Dmitry V. Krasnikov, PhD, Associate Professor



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Work experience – Science

Skolkovo Institute of Science and Technology (Moscow), Laboratory of Nanomaterials (2017-curr.time)
Boreskov Institute of Catalysis (Novosibirsk), Laboratory of nanostructured carbon materials (2009-2017)

Work experience – Teaching

Skolkovo Institute of Science and Technology:

- Catalysis (instructor; 2022-2025)
- Aerosol Science and Technology (co-instructor; 2018-2024)
- Industrial immersion coordinator for educational track "physics" (organization of 8-week summer internships for MSc students in industrial companies; 2021-2026)
- Carbon Nanomaterials (lecture on "Mechanisms for nanocarbon formation"; exercise on carbon nanotube growth; 2017 – 2026)
- Design of Chemical Sensors: from Fundamentals to Applications (lecture on "Surface chemistry"; exercise on CVD synthesis of materials; 2021 – 2026)

Novosibirsk State University:

- MOOC "Physical Chemistry" on Coursera and Lectorium (2018-curr.time)
- Physical chemistry of Heterogeneous catalysis (instructor; 2017)
- Kinetics of Heterogeneous Catalytic Reactions (instructor; 2016)
- Chemical Kinetics (seminars; 2014-2018)

Professional skills

The fields of expertise: physical chemistry, aerosol science, catalysis, nanotechnology, composites, chemical engineering, and carbon materials. Selected scientific studies performed:

- Advanced optimization of carbon nanotube synthesis with machine learning
- Development of new reactors for carbon nanotube synthesis
- Covalent and non-covalent functionalization of carbon nanotube surface
- One-step production of single-crystal graphene of a cm size
- Multi-level engineering of carbon nanomaterials for optics, electronics, and sensorics
- The synthesis and the processing of polymer composites and suspensions based on nanotubes

Education

Novosibirsk State University (Novosibirsk, Russia), the chair of Catalysis and Adsorption, the Department of Natural Sciences (undergraduate student: 2007- 2012, aver. mark "5.0"; PhD student: 2012 - 2015)

Additional Education

Course of additional education "Innovative Entrepreneurship", Novosibirsk State University (2010)
Course of additional education s**MBA** (from student to master of business administration) (2012-2013)
Online course "Writing in the sciences" (Stanford University; 2016)
Course "Facilitating and Assessing Learning" (Skolkovo Institute of Science and Technology; 2021)
The program for the development of the management reserve in the field of science, technology and higher education (strategic level; Ministry of Science and Higher Education; 2025-2026)

Achievements

h-index: 26 (Scopus) 33 (Google Scholar)

Co-author of 137 scientific papers, 2 books, and 11 patents	2011-2026
Thesis advisor of 8 PhD theses, Scientific (co)advisor of 28 MSc theses and 3 BSc diplomas	2019-2026
PI and participant of >20 successful grants incl. RSF (PI 2020-2025), Clover, President grant	2010-2026
Award of the Ambassador of China to Russia	2026
Best Skoltech Research Supervisor of the Year	2025
Skoltech Faculty Excellence Recognition Awards (3 years in a row)	2024, '25,'26
Awardee of All-Russian contest in chemical physics for young scientists	2024
Skoltech award "Innovations in Education"	2023
Award of Moscow government for young scientists	2023
IInd award for oral talk at IV Baikal conference on materials science	2022
Grant of the President of Russia for young scientists providing cutting edge research	2022-2023

