

	<p>MAKAROV, Sergey V. Doctor of Science from ITMO University</p>
<p>Research interests</p>	<p>Perovskite nanophotonics:</p> <ul style="list-style-type: none"> ✓ Perovskite nanolasers and microlasers ✓ Effects of nanophotonics in thin-film optoelectronic devices ✓ Perovskite devices with dual functionality ✓ Highly efficient perovskite solar cells
<p>Features of the PhD program</p>	<ul style="list-style-type: none"> ✓ Use of unique equipment (a system of glove boxes for the production and study of perovskite nanomaterials and devices based on them) ✓ Interaction with foreign scientists and research centers (USA, Turkey, Hong Kong) ✓ Financial support of a PhD student when performing KPIs
<p>List of the supervisor's research projects (participation/supervision)</p>	<p>Supervisor:</p> <ul style="list-style-type: none"> ✓ Megagrant 075-15-2021-589 ✓ Russian Science Foundation 17-73-20336 ✓ Russian Science Foundation 17-73-20336 ✓ Russian Foundation for Basic Research 17-02-00538 A ✓ President's Grant МД-5954.2021.1.3
<p>List of potential thesis topics</p>	<ul style="list-style-type: none"> ✓ Perovskite optoelectronics devices ✓ Perovskite nano- and microlasers ✓ Nonlinear nanophotonics
<p>Publications in the last five years</p>	<p>200 (Scopus / Web of Science / RSCI)</p>
<p>Key publications</p>	<ol style="list-style-type: none"> 1. Koryakina I., Bikmetova S., Khmelevskaia D., Markina D., Kuleshova A., Logunov L., Timin A.S., Pushkarev A., Makarov S., Zyuzin M.V. Droplet Microfluidic Synthesis of Halide Perovskites Affords Upconversion Lasing in Mie-Resonant Cuboids//ACS Applied Nano Materials, 2023, Vol. 6, No. 6, pp. 4370–4378 2. Furasova A., Baeva M., Mozharov A., Tonkaev P., Raudik S., Neplokh V., Fedorov V., Di Giacomo F., Mukhin I., Makarov S., Di Carlo A. Enhancing Photovoltaic Performance of Hybrid Perovskite Solar Cells Utilizing GaP Nanowires//ACS Applied Energy Materials, 2023, Vol. 6, No. 7, pp. 3696-3704 3. Sinelnik A.D., Rybin M.V., Gets D.S., Khubezhov S.A., Zelenkov L.E., Makarov S.V., Shishkin I.I. Ultra-Broadband Photoluminescent Carbon Dots Synthesized by Laser-Induced Thermal Shock//Laser and Photonics Reviews, 2023, Vol. 17, No. 1, pp. 2200295

	<p>4. Sun Y., Larin A., Mozharov A., Ageev E., Pashina O., Komissarenko F., Mukhin I., Petrov M., Makarov S., Belov P., Zuev D. All-optical generation of static electric field in a single metal-semiconductor nanoantenna//Light: Science and Applications, 2023, Vol. 12, No. 1, pp. 237</p> <p>5. Kushchenko O.M., Gets D.S., Rybin M.V., Yavsin D., Makarov S.V., Shishkin I.I., Sinelnik A.D. All Optically Switchable Active Photonics Based on the Halide Perovskite GST Platform//Laser and Photonics Reviews, 2023, Vol. 17, No. 8, pp. 2200836</p>
Key IPs	<ul style="list-style-type: none"> ✓ Patent for invention No. 2780950 Anoshkin S.S., Makarov S.V., Pushkarev A.P. "Blue LED based on halide perovskite-polymer materials and method of its manufacture", 2022 ✓ Patent for invention No. 2774513 Baranov M.A., Makarov S.V., Pushkarev A.P., Marunchenko A. "Method of production of superlattices from lead-halide perovskite nanocrystals", 2022 ✓ Patent for utility model No. 212052 Makarov S.V., Zakhidov A.A., Danilovsky E.Y., Obraztsova A.A., Zelenkov L.E. "Irreversible thermal indicator of critical temperature", 2022
Supervisor's specific requirements	<ul style="list-style-type: none"> ✓ English language ✓ Competence
Code of the subject area of the PhD program	<p>1.3.2 Devices and Methods of Experimental Physics</p> <p>1.3.3 Theoretical Physics</p> <p>1.3.6 Optics</p> <p>1.3.8 Condensed State Physics</p> <p>2.2.6 Optical and Opto-Electronic Devices and Complexes</p>