

PERSONAL INFORMATION

Aleksandar Krmpot



 Institute of Physics Belgrade, Pregrevica 118, 11080 Belgrade, SERBIA

 +381 11 3713 012 

 krmpot@ipb.ac.rs

 www.hemmaginero.rs; www.ipb.ac.rs/en/istrazivanja/laboratorije/laboratorija-za-biofiziku/

 Skype Aleksandar Krmpot

Sex M | Date of birth 03/03/1976 | Nationality Serbian

WORK EXPERIENCE

2017-current

Associate research professor (Senior research associate)

Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia

- Nonlinear laser scanning microscopy, development and applications, Ultrafast lasers, Precise laser spectroscopy and coherent spectroscopy of alkaline vapours, Laser frequency stabilization, Four wave mixing

2013-current

Visiting researcher

Karolinska Institute, Stockholm, Sweden

- Fluorescence correlation spectroscopy, functional fluorescence microscopic imaging

2011-2013

Assistant professor (Docent)

High Polytechnic School, Belgrade, Serbia

- Lectures in physics, Lectures in metrology

2010-2017

Research assistant professor (Research associate)

Institute of Physics Belgrade, University of Belgrade, Serbia

- Nonlinear laser scanning microscopy, Ultrafast lasers, Precise laser spectroscopy and coherent spectroscopy

2009; 2011

Experienced researcher

Institute of Electronic Structure and Lasers (IESL), Foundation for Research and Technology Hellas (FORTH), Heraklion, Greece

- Nonlinear laser scanning microscopy

2007-2010

Researcher assistant

Institute of Physics Belgrade, University of Belgrade, Serbia

- Precise laser spectroscopy and coherent spectroscopy of alkaline vapours, Laser frequency stabilization

2002-2007

Junior researcher (Research trainee)

Institute of Physics Belgrade, University of Belgrade, Serbia

- CW diode pumped laser design, Precise laser spectroscopy of alkaline vapours

EDUCATION AND TRAINING

2007-2010

Ph. D. in physics

Faculty of Physics, University of Belgrade, Serbia

- Ph. D. thesis "Influence of the laser beam profile and intensity on the coherent dark state in rubidium atoms"

2002-2007

M. Sc. in physics (quantum optics)

Faculty of Physics, University of Belgrade, Serbia

- M. Sc. thesis: "Electromagnetically induced transparency and absorption in interaction of dichromatic coherent light with rubidium atoms"

1996-2002

B. Sc. in physics

Faculty of Physics, University of Belgrade, Yugoslavia

- B. Sc.thesis: "CW diode pumped Nd-YAG laser"

1995-1996 **Military service**
 Yugoslav Army – Traffic Service (driving units)
 ▪ A driver of trucks and buses

1991-1995 **High school diploma**
 High school „Takovski ustanak“, Gornji Milanovac , Serbia

PERSONAL SKILLS

Mother tongue(s) Serbian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C2	C2

Communication skills Good communication skills gained through my experience as a researcher and a lecturer

Organisational / managerial skills

- Scientific and innovation project management/leadership. Leader of whole projects or projects' work packages (please refer to the list of project below)
- Scientific events organization:
 - chair of the organizing committee of VI International School and Conference on Photonics - PHOTONICA 2017, 28 August - 1 September 2017, Belgrade, Serbia (www.photonica.ac.rs)
 - founder and member of the organizing committee (2007-2017) of Photonics Workshop, Kopaonik, Serbia (<http://www.photonicsworkshop.ipb.ac.rs/prethodneradionice.html>)
 - member of the organizing committee of „IBRO NERKA school on neurophotonics“ 28. November – 5. December , Faculty of Biology and Institute of Physics, University of Belgrade, Serbia; auspices by International Brain Research Organization - IBRO. (<http://www.smeurosoc.ac.rs/?p=1129>)
 - President of Serbian national committee for high school students contest in physics (2012-2014) <http://takmicenja.ipb.ac.rs/>, leader of Serbian national team at International Physics Olympiad (IPhO 2007, 2008, 2009, 2012, and 2013) <http://ipho.org/>

