

## CURRICULUM VITAE

### Starisnkiy Sergey

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### EDUCATION

- 2023 Habilitation in Physics and Mathematics (Specialty Thermal physics and theoretical heat engineering) , S.S. Kutateladze Inst. of Thermophysics, Novosibirsk, Russia, Doctoral Thesis "Heat and Mass Transfer in the Synthesis of Functional Materials by Nanosecond Laser Pulses"
- 2017 Ph.D. in Physics and Mathematics, S.S. Kutateladze Inst. of Thermophysics, Novosibirsk, Russia. PhD Thesis "Pulsed laser ablation of silver, gold and their alloys in different environment at nanostructure synthesis conditions"
- 2013-2016 Ph.D. Student in .S. Kutateladze Inst. of Thermophysics, Novosibirsk, Russia
- 2012 M.Sc. in Physics Novosibirsk State University, Novosibirsk, Russia

### PROFESSIONAL APPOINTMENTS

- 2009-present Laboratory assistant, Researcher engineer, PhD student, Junior researcher, Researcher, Senior researcher,

- S.S. Kutateladze Institution of Thermophysics, Novosibirsk, Russia
- 2019 – present Researcher, Novosibirsk State University, Russia
- 2016-present Teaching assistant, Senior Lecturer, Novosibirsk State University, Russia.

### **MAIN RESEARCH INTERESTS**

- Laser processing,
- Engineering thermophysics,
- Micro/nano technology,
- Surface modification techniques,
- Synthesis of new materials,
- Controlled wettability
- Plasmon materials

### **LECTURING AND PEDAGOGICAL ACTIVITIES**

- Seminars “Statistical thermodynamics of nonequilibrium processes” for Master students of Physical department, Novosibirsk State University 2016- present
- Experimental Workshop “Molecular Physics” for bachelor students of Physical department, Novosibirsk State University 2021- present
- Supervision of diploma students (2 MS and 3 bachelor thesis completed) and PhD student (3) of Novosibirsk State University

### **ACADEMIC ACTIVITIES**

- 2016-2020 Scientific Secretary of the regular school-conference «Actual problems of thermal physics and physical hydrodynamics», Novosibirsk, Russia
- ([http://www.itp.nsc.ru/conferences/avtfg/index\\_en.html](http://www.itp.nsc.ru/conferences/avtfg/index_en.html),  
[http://www.itp.nsc.ru/conferences/avtfg18/index\\_en.html](http://www.itp.nsc.ru/conferences/avtfg18/index_en.html),  
[http://www.itp.nsc.ru/conferences/avtfg20/index\\_en.html](http://www.itp.nsc.ru/conferences/avtfg20/index_en.html))
- 2019 – 2021 Chairman of Council of Young Scientists of S.S. Kutateladze Inst. of Thermophysics, Novosibirsk, Russia
- 2021 Co-Chairman of “Russian-Belarusian Seminar Dedicated to Laser Functionalization of Materials in Thermal Physics Problems”, December 1, 2021, Novosibirsk, Russia.
- 2021 Scientific Secretary of “The second sino-russian bilateral symposium on nano surface technology and surface effect” October 1, 2021, online

## HONOR AND AWARDS

- The best fundamental result of Institution of Thermophysics in 2022 for the work of «Laser and chemical functionalization of surface to control of wettability in heat and mass transfer intensification»
- Named award «Best young researcher» for scientific achievements in 2021 from the Government of the Novosibirsk region
- Winner of the competition for a grant from the President of the Russian Federation in 2019
- Best Young Scientist of the S.S. Kutateladze Institution of Thermophysics in 2017

### Best oral and poster presentation awards:

- Best Poster Presentation Award on the XXIII School-seminar of young scientists and specialists led by Academician of the RAS A.I. Leontiev "Problems of gas dynamics and heat and mass transfer in power plants" (May 2021, Ekaterinburg, Russia)
- Best Oral Presentation Award on XXXIII Siberian thermal physics seminar (6-8 June 2017 Novosibirsk, Russia)
- Best Oral Presentation Award on the XIV All-Russian school-conference of young scientists with international participation "Actual problems of thermal physics and physical hydrodynamics" (22-25 November 2016, Novosibirsk, Russia)
- Best Oral Presentation Award on the XIV All-Russian school-conference of young scientists with international participation "Actual problems of thermal physics and physical hydrodynamics" (20-23 November 2014, Novosibirsk, Russia)

### **Scientific projects supervised:**

- Grant of the Russian Science Foundation 2020-2022 (20-79-00139) *The fabrication of the ordered layers of plasmon nanoparticles by the gas-phase deposition method on substrates with a laser-induced periodic surface structure*
- Grant of the Russian Foundation for Basic Research (RFBR) and National Natural Science Foundation of China (NSFC) 2021-2023 (21-52-53025) *Boundary slip of water vapor layer in film-boiling regime at low superheat temperature on nano/micro-textured surfaces*
- Grant of the Russian Foundation for Basic Research (RFBR) and Belarusian Republican Foundation for Fundamental Research (BRFFR) 2021-2023 (20-58-04021) *Selective metal-induced crystallization of amorphous silicon initiated by short and ultrashort laser pulses*

- Grants from the President of the Russian Federation 2019-2020 (MK-2404.2019.8) *Synthesis of plasmonic materials by deposition of pulsed laser ablation products of silicon on substrates with noble metal nanoparticles in an oxygen-containing background gas.*
- Grant of the Russian Foundation for Basic Research (RFBR) 2018-2019 (18-38-00057)  
*Investigation of nanoparticle formation mechanisms during nanosecond laser ablation of metals immersed into a liquid*

## CONFERENCES & PUBLICATIONS

Author or co-author of 48 publications (Scopus)

Citation index: 200 from Scopus (without self-citations)

Citation index: 307 from Scopus (with self-citations)

H-index: 10 (Scopus)

## SELECTED PUBLICATIONS

1. **S. V. Starinskiy**, Y.G. Shukhov, A. V. Bulgakov, Laser-induced damage thresholds of gold, silver and their alloys in air and water, *Appl. Surf. Sci.* 396 (2017) 1765–1774.
2. A.I. Safonov, V.S. Sulyaeva, E.Y. Gatapova, **S. V. Starinskiy**, N.I. Timoshenko, O.A. Kabov, Deposition features and wettability behavior of fluoropolymer coatings from hexafluoropropylene oxide activated by NiCr wire, *Thin Solid Films.* 653 (2018) 165–172.
3. V. Serdyukov, **S. Starinskiy**, I. Malakhov, A. Safonov, A. Surtaev, Laser texturing of silicon surface to enhance nucleate pool boiling heat transfer, *Appl. Therm. Eng.* 194 (2021) 117102.
4. **S. V Starinskiy**, A.A. Rodionov, Y.G. Shukhov, A.I. Safonov, E.A. Maximovskiy, V.S. Sulyaeva, A. V Bulgakov, Formation of periodic superhydrophilic microstructures by infrared nanosecond laser processing of single-crystal silicon, *Appl. Surf. Sci.* 512 (2020) 145753.
5. **S. V Starinskiy**, A.I. Safonov, A.A. Rodionov, N.B. Miskiv, E.M. Starinskaya, Experimental Confirmation of the Contact Angle Transcendence Phenomena on a Superhydrophobic Surface, *Chem. Eng. Sci.* 281 (2023) 119173. <https://doi.org/10.1016/j.ces.2023.119173>.