MIKHAIL Y. SHALAGINOV

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Postdoctoral Associate, JJ Hu research group, Department of Materials Science & Engineering, MIT

EDUCATION

Ph.D., School of Electrical & Computer Engineering, 07/2017
Purdue University, West Lafayette, IN, USA
Thesis: Novel Plasmonic Materials and Nanodevices for Integrated Quantum Photonics
Advisor: Dr. Vladimir M. Shalaev

AWARDS

2017 College of Engineering Outstanding Graduate Student Research Award 04/2017
***awarded to 2 graduate students (out of 700+) from the School of Electrical & Computer Engineering at Purdue University**

PUBLICATION SUMMARY: h-index 8, in total 254 citations (according to Google Scholar):
3 invited co-authored book chapters, 14 research publications in serial refereed journals. 8 presentations at International Conferences, including two invited talks.

SELECTED PUBLICATIONS

[1] **M. Y. Shalaginov**, S. Ishii, J. Liu, J. Liu, J. Irudayaraj, A. Lagutchev, A. V. Kildishev, & V. M. Shalaev, "Broadband enhancement of spontaneous emission from nitrogen-vacancy centers in nanodiamonds by hyperbolic metamaterials", Appl. Phys. Lett. 102, 173114, 2013. (56 citations)
***the highest scoring student paper in the category Metamaterials and Complex Media (CLEO 2013)**

[2] **M. Y. Shalaginov**, V. V. Vorobyov, J. Liu, M. Ferrera, A. V. Akimov, A. Lagutchev, A. N. Smolyaninov, V. V. Klimov, J. Irudayaraj, A. V. Kildishev, A. Boltasseva, & V. M. Shalaev, "Enhancement of single-photon emission from nitrogen-vacancy centers with TiN/(Al,Sc)N hyperbolic metamaterial", Laser Photonics Rev., 9 (1), 120-127, 2015 (44 citations)
***cover picture**, **highlighted in Purdue News Release**

[3] S. Bogdanov, **M. Y. Shalaginov**, A. Boltasseva, & V. M. Shalaev, "Material platforms for integrated quantum photonics", Opt. Mater. Express, 7 (2), 111-132, 2017 (10 citations)
***invited review article for the feature issue on Quantum Nanophotonics in Opt. Mater. Express**
****top downloads from Dec. 2016 to July 2017**

RESEARCH SKILLS

Nanofabrication & Characterization: photolithography, e-beam lithography, focused-ion beam milling, evaporation deposition, magnetron sputtering, chemical vapor deposition, reactive ion etching, confocal scanning microscopy, time-resolved fluorescence microscopy, near-field scanning microscopy, spectroscopic ellipsometry, spectrophotometry, x-ray crystallography, atomic force microscopy, scanning electron microscopy, Raman spectroscopy.

Software skills: numerical simulations of electromagnetic/thermal phenomena in nanoscale structures (MATLAB, COMSOL Multiphysics, CST Microwave Studio, Mathcad), quantum mechanical calculations (Wien2K), basics of programming in Java, C/C++, software development for experimental equipment automation and data acquisition (LabVIEW).

OTHER ACTIVITIES

Founded Purdue's photonics societies: SPIE (since 2014) & OSA (since 2011) Purdue Student Chapters (currently ~40 members); Coordinated Purdue Quantum Center Workshop 2017 (~100 attendees); Graduate Ambassador of Birck Nanotechnology Center (Discovery Park, Purdue Univ.).