

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

Participant: Stanko (Radomir) Nedić
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Username in the MESTD¹ base of researches: stanko.nedic@ipb.ac.rs
Scientific institution: Institute of Physics Belgrade, Pregrevica 118, 11080 Belgrade
Contact person: Aleksandar Bogojević, alex@ipb.ac.rs, director



BIOGRAPHY

Date and place of birth: 23.04.1987., Arandelovac, Republic of Serbia

Citizenship: Serbian

Research field areas: zinc oxide nanowire field effect transistors, nanoelectronic devices, nanomaterials, electronic transport

Education:

Degree	University/Faculty/Module (Field)	Enrol	Grad	Avg
MEng	University of Southampton, School of Electronics and Computer Science, United Kingdom Module: Electronic Engineering Title: Simulation of vertical fillet local oxidation MOSFETs Supervisor: Prof Peter Ashburn (pa@ecs.soton.ac.uk)	2005	2009	1 st Class Honours
PhD	University of Cambridge, Faculty of Engineering, United Kingdom Group: The Nanoscience Centre (Welland group) Title: Zinc oxide nanowire field effect transistors Thesis supervisor: Prof Sir Mark Welland (mew10@eng.cam.ac.uk)	2009	2014	-

Researcher and scientific titles in Republic of Serbia:

- Assistant Research Professor, **election date:** December 2019

Employment history:

- December 2019-present: Assistant Research Professor at the Institute of Physics, Belgrade, Serbia
- 2017-2018: FinTech consultant and head of blockchain research, TimeMedia, Belgrade, Serbia
- 2015-2017: Control systems engineer, Global Substation Solutions, Newcastle upon Tyne, United Kingdom

List of publications:

- J. Yoon, W.-K. Hong, M. Jo, G. Jo, M. Choe, W. Park, J. I. Sohn, S. Nedic, H. Hwang, M. E. Welland, and T. Lee, [Nonvolatile memory functionality of ZnO nanowire transistors controlled by mobile protons](#), ACS Nano 5 (2011) (DOI: 10.1021/nm102633z, IF: 10.774, ISSN: 1936-0851), M21a
- S. Nedic, Y. T. Chun, W.-K. Hong, D. Chu, and M. E. Welland, [High performance non-volatile ferroelectric copolymer memory based on a ZnO nanowire transistor fabricated on a transparent substrate](#), Applied Physics Letters 104 (2014) (DOI: 10.1063/1.4862666, IF: 3.729, ISSN: 0003-6951), M21
- S. Nedic, and M. E. Welland, “High performance ZnO nanowire field effect transistors for low power applications: Towards threshold voltage stabilization”, International Conference on Nano Science and Nano Technology (ICNST 2010), November 8-9 (2010), Gwangju Institute of Science and Technology, Gwangju, South Korea, Poster, M34
- Y. T. Chun, S. Nedic, M. E. Welland, and D. Chu, “Flexible non-volatile ferroelectric memory based on a ZnO nanowire field effect transistor”, 2013 MRS Spring Meeting and Exhibit, April 1-5 (2013), San Francisco, California, Presentation contribution, M34
- S. Nedic, R. Gajic, and M. E. Welland, “Zinc oxide nanowire field effect transistors for UV photodetector and non-volatile memory applications”, The 20th Symposium on Condensed Matter Physics, October 7-11 (2019), Belgrade, Serbia, Poster, M34

Citation number (excluding self-citations): SCOPUS: 50 (Hirsch index 2), Google Scholar: 60 (Hirsch index 2)

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.

Notable project history (as participant):

- 2019 [Physics of ordered nanostructures and new materials in photonics](#), MESTD Project ON171005, PI: Radoš Gajić (Institute of Physics Belgrade)
Role: Assistant Research Prof., nanoscale electronic devices
- 2019 Nanostructured multifunctional materials and nanocomposites
MESTD Project III-45018, PI: Zoran Popović (Institute of Physics Belgrade)
Role: Assistant Research Prof., nanoscale electronic devices
- 2010-2011 [Nanocomputing building blocks with acquired behavior](#) (NABAB), EC FP7 Project, PI: Christian Gamrat (The Commission for Atomic Energy and Alternative Energies (CEA), France)
Role: PhD student, fabrication and electrical characterization of zinc oxide nanowire field effect transistor based non-volatile memory devices

Awards:

2009-2013 Cambridge Overseas Trust scholarship for the duration of PhD studies (University of Cambridge)
2009 Zepler Prize for the best overall performance during the final year of MEng studies (University of Southampton)
2009 Sir William Siemens medal awarded for overall engineering excellence (University of Southampton)
2005-2009 International Student Bursary awarded for academic excellence (University of Southampton)

International scientific collaboration:

- [Gwangju Institute of Science and Technology, Gwangju, South Korea](#) (Prof Takhee Lee)

International scientific mobility:

- **October 2009 - January 2014 (52 months), The Nanoscience Centre, University of Cambridge**
Task: PhD student – zinc oxide nanowire field effect transistors (UV photodetector and memory applications)
Funding: Cambridge Overseas Trust Scholarship (fully funded)

Skills relevant for the project: fabrication and characterization of nanoscale electronic devices, electrical measurements, thermal chemical vapor deposition, SEM imaging, contact photolithography, deposition of a wide variety of dielectric materials and metals, optimization of Cr/Au and Ti/Au metal contacts for nanodevices

Link to the Google Scholar profile: <https://scholar.google.com/citations?user=gI9wA8QAAAAJ&hl=en>

Break in the scientific research: Dr Stanko Nedic worked in the industry both in the United Kingdom and Serbia following his PhD graduation in 2014 (please refer to the employment history section). He has recently returned to academia by joining the Center for Solid State Physics and New Materials at the Institute of Physics in Belgrade in 2019 in order to continue the scientific research on novel nanomaterials and nanoelectronic devices.