Curriculum Vitae

Immanuel Kant Baltic Federal University
Science and Technology Park “Fabrika”
Scientific and Educational Center “Smart Materials and Biomedical Applications”

Name: Nikolai Shilov

Date of birth: 18/06/2002

Place of birth: Kaliningrad, Russia

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Education:

01/09/2020-present	IKBFU, Science and Education cluster Institute of High Technologies, Higher School of Nanotechnology and Engineering, Bachelor of physics with a major in “Technical physics”

Employment:

07/2022-present	Laboratory assistant researcher IKBFU, Scientific and Educational Center “Smart Materials and Biomedical Applications”
09/2023-present	Director of LLC "Smart Insol"

Experience

Equipment:

- Vibrating Sample Magnetometer (room temperature);
- Atomic Force Microscope;
- Scanning Electron Microscope + Energy Dispersive X-ray Spectrometer;
- Powder X-Ray Diffractometer;
- Fourier Transformed Infra-Red Spectrometer;
- Ball miller;
- Wet chemistry equipment

Programs:

- Origin
- Gwyddion
- KOMPAS-3D
- AutoCAD
- QualX

Grants:

2023-2024	“Student startup” grant of the Innovation Promotion Foundation of Russian Federation; "Development of a high-precision system for the mapping of mechanical stresses of the human foot ("smart insole"), based on a polymer composite material"
2022-2024	“Development and investigation of multimaterials with magnetic nanoinclusions for additive 3d-5d technologies” Russian Science Foundation (RSF); No 21-72-30032
2023-2024	“Development of innovative devices for selective purification of water and air based on two-dimensional materials – MXenes” Russian Science Foundation (RSF); No 22-12-20036

Scholarships:

1. Scholarship from the Government of the Russian Federation (2022-2023)
2. Scholarship from the Government of the Russian Federation (2023-2024)

Internships:

19/09/22-2/10/22	Magnetism Department of the Physics Faculty, Lomonosov Moscow State University (Moscow, Russia)
21/09/22-22/09/22	NUST MISIS (Moscow, Russia)
22/09/22-24/09/22	Tver State University (Tver, Russia)
07/11/23-17/11/23	Federal State Unitary Enterprise "Dukhov Russian Scientific Research Institute of Automation" (Moscow, Russia)

Organizing work:

13/08/23-24/08/23	Smart Composites International School 2023 (SCIS 2023), Kaliningrad, Russia Member of organizing committee
20/08/23-24/08/23	V International Baltic Conference on Magnetism 2023 (IBCM 2023), Svetlogorsk, Russia Member of organizing committee

Conferences and Schools:

14/08/22-20/08/22	Smart Composites International School (SCIS 2022), Kaliningrad, Russia
03/07/23-07/07/23	The 8th Asian Symposium on Advanced Materials (ASAM-8), Novosibirsk, Russia, poster presentation, “Development of $Ti_3C_2T_x$+Fe_3O_4 nanocomposite materials for water remediation” Shilov N.R., Sobolev K.V., Omelyanchik A.S., Magomedov K.E., Rodionova V.V.

13/08/23-24/08/23	Smart Composites International School 2023 (SCIS 2023), Kaliningrad, Russia
20/08/23-24/08/23	V International Baltic Conference on Magnetism 2023 (IBCM 2023), Svetlogorsk, Russia, oral presentation, “Functionalization of MXenes with magnetic nanoparticles” Shilov N.R., Sobolev K.V., Omelyanchik A.S., Magomedov K.E., Rodionova V.V.

Publications:

1. Iron Oxide Nanoparticle-Assisted Delamination of Ti3C2Tx MXenes: A New Approach to Produce Magnetic MXene-Based Composites. Kirill Sobolev, Alexander Omelyanchik, Nikolai Shilov, Mikhail Gorshenkov, Nikolai Andreev, Antonio Comite, Sawssen Slimani, Davide Peddis, Yevgeniy Ovchenkov, Alexander Vasiliev, Kurban E. Magomedov andValeria Rodionova, *Nanomaterials* 2024, *14*(1), 97; doi:10.3390/nano14010097
2. Модификация метода соосаждения для синтеза наночастиц оксидов железа с высоким значением намагниченности и контролируемым выходом реакции. Омельянчик А.С., Соболев К.В., Шилов Н.Р., Андреев Н.В., Горшенков М.В., Родионова В.В., Российские Нанотехнологии, 2022
3. Адсорбция ионов меди на поверхности многослойных мхенов $Ti_3C_2T_x$ со смешанной функционализацией. К.В. Соболев, К.Э. Магомедов, Н.Р. Шилов, В.В. Родионова, А.С. Омельянчик, Российские Нанотехнологии, 2023