

Yaroslav Nikiforov

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EDUCATION

Novosibirsk State University

Specialist in Fundamental and Applied Chemistry, GPA: 4.9/5.0

– Thesis: “Study of the Interaction between Iridium and Zirconium Carbide”

Novosibirsk, Russia

2018–2023

EXPERIENCE

Nikolaev Institute of Inorganic Chemistry of SB RAS

Intern / Laboratory of Nanomaterials

Novosibirsk, Russia

September 2018 - May 2021

I have performed MD simulations of a graphene fluorination process with LAMMPS program package.

On a basis of the nearest-neighbors fluorine patterns, found in the simulations' results, we proposed a probabilistic model for a graphene fluorination, implemented in GenCF code github.com/yamarus/genCF.

Institute of Solid State Chemistry and Mechanochemistry of SB RAS

Intern / Laboratory of Chemical Materials Science

Novosibirsk, Russia

September 2021 - now

Here I work on my thesis. I investigate phase and elemental composition of products in a high-temperature solid state reaction of iridium metal with zirconium carbide, as well as kinetics of the reaction using experimental techniques (XRD, SEM, WDS).

PUBLICATIONS

1. Yamaletdinov, R. D., Katkov, V. L., Nikiforov, Y. A., Okotrub, A. V. & Osipov, V. A. Effect of Fluorine Patterns on Electronic Transport in Fluorinated Graphene. *Advanced Theory and Simulations* **3** (4 2020).
2. Yamaletdinov, R. D., Nikiforov, Y. A., Bulusheva, L. G. & Okotrub, A. V. Fluorine patterning of graphene: Effects of fluorine content and temperature. *Nanoscale* **13**, 1206–1212 (2 2021).
3. Kostin, G. A., Nikiforov, Y. A. & Kuratieva, N. V. Synthesis and Structure of Ruthenium Nitroso Complexes with Nitrate Anions and Pyridine as Ligands. *Journal of Structural Chemistry* **61**, 86–94 (2020).

PARTICIPATION IN CONFERENCES

- Nikiforov, Y. A., Yamaletdinov, R.D. Simulation of mechanical properties of fluorinated graphene by means of molecular dynamics // 13th workshop *Thermodynamics and materials science*, Novosibirsk, October 26–30, 2021. *Poster presentation*.
- Nikiforov, Y. A., Yamaletdinov, R.D. Molecular dynamics study of mechanical and thermal properties of fluorinated graphene // International conference *Low-dimensional materials: theory, modeling, experiment*, Dubna, July 12–17, 2021. *Poster presentation*.
- Nikiforov Y. A., Lozanov V. V., Baklanova N. I. Investigation of the reaction of iridium with zirconium carbide // XXIII *International Chernyayev conference on chemistry, analytics, and technology of platinum metals*, Novosibirsk, October 3–7, 2022. *Oral presentation*.

COMPUTER SKILLS

- **General:** Microsoft Office, L^AT_EX.
- **Research related:** Origin, MatLab, TOPAS, LAMMPS, VASP, Gaussian, Mercury, ImageJ.
- **Programming languages:** Python (numpy, scipy, matplotlib, pandas), Rust, bash, C++ (basic knowledge).

LANGUAGES

- **Russian:** native
- **English:** B2 (TOEFL score 99)
- **French:** basic
- **German:** basic

SCHOLARSHIPS AND AWARDS

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| • Prizewinner in Russian National Olympiad in Chemistry | 2016 & 2018 |
| • 1st degree Diploma in IV | 2018 |
| • 2nd Place in Nikolaev Institute's of Inorganic Chemistry Olympiad | 2019 |
| • Enhanced Academic Stipend for scientific achievements | 2020 |
| • Silver Diploma in National Olympiad "I – Professional" in Physical Chemistry and Catalysis | 2021 |

TEACHING EXPERIENCE

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|---|-------------------|
| • Teaching Assistant at SESC NSU
<i>Organic Chemistry for Olympiad-level Problems</i> | Autumn 2021 - now |
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