Job-related skills

- Biophotonics, nonlinear laser scanning microscopy using ultra short laser pulses, 3D imaging, correlation fluorescence spectroscopy and functional fluorescence imaging microscopy, interaction of laser beam and ultra short pulses with biological and nonbiological samples.
- Precise laser spectroscopy and quantum optics, optical metrology, laser frequency stabilization.
- Basic of laser design, optomechanical component design, laser maintenance.
- Basic of electronics and technical drawing

Other skills

- Educational physics and work with talented students
 - Practice and exercises in general physics for: students of food engineering at Agricultural faculty, University of Belgrade (2003-2005, 2010-2011), students of graphic engineering at High Polytechnic school, Belgrade (2005-2006) and students of electronics at High School of Electrical Engineering and Computer Science (2010-2011)
 - 2006-2012 author of theoretical and experimental problems in Serbian national committee for high school students contest in physics <http://takmicenja.ipb.ac.rs/>
 - Senior Lecturer in Petnica science center <http://www.petnica.rs/>

Driving licence B, C (trucks), D (buses, military only), E (long trucks)

ADDITIONAL INFORMATION

- Publications**
- 50 publications in peer reviewed journals and SPIE proceedings. Please refer to the list of publications and/or to https://scholar.google.com/citations?hl=en&user=cZ7-4A8AAAAJ&view_op=list_works&sortby=pubdate
 - 3 Patents
 - Security tag with laser-cut particles of biological origin , <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017114572>
 - Security device individualized with biological particles, <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017114569>
 - security tag containing a pattern of biological particles, <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017114570>
- Presentations**
- Seminars**
- Talks**
- (selected)**
- Nonlinear laser scanning microscopy, Hokkaido Summer Institute 2019, Sapporo, Japan, course The Cell Biological Science Workshop (course master prof. Masataka Kinjo)
 - Mapping of hemoglobin residuals in erythrocyte ghosts using two photon excited fluorescence microscopy, 8th Regional Biophysics Conference RBC 2018, Zreče, Slovenia, 2018.
 - Light sources, lasers and detectors and “Nonlinear Microscopy” IBRO NERKA school on Neurophotonics, Belgrade, Serbia, 2014
 - Microworld in 3D – nonlinear laser scanning microscopy, Invited lecture, Belgrade International Molecular Life Science Conference for Students, Belgrade, Serbia, 2016
 - 3D imaging using nonlinear laser scanning microscopy, FLASH DESY, Hamburg, Germany and University of Fribourg, Fribourg, Switzerland, 2015
 - Influence of radial laser beam profile on Hanle dark state evolution,” Invited lecture, Internatioanl Student Conference of Balkan Physical Union – 9th ISCBPU, Constanta, Romania 2012
 - Atomic dark state evolution in the constant laser field, progress report, European Group for Atomic Systems EGAS, Fribourg, Switzerland, 2011
- Projects**
- Ongoing projects**
- HEMMAGINERO - “ Hemoglobin-based spectroscopy and nonlinear imaging of erythrocytes and their membranes as emerging diagnostic tool” (**project leader**), Science fund of the Republic of Serbia, No 6066079, from 2020 <http://fondzanauku.gov.rs/poziv/2019/06/promis/> <http://www.hemmagero.rs/hemmagero.html>
 - “ Imaging and time resolved spectroscopy of hemoglobin and red blood cells in THz, NIR and visible spectral regions for future biomedical application ” (**project leader**) German – Serbian bilateral project, DAAD and Ministry of Education, Science and Technological development of Republic of Serbia, from 2020 <http://www.mpn.gov.rs/medjunarodna-naucna-saradnja/bilateralna-saradnja-sa-nemackom/>
 - “ Hemoglobin-based nano-spectral non-linear imaging for future label-free medical diagnostics ” (**project leader**) Slovenian – Serbian bilateral project, Slovenian Research Agency and Ministry of Education, Science and Technological development of Republic of Serbia, from 2020 <http://www.mpn.gov.rs/medjunarodna-naucna-saradnja/bilateralna-saradnja-sa-slovenijom/>
 - “Procurment of equipment for quantum yield measurement of new generation fluorescent (bio)markers for cancer cells labeling in advanced microscopic techniques” Philip Morris International and Center for leadership development, program #MoveScience <http://www.pokenisezanauku.rs/dodeljeni-opremiprimeni-grantovi/>
- Ceased projects (selected)**
- Production and characterization of nano-photonics functional structures in bio-medicine and informatics” (subproject leader, design of the experiment for nonlinear microscopy and 3D imaging), Ministry of Education, Science and Technological development of Republic of Serbia , No. III045016, from 2011
 - “Study of biological micro- and nano-structures in the visible, infrared and terahertz range” (key expert for imaging) German – Serbian bilateral project, DAAD and Ministry of Education, Science and Technological development of Republic of Serbia, from 2018
 - “Ramsey spectroscopy in Rb vapour cells and application to atomic clocks” (key expert for coherent spectroscopy) joint research SCOPES programme, The Swiss National Science Foundation (SNSF), from 2014
 - “In situ diagnostics and optimization of the ultrashort laser pulses in nonlinear 3D bioimaging microscopy” (**project leader**), German – Serbian bilateral project, DAAD and Ministry of Education, Science and Technological development of Republic of Serbia, 2016-2017
 - “Laser microscope with fast circular scanning for the applications in biotechnology and medicine” (**project leader**), innovation project 165/2013, Ministry of Education, Science and Technological Development, Republic of Serbia, 2014
 - “Dynamic Nanotechnology for the study of cells and biosurfaces”, (key expert for experiment design for multifocal correlation spectroscopy), Knut and Alice Wallenberg Foundation, Stockholm, Sweden, No. KAW 2011.0218, 2013-2017
 - “NOLIMBA -Non Linear Imaging at Microscopic level for Biological Applications” (conducting experiments on nonlinear laser scanning microscopy) project in the Framework of Human Resources and Mobility (HRM) activity, Marie Curie Host Fellowships for the Transfer of Knowledge (TOK) ceased 2009
 - “Reinforcing research center for quantum and optical metrology” (experiment design for coherent laser spectroscopy of Rb vapour), FP6 of European Commission, 2006-2008

