilean Simion 1988 Studia, Univ. "Babes-Bolyai", Physica, XXXIII, 1

22. *Digital Data Acquisition in NMR Imaging.* Nicula Alexandru, Todica Mihai, Astilean Simion 1988 Studia, Univ. "Babes-Bolyai", Physica, XXXIII, 2,

► Communications at international/national conferences

Invited Conferences

1. *Noble-metal nanostructures fabricated via nanosphere lithography and self-assembly* 2004 Nanophotonics International School, Institut d'Optique, Paris, France

2. *Noble-metal nanostructures for controlling photons and sensing molecules*, Conferinta Invitata, 3rd Conference on the Elementary Processes in Atomic Systems, 31 Aug. - 2 Sept. 2005 University of Miskolc, Hungary (<http://www.uni-miskolc.hu/cepas2005/>)
3. *Nanosphere Lithography and Self-Assembling – Two Versatile Routes for Fabrication of Noble-Metal Nanostructures*, Conferinta Invitata la Workshop International Computational Materials Science and Nanostructures, Technische Universitat Vienna, October 5-7, 2005
4. *Noble-Metal Nanoparticles: Fabrication, Optical Properties, and Applications toward Biology and Nanotechnology*, Conferinta Invitata la 3rd International Workshop on Amorphous and Nanocomposite Magnetic Materials (ANMM'2005) Iasi, Romania, September 19 – 21, 2005. (<http://www.phys-iasi.ro/anmm2005/invited%20talks.htm>)
5. *Designing Plasmonic Nanostructures as Multifunctional Optical Sensors for Molecular Detection*, Conferinta Invitata, NanoBiotechnology: Bio-interfaces International Workshop 5-7 December 2007 EC Joint Research Centre, Ispra, Italy,
6. *Plasmonic nanostructures for molecular sensing with surface-enhanced vibrational spectroscopy*, Conferinta Invitata, The IXth ICFPAM (International Conferences on Frontiers of Polymers and Advanced Materials, Cracow, Poland , 8-12 July. 2007 (<http://www.9icfpam.pk.edu.pl/Speakers.htm>)
7. *Plasmonic Nanostructures Characterization by Combining Confocal Surface-Enhanced Raman Scattering and Atomic Force Microscopy*, Conferinta Invitata Introduction to Confocal Raman Microscopy 7 - 8 October 2008 Ulm, Germany (<http://www.witec.de/en/eventsseminars/files/FlyerRamanIntro08.pdf> invitatia atasata)
8. *Plasmonics – a new paradigm of photonics for guiding light and enabling novel biomedical applications at nanoscale*, IInd EURYIAS 2008 International symposium on Self-Organization and Selection in Evolution of Matter, Molecules and Life April 29-May 3, 2008, Bucuresti. (<http://www.biodyn.ro/robios/progEURYIAS2008.pdf>)
9. *New approach to develop multifunctional plasmonic nanosensors for bioanalytical applications* 2010 European Conference on Molecular Spectroscopy (EUCMOS- 2010), 29 August – 3 September 2010, Florence, Italy
10. *Multifunctional plasmonic nanostructures for applications in biophotonics*, 2010 French-Romanian Topical Meeting on Nano and Biomaterials, Second International Workshop on Advanced, Nano- and Biomaterials and Their Applications, 5-19 September 2010, Sibiu, Romania
11. *Multifunctional Plasmonic Nanostructures: From Fabrication to Applications* 2010 CNCSIS: Conferinta Diaspora in Cercetarea Stiintifica si Invatamintul Superior din Romania Bucuresti, 21-24 Septembrie

2010 (Institutul National pentru Fizica Materialelor)

12. *Multifunctional Plasmonic Nanosensors for Bioanalytical Applications* 2010 CNCSIS: Conferinta "Diaspora in Cercetarea Stiintifica si Invatamantul Superior din Romania" Bucuresti, 21-24 Septembrie

2010 (Centrul International de Biodinamica)

13. *Surface Plasmon Resonances for Sensing, Imaging and Spectroscopy in Biology and Biomedicine* 2011 2nd GIST-European Universities International Workshop Babes- Bolyai University, Cluj-Napoca 15-18 June 2011

14. *Fabrication of plasmonic nanostructures with multiple bio-functionalities from sensing to imaging and therapy*, Journées Internationales de Plasmonique Moleculaire, Illes de Porquerolles, 1-3 Octobre 2012, Porquerolles, France.

