

Works on laser biophotonics

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This issue of Quantum Electronics presents the results of scientific research in a number of main directions related to the development of laser biophotonics. It contains 14 papers on topical problems of biophotonics, which represent the following fundamental and applied fields: terahertz spectroscopy and microscopy (M.R. Konnikova et al.; O.V. Minin and I.V. Minin), methods of high-resolution optical microscopy of cells and their laser manipulation (V. Richter et al.; P.B. Ermolinskiy et al.), methods of nonlinear optics and Raman spectroscopy of biological objects (E.A. Shirshin et al.; N.N. Brandt et al.), studies of viscoelastic properties of tissues using OCT (H. Zhang et al.), issues of control of optical properties of biological tissues (O.A. Zyuryukina et al.), methods of fluorescence diagnostics in problems of photodynamic therapy (I.P. Shilov et al.; A.V. Khilov et al.) and methods of laser photomodification of biological tissues and photoinactivation of viruses (A.V. Belikov et al.; N.Yu. Ignatieva et al.; I.N. Zavestovskaya et al.). One work, which will be published in the next issue, is devoted to the generation of silicon nanoparticles for biophotonic problems (V.Yu. Nesterov et al.). We also should emphasise that two of the presented works touch upon the problems associated with the study of the SARS-CoV-2 coronavirus in the study of both its properties (M.R. Konnikova et al.) and inactivation (I.N. Zavestovskaya et al.).

The selected works characterise the latest achievements in the field of biophotonics; they were mainly discussed at the IX International Symposium on Optics and Biophotonics, held in Saratov from 27 September to 1 October 2021 in an online/offline format within the framework of the Saratov Fall Meeting annual international conference (SFM-21) (<https://sfmconference.org/>), organised by the Saratov State University and a number of other universities and institutions of the Russian Academy of Sciences. More than 500 scientists from more than 20 countries took part in SFM-21.

The editors of the issue are deeply grateful to all the authors and the editorial staff of Quantum Electronics for their enormous help in preparing the materials, and also

express hope that the papers in the issue will be of interest to the wide readership of the journal.

The editors and all the authors of this issue remember with great warmth Aleksei Nikolaevich Bashkatov, an enthusiast and prominent specialist in the field of biophotonics, associate professor of the Department of Optics and Biophotonics of the Saratov State University, who suddenly passed away at the age of 56 on 7 November 2021. Russian biophotonics has suffered a heavy loss. Aleksei Nikolaevich's scientific interests were versatile and included theoretical and experimental research in the optics of biological tissues, biological and medical physics, laser medicine, and control of optical parameters of biological tissues. His scientific works are well known all over the world. One of them, published in the *Journal of Physics D: Applied Physics* and devoted to measuring the optical parameters of biological tissues, is one of the most cited in the world. It is included in the list of the top 50 publications in the entire series of *J. Phys.* over the 50 years of the series' existence and has been cited more than 1500 times. Not sparing his time, Aleksei Nikolaevich was involved in a hectic social and scientific work, was a guest editor of dozens of journals, and reviewed numerous articles from leading journals of the world, trying to instil a culture of presentation of scientific results in authors. As an editor, Aleksei Nikolaevich Bashkatov prepared a number of issues of Quantum Electronics on optical and laser technologies in biophysics and medicine in 2011–2016.

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