Call for Papers

Announcing an Issue of the IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS on Biophotonics

Submission Deadline: October 1, 2022
Hard Copy Publication: July/August 2023

The IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) invites manuscript submissions in Biophotonics. The emerging field of Biophotonics has opened up new horizons for extensive transfer of state-of-the-art technologies coming from the areas of quantum electronics, lasers and electro-optics to the life sciences and medicine. Recently developed innovative biophotonics technologies bring significant impact to biomedical research, clinical practices, and public health. The photonics-based technologies offers unique advantages in terms of molecular level contrast, nanometer resolution, non-contact or minimally invasive access, rapid and cost-effective for point-of-care usage, etc. The purpose of this issue of JSTQE is to highlight the recent progress and trends in developing leading-edge biophotonics technologies. Areas of interest include (but are not limited to):

Advanced biophotonics imaging, sensing and diagnostic methods and systems
- Emerging biophotonics imaging techniques including cellular/intracellular, molecular, in-vivo and intravital bioimaging, neurophotonics, high content and high throughput analysis, digital holographic, endoscopic, translational clinical, photoacoustic, photothermal, diffuse, phase-sensitive, OCT, confocal, and terahertz
- Spectroscopy-based diagnostics including fluorescence, Raman, elastic scattering, evanescence-wave, near-/mid-IR spectroscopy
- Novel biophotonics sensing techniques
- Multi-modal diagnostics
- Advanced data analysis techniques including artificial intelligence and machine learning based approaches
- New instruments and methods for point-of-care testing as well as diagnostics in resource-constrained and pandemic response settings

Progress in minimally-invasive biophotonics therapeutic techniques
- Ultrashort pulse laser tissue therapeutics
- Precise laser tissue manipulation in ophthalmology, dentistry, dermatology, cardiology, neurosurgery, photodynamic cancer therapy
- Robotic and imaging guided targeted laser surgery
- Novel photobiomodulation therapeutic techniques and dominant light-tissue-interaction mechanisms at cellular and tissue level
- Light-assisted nerve and neuron-growth stimulation, cellular/tissue repair, optogenetics, photoimmunotherapy
- optical and laser radiation safety evaluation and dosimetry

Development of novel sources, detectors, fiber-optic, lab-on-chip, and electro-optic tools and other enabling devices

The Primary Guest Editor for this issue is Prof. Qiyin Fang, McMaster University, Canada. The Guest Editors are:

Prof. Charles Kervrann, INRIA - Centre de Rennes Bretagne Atlantique, France
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hardcopy publication date. These final versions have article numbers assigned to them to accelerate the online publication; the same article numbers are used for the print versions of JSTQE.

**For inquiries, please contact:**
IEEE Photonics Society JSTQE Editorial Office – Christine Shaughnessy (Email: c.shaughnessy@ieee.org)

The following documents located at http://mc.manuscriptcentral.com/jstqe-pho are required during the mandatory online submission.

1) PDF or MS Word manuscript (double column format, up to 12 pages for an invited paper, up to 8 pages for a contributed paper). Manuscripts over the standard page limit will have an overlength charge of $220.00 per page imposed. Biographies of all authors are mandatory, photographs are optional. See the Tools for Authors link: www.ieee.org/web/publications/authors/transjnl/index.html.

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