15. *Rezultate de imagistica si spectroscopie celulara combinate cu hipertermie celulara indusa prin excitare plasmonica* 2012 CNCSIS: Conferinta "Diaspora in Cercetarea Stiintifica si Invatamantul Superior din Romania" Bucuresti, 25-28 Septembrie 2012 (Centrul International de Biodinamica)

16. *Nanoparticule plasmonice cu aplicatii biomedicale* 2012 CNCSIS: Conferinta "Diaspora in Cercetarea Stiintifica si Invatamantul Superior din Romania", Romania Bucuresti, 25-28 Septembrie 2012 (Institutul National pentru Fizica Materialelor)

17. *From single-molecule spectroscopy to cancer therapy with multifunctional plasmonic nanoparticles, "Functionalized Surfaces and Nanobiocomposites "* COST Action CM1101, 26-28 May 2013, Szeged, Hungary.

18. *Plasmonic Nanoparticles Performing as Multifunctional Platforms in Sensing, Imaging and Therapeutic Applications*, 9Th Nanoscience and Nanotechnology Conference, Atatürk University, June 24-28, 2013, Erzurum, TURKEY,

19. *Plasmonic platforms for multimodal enhanced spectroscopies and combining of sensing with imaging and therapy*, Surface-Enhanced Spectroscopies, 7-10 August 2014, Technical University of Chemnitz, Germany.

20. *Multifunctional Plasmonic Nanostructures: Controlling Fabrication and Implementing Relevant Applications in Sensing, Imaging, and Therapy*, the XXIV. International Conference on Raman Spectroscopy (ICORS), 10-15 August 2014, Jena, Germany.

21. *Multifunctional Plasmonic Nanoparticles: From Fabrication to Relevant Applications in Sensing, Imaging, and Therapy* 2014 The 5th GIST- European Universities Joint Workshop, Babes-Bolyai University, Cluj-Napoca 17-18 June 2014

22. *Plasmonic-Based Nanoparticles to Provide Multiple Functionalities from Molecular Sensing, Imaging Diagnosis, and Cancer Therapy* 2015 Academia Romana si INCD-Microtehnologie IMT Bucuresti

23. *Plasmonic nanoplatforms with multiple functionalities: from biosensing to cell imaging and therapy*, Amorphous and Nanostructured Magnetic Materials – ANMM 2015 Iași, 21-24 September 2015 (http://ww3.phys-iasi.ro/Invited_Speakers2015.htm)

24. *Surface plasmon resonant nanoparticles: from controlled fabrication to interesting optical properties and recent applications in nanomedicine*, The 9th International Conference on Advanced Materials, ROCAM 2017, 11-14 July 2017, University of Bucharest, Romania.

25. *Designing multifunctional plasmonic nanoplatforms for applications in nanomedicine*, The Fifth Edition of International Conference on Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences "IC-ANMBES 2018" 23rd-25th May 2018, Brasov, Romania.

26. *Plasmonic nanoparticles in nanomedicine*, 3rd International Workshop on Materials Physics, 29-30 May 2018, Bucharest, Romania.

27. *Designing Versatile Plasmonic-Based Nanoplatforms for Applications in Nanomedicine*, 5th International Workshop on Nano- and Biophotonics IWNBP, 22-27 September 2019, Saint Nectaire, France.

28. *Plasmonic nanoplatforms: from sensing to cell imaging and multimodal light-activated therapy*, International Symposium : BioDynamics – A transdisciplinary approach, Centrul International de Biodinamica, 19-21 Mai, Bucuresti.

29. *Versatile Plasmonic and Fluorescence-Based Nanoprobos for Optical Bioimaging and Light-Activated Therapy*, 14th International Conference on Physics of Advanced Materials, 8-15 September, 2022, Dubrovnik, Croatia.

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