# Aliaksandra Rakovich, PhD, AFHEA

# Research Associate (Royal Society University Research Fellow)

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### **CAREER HISTORY**

2016 –	Royal Society University Research Fellow, Department of Physics, ICL, United Kingdom
2012 – 2016	Research Associate, Department of Physics, ICL, UK. Supervisor: S. A. Maier
2011 - 2012	Postgraduate Research Assistant, School of Physics, TCD, Ireland. Supervisor: J. F. Donegan

## PROFESSIONAL QUALIFICATIONS

2007 - 2011	PhD in Physics: "Interactions at Nano-Bio Interfaces". School of Physics, TCD, Ireland.		
	Supervisor: J. F. Donegan		
2003 – 2007	BA in Physics and Chemistry of Advanced Materials (PCAM). Schools of Physics and Chemistry,		
	TCD, Ireland		

## SCIENTIFIC CONTRIBUTIONS

Publications	13 peer-reviewed primary publications (6 are first author; 8 in journals with impact factor >10)
Scopus statistics:	1 invited review
citations: 371 h-index: 10	5 refereed conference publications 1 book chapter
Presentations	7 Oral presentations (1 invited talk) 11 Poster presentations

## TEACHING CONTRIBUTIONS

■ PhD co-supervision (1 student, 2015 to date)	
<ul> <li>Lectures in EXSS post-graduate seminar series (2015 to date)</li> </ul>	Imperial College London, UK
<ul> <li>Undegraduate laboratory demonstrations (2012-2014, 2016 to date)</li> </ul>	
<ul> <li>MSc &amp; MSci project co-supervision (total of 8 students, 2014-2016)</li> </ul>	
■ Undergraduate tutorials (2014-2016)	
<ul> <li>Undergraduate laboratory demonstrations (2007-2010)</li> </ul>	Trinity College Dublin, Ireland

## **FUNDING/GRANTS**

Royal Society University Research Fellowship, UK (2016)	60 months	623,000 £
EC EUMINAfab grant (FP7 Capacities), UK (2013)	1 week	1,000 £
ESF short visit grants, UK (2011, 2013, 2014)	3x 2 weeks	~ 3,500 £
IRCSET postgraduate fellowship, Ireland (2007)	48 months	72,000 €
Trinity Foundation scholarship, Ireland (2005)	60 months	Tuition fees; 10,000 € living expenses

## **AWARDS**

Research Award for best post-graduate student research paper, CRANN, TCD, Ireland (2010)

Conference travel bursary, Trends in Nanotechnology (2010)

Best poster award at INSPIRE-09 conference, Cork, Ireland (2009)

## PROFESSIONAL SERVICES

Co-management of electron beam lithography facility, EXSS group, ICL (2015 to date)

Management of high-resolution microscopy facility, EXSS group, ICL (2013 to date)

Member of EXSS cleanroom committee, EXSS group, ECL (2014-2015)

### PUBLIC ENGAGEMENT

Imperial Festival 2017 (Application submitted)

Insights Work Experience Scheme, ICL (2015 to date)

Participant in COOL JOBS project, CRANN and Science Gallery, Ireland (2015)

#### INTERNATIONAL ESTEEM

Invited talk at Bright2016 conference, Bariloche, Argentina (2016)

Researcher spotlight, Reactive Plasmonics (October 2016)

Research highlight by nanotechweb.org (January 2015)

Reviewer for several scientific journals, including ACS Nano and ACS Photonics (2011 to date)

Research Award for best postgraduate student paper, CRANN (2010)

#### PROFESSIONAL DEVELOPMENT

Associate Fellow of the Higher Education Academy of UK (2015 to date)

Supporting Learning and Teaching pathway, including several workshops on teaching methods (2015)

Developmental workshops in ICL, including those covering PhD supervision and various types of management (2014-2016)

#### MEMBERSHIPS IN PROFESSIONAL ORGANISATIONS

The Optical Society (2016 to date)

Institute of Physics (2003-2011)

#### SELECTED PUBLICATIONS

Dielectric resonators

J. Cambiasso, G. Grinblat, Y. Li, <u>A. Rakovich</u>, E. Cortés, S. A. Maier. *Bridging the gap between dielectric nanophotonics and the visible regime with effectively lossless GaP antennas*. NanoLetters **17**, 1219-1225 (2017)

Plasmonic nanoantennas, selective localisation

A. Rakovich, P. Albella, S. A. Maier. Plasmonic Control of Radiative Properties of Semiconductor Quantum Dots Coupled to Plasmonic Ring Cavities. ACS Nano 9, 2648-2658 (2015)

QD-based probes for cancer bioimaging

T. Y. Rakovich, O. K. Mahfoud, B. M. Mohamed, A. Prina-Mello, K. Crosbie-Staunton, T. Van den Broeck, L. de Kimpe, <u>A. Rakovich</u>, S. A. Maier, F. Alves, F. Nauwelaers, Y. Volkov. *Highly sensitive sdAbs-QD conjugates for detection of low expression levels of HER2 biomarker in lung and breast cancer cells*. ACS Nano **8**, 5682-5695 (2014)

Invited review on hybrid nano-bio photonic systems

A. Rakovich, J. F. Donegan, V. Oleinikov, M. Molinari, A. Sukhanova, I. Nabiev, Y. P. Rakovich. *Linear and nonlinear optical effects induced by energy transfer from semiconductor nanoparticles to photosynthetic biological systems*. Journal of Photochemistry and Photobiology, C: Photochemistry Reviews **20**, 17-32 (2014)

QD-based FRET for improving biological function of a protein

A. Rakovich, A. Sukhanova, N. Bouchonville, E. Lukashev, V. Oleinikov, M. Artemyev, V. Lesnyak, N. Gaponik, M. Molinari, M. Troyon, Y. P. Rakovich, J. F. Donegan, I. Nabiev. Resonance Energy Transfer Improves the Biological Function of Bacteriorhodopsin within a hybrid Material Built from Purple Membranes and Semiconductor Quantum Dots. NanoLetters 10, 2640-2648 (2010)