

The paper collection is devoted to topical problems in the fields of light – biological media interactions, as well as applications of modern technologies of optics, laser physics and photonics in biology and medicine. The scope of the collection includes (but is not limited by) the following areas:

- Fundamental and applied problems of the interaction between electromagnetic waves of different spectral ranges and biological objects of different nature, including the separate cells, cell cultures and constructs, tissues and liquids;
- Effects of elastic, quasi-elastic and inelastic light scattering, nonlinear light conversion in biological media;
- Methods of immersion and compression optical clearing of tissues in different spectral ranges;
- Innovative modalities of spectroscopy, imaging, microscopy, endoscopy, and sensing of biological media, including the polarization-sensitive and multimodal ones;
- Modern optical and laser technologies in medical diagnostics, therapy, and surgery;
- Nanobiophotonics and manipulation of particles and cells with light;
- Exposure of biological tissues to electromagnetic waves, as well as optical radiation dosimetry;
- Innovative advanced functional materials for optics and biophotonics;
- Artificial intelligence and machine learning approaches for biophotonics.

Participants of the Saratov Fall Meeting 2024 (SFM'24, URL: <https://sfmconference.org/>), School-Conference “Prokhorov Weeks» 2024 (URL: <https://pw-conf.gpi.ru/>), and everyone interested are invited to submit their paper.

Both research and review papers are considered, while the topic of a review paper should be approved *a priori* via E-mail by the Guest Editors.

Papers should be sent to the Guest Editors directly. Please, do not submit it to the journal staff.

The manuscript should be prepared following the guidelines from the journal's website (URL: <https://journals.ioffe.ru/journals/rules/5>) and then submitted to the Guest Editors together with a list of suggested (up to three persons, with their full name, scientific degrees, affiliations, and E-mail indicated).

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Submission deadline – November 15, 2024