

Project title: Nanometer thin photovoltaics based on plasmonically enhanced van der Waals heterostructures
Acronym: PV-Waals

Principal investigator (PI): Goran (Milorad) Isić
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Scientific institution: Institute of Physics Belgrade, Pregrevica 118, 11080 Belgrade
Contact person: Aleksandar Bogojević, alex@ipb.ac.rs, director



BIOGRAPHY

Research field areas: plasmonics, (nano-)spectroscopy, metamaterials, 2d materials, semiconductor nanostructures

Education:

Degree	University/Faculty/Module (Field)	Enrol	Grad	Avg
Dipl. Ing.	University of Belgrade, School of Electrical Engineering, Serbia Module: Physical Electronics/Optoelectronics and Laser Technics Title: Electron transport in semiconductor nanostructures with Rashba and Dresselhaus effects	2001	2006	9.20
PhD	University of Leeds, School of Electronic and Electrical Engineering Group: Quantum Electronics (Paul Harrison group) Title: Electron transport in resonant tunneling structures with spin-orbit interaction Thesis supervisor: Dragan Indjin, PhD, Reader (d.indjin@leeds.ac.uk)	2007	2011	-

Researcher and scientific titles in Republic of Serbia:

- Associate Research Professor, **election date:** February 2018
- Assistant Research Professor, **election date:** December 2012
- Senior Research Assistant, **election date:** February 2010
- Research Assistant, **election date:** January 2007

Employment history:

Institute of Physics Belgrade: from January 2007 to September 2019 (and onwards)

5 selected publications in which the PI is the main author:

- **G. Isić**, S. Vuković, Z. Jakšić, M. Belić, [Tamm plasmon modes on semi-infinite metallodielectric superlattices](#), Scientific Reports 7, 3745 (2017), (**M21**, **IF**=4.122)(**ISSN**:2045-2322) **doi:** 10.1038/s41598-017-03497-z
- **G. Isić**, B. Vasić, D.C. Zografopoulos, R. Beccherelli, R. Gajić, [Electrically tunable critically coupled terahertz metamaterial absorber based on nematic liquid crystals](#), Physical Review Applied 3, 064007 (2015), (**M21**, **IF**=4.061)(**ISSN**: 2331-7019) **doi:** 10.1103/PhysRevApplied.3.064007
- **G. Isić**, R. Gajić, S. Vuković, [Plasmonic lifetimes and propagation lengths in metallodielectric superlattices](#), Physical Review B 89, 165427 (2014), (**M21**, **IF**=3.736)(**ISSN**:1098-0121) **doi:** 10.1103/PhysRevB.89.165427
- **G. Isić**, D. Indjin, V. Milanović, J. Radovanović, Z. Ikonić, P. Harrison, [Phase-breaking effects in double-barrier resonant tunneling diodes with spin-orbit interaction](#), Journal of Applied Physics 108, 044506 (2010), (**M21**, **IF**=2.079)(**ISSN**:0021-8979) **doi:** 10.1063/1.3477376
- **G. Isić**, R. Gajić, B. Novaković, Z.V. Popović, K. Hingerl, [Radiation and scattering from imperfect cylindrical electromagnetic cloaks](#), Optics Express 16, 1413-1422 (2008), (**M21a**, **IF**=3.880)(**ISSN**:1094-4087) **doi:** 10.1364/OE.16.001413

Citation number (excluding self-citations): SCOPUS: 518 (Hirsch index 12), WoS: 531 (Hirsch index 11)

Notable project history (as participant):

- 2011-2019 [Physics of ordered nanostructures and new materials in photonics](#), MESTD Project ON171005, PI: Radoš Gajić (Institute of Physics Belgrade)
Role: Assistant/Associate Research Prof., plasmonic nanostructures, SERS, spectroscopic measurements
- 2009-2012 [Large area fabrication of 3D negative index materials by nanoimprint lithography](#) (NIM_NIL), EC FP7 Project, PI: Iris Bergmair (Profactor GmbH, Austria)
Role: PhD student/Postdoc, light interaction with metamaterials in the VIS, ellipsometry of graphene
- 2008-2011 [Multifunctional nanomaterials characterisation exploiting ellipsometry and polarimetry](#) (NanoCharM), EC FP7 Project, PI: Maria Losurdo (Consiglio Nazionale delle Ricerche, Italy)

¹ MESTD = Serbian Ministry of Education, Science and Technological Development. In the period between 2011 and late 2018 when the Science Fund of the Republic of Serbia was founded, MESTD was the sole national agency for funding science.

Role: PhD student/Postdoc, modeling of light scattering on metallic nanostructures

Awards:

2012 Postdoctoral Scholarship of the Serbian Ministry of Education and Science (MESTD)
2011 FW Carter prize, best PhD thesis at the School of E&E Engineering, University of Leeds
2007 - 2010 Overseas Research Students Awards Scheme (ORSAS) Scholarship
2007 - 2010 Tetley & Lupton Award (University of Leeds)

International collaboration:

- [Nano & Quantum Optics group, Institute of Applied Physics, FSU, Jena, Germany](#) (Thomas Pertsch),
- [Texas A&M University at Qatar, Qatar](#) (Milivoj Belić)
- [CNR Institute for Microelectronics and Microsystems, Rome, Italy](#) (Dimitrios Zografopoulos)
- [B.I. Stepanov Institute of Physics, NAS Belarus, Minsk, Belarus](#) (Andrei Panarin)
- [Lab for optics and optical thin films, Ruđer Bošković Institute, Zagreb, Croatia](#) (Jordi Sancho Parramon)
- [Institute of Optical Materials and Technologies, BAS, Sofia, Bulgaria](#) (Vera Marinova)
- [Lab of Nanochemistry, Institute for Physico-Chemical Problems, BSU, Belarus](#) (Mikhail Artemyev)
- [Institute of Marine Biology, University of Montenegro, Kotor, Montenegro](#) (Danijela Joksimović)

Experimental skills relevant for the project: ellipsometry, diffractometry, photometry, SERS, AFM, colloidal synthesis and deposition of metallic nanoparticles, electrical measurements and microcontroller programming

Programming/numerical modeling: COMSOL Multiphysics, MATLAB, C/C++, Python, Java

Link to the Public RIS page (istrazivaci.gov.rs) and to another database of researchers if available:

<https://scholar.google.com/citations?user=Dv7B-b8AAAAJ&hl=en&oi=ao>

PhD thesis supervision:

Completion date	PhD Thesis information
September 2017	PhD student: Uroš Ralević Thesis title: Nanoscopy and applications of two-dimensional and quasi-two-dimensional systems Role: supervisor at Institute of Physics Belgrade
September 2015	PhD student: Milka Jakovljević Thesis title: Investigation of plasmonic nanostructures using spectroscopic ellipsometry Role: co-supervisor at Institute of Physics Belgrade