

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

Participant: Uroš (Miomir) Ralević

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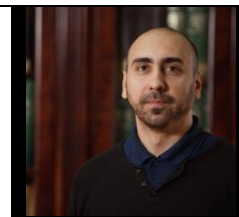
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Username in the MPNTR¹ base of researches: uros@ipb.ac.rs

Scientific institution: Institute of Physics, Pregrevica 118, 11080 Belgrade

Contact Person: Aleksandar Bogojević, alex@ipb.ac.rs, director



BIOGRAPHY

Date and place of birth: May 26, 1986, Majdanpek, Serbia (age 33)

Citizenship: Serbian

Research areas: nano-spectroscopy; plasmonics; low dimensional systems; 2D materials;

Education:

Degree	University/Faculty/Module (Field)	Enrol	Grad	Avg
BSc	University of Belgrade, School of Electrical Engineering Module: Physical Electronics Title: Electrical and optical characteristics of quantum dashes	2005.	2009.	8.24
MSc	University of Belgrade, School of Electrical Engineering Module: Physical Electronics Title: Mini-band structure of quantum dashes	2009.	2010.	10.0
PhD	University of Belgrade, School of Electrical Engineering Module: Physical Electronics Title: Nanoscopy and applications of two-dimensional and quasi-two-dimensional systems Thesis supervisor: dr Goran Isić, Associate Research Professor	2010.	2017.	10.0

Research and scientific titles in Republic of Serbia:

- Assistant Research Professor, **election date:** Jun 2018.
- Research Assistant, **election date:** Jun 2016.

Employment:

- Institute of Physics, Belgrade; **date:** 01.10.2011.-present

List of publications:

- U. Ralević, G. Isić, D. Vasić Anicijević, B. Laban, U. Bogdanović, V. M. Lazović, V. Vodnik, R. Gajić, [Nanospectroscopy of thiocyanine dye molecules adsorbed on silver nanoparticle clusters](#), Appl. Surf. Sci., Vol 434, 2018, pp. 540 (**M21a**, **IF**= 3.387) (**ISSN**: 0169-4332) **doi**: 10.1016/j.apsusc.2017.10.148
- U. Ralević, N. Lazarević, A. Baum, H.-M. Eiter, R. Hackl, P. Giraldo-Gallo, I. R. Fisher, C. Petrovic, R. Gajić, Y. V. Popović, [Charge density wave modulation and gap measurements in CeTe₃](#), Phys. Rev. B, Vol 94, 2016, pp. 165132-1. (**M21**, **IF**= 3.718) (**ISSN**: 2469-9950) **doi**: 10.1103/PhysRevB.94.165132
- U. Ralević, G. Isić, B. Vasić, D. Gvozdić, R. Gajić, [Role of waveguide geometry in graphene-based electro-absorptive optical modulators](#), J. Phys. D: Appl. Phys., Vol 48, 2015, pp. 355102-1 (**M21**, **IF**= 2.772) (**ISSN**: 0022-3727) **doi**: 10.1088/0022-3727/48/35/355102
- U. Ralević, G. Isić, B. Vasić, R. Gajić, [Modulating light with graphene embedded into an optical waveguide](#), J. Phys. D: Appl. Phys., Vol 47, 2014, pp. 335101-1 (**M21**, **IF**= 2.721) (**ISSN**: 0022-3727) **doi**: 10.1088/0022-3727/47/33/335101
- Matković, U. Ralević, M. Chhikara, M. M. Jakovljević, Dj. Jovanović, G. Bratina, R. Gajić, [Influence of transfer residue on the optical properties of chemical vapor deposited graphene investigated through spectroscopic ellipsometry](#), J. Appl. Phys., Vol 114, 2013, pp. 093505-1 (**M21**, **IF**= 2.185) (**ISSN**: 0021-8979) **doi**: 10.1063/1.4819967

¹ MPNTR = Ministarstvo prosvete, nauke i tehnološkog razvoja (Serbian Ministry of Education, Science and Technological Development)

Citation number: SCOPUS: 159 (h-index 7), WoS: 158 (h-index 7)

Reviewing scientific journals: Photonics Technology Letters

Projects history (participant):

- 2011-2019 [Physics of ordered nanostructures and new materials in photonics](#), MESTD Project ON171005, PI: Radoš Gajić (Institute of Physics Belgrade)
Role: Assistant Research Prof., fabrication of graphene, scanning tunneling microscopy measurements, atomic force microscopy measurements, 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, fabrication of graphene

International scientific mobility:

- **Feb 2018 - Mar 2018 (1 month), Nanooptics group, Institute of Applied Physics, FSU Jena, Germany**
Task: Visiting scientist, modeling SPPs launched by grooves in metal films by coupled mode method
Funding: DAAD-MESTD Project RESONANCE, PIs: Thomas Pertsch, Goran Isić
- **Nov 2017 - Dec 2017 (1 month), Nanooptics group, Institute of Applied Physics, FSU Jena, Germany**
Task: Visiting scientist, SPP excitation on grooves on gold surfaces – optimization of groove geometry for FIB fabrication
Funding: DAAD-MESTD Project RESONANCE, PIs: Thomas Pertsch, Goran Isić
- **Nov 2015 - Dec 2015 (2 months), Nanooptics group, Institute of Applied Physics, FSU Jena, Germany**
Task: Visiting scientist, numerical calculations of light scattering on grooves in metal films
Funding: DAAD-MESTD Project SP-DYNANO, PIs: Thomas Pertsch, Goran Isić
- **May 2012 – June 2012 (1 month), Quantum nano-optoelectronics group, The institute for photonic sciences, Barcelona, Spain**
Task: Visiting scientist, fabrication of graphene, dry transfer method development
Funding: The Kingdom of Spain – Serbian Ministry of Science Project Infrared spectroscopy of nanostructured graphene, PIs: Frank Koppens, Radoš Gajić

International scientific collaboration:

- Nano & Quantum Optics group, Institute of Applied Physics, FSU, Jena, Germany (Thomas Pertsch),
- 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)
- Lab of Nanochemistry, Institute for Physico-Chemical Problems, BSU, Belarus (Mikhail Artemyev)
- Institute of Marine Biology, University of Montenegro, Kotor, Montenegro (Danijela Joksimović)

Skills relevant for the project: micromechanical exfoliation of graphene and other 2D materials, Raman and PL spectroscopy, Surface enhanced Raman spectroscopy, Comsol RF modeling, Matlab, Python

Link to Google Scholar: <https://scholar.google.com/citations?user=2pi6g-0AAAAJ&hl=en&oi=ao>