

Ivan Mukhin

St. Petersburg Academic University RAS
(Alferov University)

Date of birth: 14 July 1986

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Education

Dates: 2019

Name of organization: Saint-Petersburg Academic University of the Russian Academy of Sciences, 8/3 Khlopina str., St. Petersburg, 194021, Russia (www.spbau.ru), ITMO University, 49 Kronverksky pr., St. Petersburg, 197101, Russia (www.ifmo.ru)

Title of qualification: **Habilitation (Doctor of Sciences)**

Title of thesis: Combined methods for fabrication and study of functional nanostructures for nanophotonics and nanomechanics

Dates: 2009--2012

Name of organization: Saint-Petersburg Academic University of the Russian Academy of Sciences, 8/3 Khlopina str., St. Petersburg, 194021, Russia (www.spbau.ru)

Title of qualification: **PhD**

Title of thesis: Creation and study of localized 1D, 2D and 3D nanostructures for diagnostic system

Dates: 2008--2009

Name of organization: Saint-Petersburg Academic University of the Russian Academy of Sciences, 8/3 Khlopina str., St. Petersburg, 194021, Russia (www.spbau.ru)

Title of qualification: **Master of Science**

Dates: 2003--2008

Name of organization: St.Petersburg State Polytechnical University, 29 Polytechnicheskaya str., St. Petersburg, 195251, Russia

Title of qualification: **Bachelor of Science**

Work experience

Dates: 2014 -- Present time

Saint-Petersburg Academic University, Laboratory of Renewable Energy Sources, 8/3 Khlopina str., St. Petersburg, 194021, Russia

Title: Head of the laboratory

Title: Associated professor, then professor (from 09.2020)

Dates: 2009 -- Present time

ITMO University, Department of nanotechnologies and material science, 49 Kronverksky pr., St. Petersburg, 197101, Russia

Title: Researcher, associated professor

Dates: 2012--2014

Saint-Petersburg Academic University, Laboratory of Nanobiotechnologies,
8/3 Khlopina str., St. Petersburg, 194021, Russia

Title: Researcher

Research areas

Expertise in the field of nanotechnology, nanophotonics, microfluidic and nanodiagnostic, solar cells, III-V semiconductors, nanowires, graphene.

Personal awards and grants

1) The scholarships of young scientists from the Russian Government and President Grant (2012-2014, 2015-2016, 2017-2018 and 2020-2021)

2) St. Petersburg government grants for young researchers (2010, 2011, 2015, 2018)

Grants

Received as a PI or co-PI more than seven research grants from Russian Scientific Foundations.

Teaching

Lectures and practices within master's course "Methods and technologies of nanostructures and nanomaterials processing", St. Petersburg Academic University.

Lectures and practices within master's course "Photovoltaics", St. Petersburg Academic University.

Lectures "Experimental photonics" (partly), ITMO University.

Development of master program for RUSNANO on the basis of ITMO University and St. Petersburg Academic University.

Mentoring

Supervision of 3 master projects at ITMO University and St. Petersburg State Polytechnical University.

Supervision of 6 PhD projects at ITMO University and St. Petersburg Academic University.

Invited conference talks

SPb Open 2020 (St. Petersburg, Russia, <https://spbopen.spbau.com/>)

PCPRE 2019 (St. Petersburg, Russia, www.ioffe.ru/AMS/RE2019)

METANANO'2018 (Sochi, Russia, <https://metanano.ifmo.ru/2018/>)

Conferences organizer

Member of Program Committee of International Conference "METANANO'20" (Tbilisi, Georgia 2020)

<https://metanano.ifmo.ru/>

Member of Program Committee of International Conference "STRANN'18" (Moscow, Russia 2018)

<http://www.strann.org/>

Languages

Russian – native, English – fluent

Selected paper List

(see more at <https://scholar.google.ru/citations?user=hxIVTJ4AAAAJ&hl=ru>)

1. Fedorov, V. V., Bolshakov, A., Sergaeva, O., Neplokh, V., Markina, D., Bruyère, S., ... & Makarov, S. V., Mukhin, I. S. (2020). Gallium Phosphide Nanowires in a Free-Standing, Flexible, and Semitransparent Membrane for Large-Scale Infrared-to-Visible Light Conversion. *ACS nano*.
2. Shugurov, K. Y., Mozharov, A. M., Bolshakov, A. D., Fedorov, V. V., Sapunov, G. A., Shtrom, I. V., ... & Neplokh, V. V., Mukhin, I. S. (2020). Hydrogen passivation of the n-GaN nanowire/p-Si heterointerface. *Nanotechnology*, 31(24), 244003.
3. Neplokh, V., Kochetkov, F. M., Deriabin, K. V., Fedorov, V. V., Bolshakov, A. D., Eliseev, I. E., ... & Cirlin, G. E., Mukhin, I. S. (2020). Modified silicone rubber for fabrication and contacting of flexible suspended membranes of n-/p-GaP nanowires with a single-walled carbon nanotube transparent contact. *Journal of Materials Chemistry C*, 8(11), 3764-3772.
4. Bolshakov, A. D., Fedorov, V. V., Shugurov, K. Y., Mozharov, A. M., Sapunov, G. A., Shtrom, I. V., ... & Mukhin, I. S. (2019). Effects of the surface preparation and buffer layer on the morphology, electronic and optical properties of the GaN nanowires on Si. *Nanotechnology*, 30(39), 395602.
5. Mayorov, A. S., Elias, D. C., Mukhin, I. S., Morozov, S. V., Ponomarenko, L. A., Novoselov, K. S., ... & Geim, A. V., Gorbachev, R. V. (2012). How close can one approach the Dirac point in graphene experimentally?. *Nano letters*, 12(9), 4629-4634.

Co-author of 6 patents.