

# Dmitry V. Krasnikov, PhD, Assistant Professor

7 July 1990, Omsk (Russia)

+7 952 900 7790

ORCID [0000-0002-6721-6530](https://orcid.org/0000-0002-6721-6530)

[faculty.skoltech.ru/people/dmitrykrasnikov](https://faculty.skoltech.ru/people/dmitrykrasnikov)

[krasnikovdmitry@gmail.com](mailto:krasnikovdmitry@gmail.com)



## 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; 2022-2024)
- Aerosol Science and Technology (co-instructor; 2018-2023)
- Industrial immersion coordinator for educational track "physics" (organization of 8-week summer internships for MSc students in industrial companies; 2021-2024)
- Carbon Nanomaterials (lecture on "Mechanisms for nanocarbon formation"; exercise on carbon nanotube growth; 2017 – 2024)
- Design of Chemical Sensors: from Fundamentals to Applications (lecture on "Surface chemistry"; exercise on CVD synthesis of materials; 2021 – 2024)

Novosibirsk State University:

- MOOC "Physical Chemistry" on [Coursera](https://www.coursera.org) and [Lectorium](https://www.lecturium.ru) (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
- Investigation on the formation of the active component of the catalyst for nanotube growth (thesis)
- 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 **sMBA** (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)

## Achievements

**h-index:** 22 (Scopus) 26 (Google Scholar)

Co-author of 100 scientific papers, 2 books, and 6 patents

Thesis advisor of 8 PhD theses, Scientific (co)advisor of 18 MSc theses and 2 BSc diplomas 2019-2024

Skoltech Faculty Excellence Recognition Award 2024

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

**II<sup>nd</sup>** 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

**I<sup>st</sup>** 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

<b>EdCrunch Award</b> OOC "For the ability to clearly explain the most abstract ideas"	2018
<b>Best oral presentation</b> of IV Scientific Conference "Boreskov Readings"	2017
<b>I<sup>st</sup> award</b> in the contest of scientific researches of Boreskov Institute of Catalysis	2015
<b>Diplomas</b> in the contest for young scientist researches of Boreskov Institute of Catalysis	2014, 2016
<b>Winner</b> of personal grant of Prokhorov fund	2013
<b>Scholarship students</b> of "British Petroleum" (2013, Schlumberger (2012) "Baker Hughes" (2011,2010)	
<b>Zamaraev stipend</b> for PhD students of Boreskov Institute of Catalysis	2013
<b>Winner</b> of personal grant for innovative research ("U.M.N.I.C." program of RF)	2013-2015
" <b>EFCATs PhD student award</b> " at XI and XII European congresses on catalysis	2013, 2015
<b>Stipend</b> of the President of Russia for PhD students providing innovative research	2012-2014
<b>Diploma</b> for best talk at workshop "Nanocarbons in electric and medical applications"	2012
<b>Stipend</b> of federal scholarship program of V. Potanin's foundation	2012
<b>2nd place Diploma</b> of scientific works of all-Russian contest of students and PhD students	2012
<b>Academicians G. K. Boreskov and K. I. Zamaraev Stipend</b>	2010-2011
<b>Diplomas Scientific Students' Conference</b> "Student and Scientific-Technological Advance"	2010-2012
<b>V.A. Koptug stipend</b> of the Municipality Novosibirsk	2009-2010
<b>1st place Diploma</b> in the I regional student Olympiad in the field of nanotechnology	2009
<b>Stipend</b> of Scientific Council of Department of Natural Sciences of the NSU	2008
<b>3rd place Diploma</b> 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, 2024); member of organizing committee of "GEN-Y" (Sochi, 2019): Skoltech Cross-Disciplinary Conference

## 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. Artem K. Grebenko, **Dmitry V. Krasnikov**, Anton V. Bubis , *et al.* "High-Quality Graphene Using Boudouard Reaction" **Advanced Science** (2022), 2200217, [10.1002/advs.202200217](https://doi.org/10.1002/advs.202200217)
2. Ilya V. Novikov, **Dmitry V. Krasnikov**, Il Hyun 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](https://doi.org/10.1002/adma.202413777)
3. **Dmitry V. Krasnikov**, Eldar M. Khabushev, Andrey Gaev, *et al.* "Machine Learning Methods for Aerosol Synthesis of Single-walled Car-bon Nanotubes" **Carbon**, (2023) 202, 76 [10.1016/j.carbon.2022.10.044](https://doi.org/10.1016/j.carbon.2022.10.044)
4. Arina V. Radivon, ..., **Dmitry V. Krasnikov**, ..., Maria G. Burdanova "Expanding THz vortex generation functionality with advanced spiral zone plates based on single-walled carbon nanotube films" **Advanced Optical Materials** (2024), 12, 2303282 [10.1002/adom.202303282](https://doi.org/10.1002/adom.202303282)
5. Kirill V. Voronin, ..., **Dmitry V. Krasnikov**, ..., Valentyn Volkov "Programmable Carbon Nanotube Networks: Controlling Optical Properties Through Orientation and Interaction" **Advanced Science** (2024), 2404694 [10.1002/advs.202404694](https://doi.org/10.1002/advs.202404694)

## 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 \(interview on a radio in Russian\)?](#)