Ist award for the poster presentation at IV national congress on catalysis "Ruscatalysis"	2021
Zhores Alferov Scholarship for young scientists in physics and nanotechnology	2020
Winner of mobility grant by Academy of Finland (prof. Esko Kauppinen Aalto University)	2020-2021
EdCrunch Award OOC "For the ability to clearly explain the most abstract ideas"	2018
Best oral presentation of IV Scientific Conference "Boreskov Readings"	2017
Ist award in the contest of scientific researches of Boreskov Institute of Catalysis	2015
Diplomas in the contest for young scientist researches of Boreskov Institute of Catalysis	2014, 2016
Winner of personal grant of Prokhorov fund	2013
Scholarship students of "British Petroleum" (2013, Schlumberger (2012) "Baker Hughes" (2011,2010)	
Zamaraev stipend for PhD students of Boreskov Institute of Catalysis	2013
Winner of personal grant for innovative research ("U.M.N.I.C." program of RF)	2013-2015
"**E**FCATs PhD student award" at XI and XII European congresses on catalysis	2013, 2015
Stipend of the President of Russia for PhD students providing innovative research	2012-2014
Diploma for best talk at workshop "Nanocarbons in electric and medical applications"	2012
Stipend of federal scholarship program of V. Potanin's foundation	2012
2nd place Diploma of scientific works of all-Russian contest of students and PhD students	2012
Academicians G. K. Boreskov and K. I. Zamaraev Stipend	2010-2011
Diplomas Scientific Students' Conference "Student and Scientific-Technological Advance"	2010-2012
V.A. Koptug stipend of the Municipality Novosibirsk	2009-2010
1st place Diploma in the I regional student Olympiad in the field of nanotechnology	2009
Stipend of Scientific Council of Department of Natural Sciences of the NSU	2008
3rd place Diploma all-Siberian school Olympiad in chemistry	2007

Additional activities

Secretary of organizing committee for conferences and workshops: "Applied Nanotoxicology and Nanotechnology" (2013), "Electromagnetic Properties of Novel Materials" (2018, 2024), "Bilateral (Russia-Finland) Conference on Functional Materials" (2020), Resonant Nanophotonics Educational Workshop (2023-2026). **M**ember of organizing committees for "GEN-Y" (Sochi, 2019), Chinese-Russian International Symposium on Photonics (Saint-Petersburg, 2026).

Additional skills

Languages: English (CAE), Spanish (beginner) **Sports:** swimming
PC: HyperChem, Mathcad, Microsoft Office (VBA), Origin, Corel Draw, Photoshop, Matlab, SolidWorks

Selected peer-reviewed publications

1. A.K. Grebenko, **D.V. Krasnikov**, A.V. Bubis, *et al.* "High-Quality Graphene Using Boudouard Reaction" ***Advanced Science*** (2022), 2200217, 10.1002/advs.202200217
2. I.V. Novikov, **D.V. Krasnikov**, I.H. Lee, *et al.* "Aerosol CVD Carbon Nanotube Thin Films: From Synthesis to Advanced Applications - A Comprehensive Review" ***Advanced Materials*** (2025), 2413777 10.1002/adma.202413777
3. *A.P Pushkarev,* …, ***D.V. Krasnikov***, ..., P.G Lagoudakis "Non-epitaxial perovskite polariton laser diode operat-ing under direct current" ***Nature***, (2026) in press 10.1038/s41586-026-10824-w
4. N.Xenidis, …, **D.V. Krasnikov,** ..., D.V. Lioubtchenko "Ultrathin Single-Walled Carbon Nanotube Surface Wave Absorbers for Terahertz Dielectric Waveguides" ***Nature Communications*** (2025) 16, 10868 10.1038/s41467-025-66559-1
5. S.I. Serebrennikova, …, **D.V. Krasnikov**, A.G. Nasibulin "Photogating interfacial effects in carbon nanotube-based transistors on Si/SiO2 substrate toward highly sensitive photodetection" ***Optoelectronic Advances*** (2026) 9, 260019 10.29026/oea.2026.260019

Media

- Artificial Neural Networks for nanotube synthesis
- Optimal activation of the catalyst for nanotube growth
- Carbon monoxide turns into large defectless graphene crystal under ambient pressure
- Carbon nanotube-based filters (*in Russian*)
- Why do we need to protect ourselves from aerosols? (interview on a radio in Russian)
- 14 ways to change the world (video in Russian)