- Honours and awards**
- Scholarship of Norwegian royal embassy in Belgrade for distinguished Serbian students (2000)
 - Scholarship of Italian physical society for attending the summer school of physics “Enrico Fermi” Varenna, Italy; Metrology and fundamental constants course (2006)
 - The annual award for the best master of science thesis at the Institute of physics Belgrade, (2007)
- Memberships**
- Optical Society of Serbia
 - Serbian biophysical society
 - Serbian physical society
- Short term scientific visits**
- Texas A&M University in Qatar, visiting researcher in 2016
 - Institute of Electronic Structure and Lasers (IESL), Foundation for Research and Technology Hellas (FORTH), Heraklion (FP7 projects “LASERLAB-EUROPE” (228334) ULF-FORTH001688 Employing nonlinear imaging microscopy for characterization of microlenses produced in different biocompatible materials) (2011)
 - Laboratory for Laser Systems, Institute of Electronics, Bulgarian Academy of Science, Sofia, Bulgaria (Bilateral project) (2005)
 - Institut für Experimentalphysik, Technische Universität Graz, Graz, Austria (Scholarship “One month visit to Austria” of World University Service (WUS) Austria) (2005)

ANNEXES

- publications
<https://scholar.google.com/citations?user=cZ7-4A8AAAAJ&hl=en>
<https://orcid.org/0000-0003-2751-7395>