



## Call for Papers

Announcing an Issue of the IEEE

### JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS on Advances in Neurophotonics for Monitoring Brain Function

Submission Deadline: October 1, 2024  
Hard Copy Publication: July/August 2025

The IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) invites manuscript submissions in **Advances in Neurophotonics for Monitoring Brain Function**.

The use of optical methods for neuroimaging has significantly increased in the last decade and plays a key role in understanding the brain functionality. Advanced Neurophotonics technologies provide an opportunity to sense the central nervous system at the point-of-care. The special issue in *Advances in Neurophotonics for Monitoring Brain Function* will bring together all aspects of advanced optical technologies for neuroimaging applications. The committee solicits papers spans from microscopy to noninvasive functional imaging for better understating mechanisms of the brain.

Notably, this session includes development and applications of:

- Noninvasive functional neuroimaging studies under natural (ecologically valid) conditions via the following techniques:
  - Near-infrared spectroscopy (NIRS)
  - Diffuse correlation spectroscopy (DCS)
  - Speckle-based sensing
  - Functional ultrasound imaging of the brain
- Neuroimaging studies of the eye-brain network
- Optical interferometric detection of neural activity and dynamics of cellular metabolism
- Functional Optical Coherence Tomography such as Optical Coherence Elastography (OCE), spectroscopic OCT (SOCT), and molecular imaging OCT
- Intravital microscopy approaches for quantifying function and/or metabolism in central nervous system (including but not limited to multiphoton, confocal, light-sheet, lifetime imaging)
- Applications of machine deep learning for clinical and functional neuroimaging
- Photoacoustic methods for neuroimaging
- Theory, numerical models, or data analysis tools for non-invasive brain monitoring techniques

The Primary Guest Editors for this issue are **Prof. Nisan Ozana**, Bar Ilan University; **Prof. Turgut Durduran**, ICFO. The Guest Editors are: **Prof. Ikbal Şencan-Eğilmez**, Washington University; **Prof. Yumie Ono**, Meiji University; **Prof. Xiaojun Cheng**, Boston University; **Prof. Laura Di sieno**, Politecnico di Milano.

JSTQE will begin accepting submissions for this special issue on **January 1, 2024**. The deadline for submission of manuscripts is **October 1, 2024**. Hardcopy publication of the issue is scheduled for **July/August 2025**.

Unedited preprints of accepted manuscripts are normally posted online on IEEE Xplore within 1 week of the final files being uploaded by the author(s) on ScholarOne Manuscripts. Posted preprints have digital object identifiers (DOIs) assigned to them and are fully citable. Once available, the preprints are replaced by final copy-edited and XML-tagged versions of manuscripts on IEEE Xplore. This usually occurs well before the 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:

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Paper submission via IEEE Author Portal: <https://ieee.atyponrex.com/journal/jstqe-pho>

- 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](http://www.ieee.org/web/publications/authors/transjnl/index.html).
- 2) JSTQE uses the iThenticate software to detect instances of overlapping and similar text in submitted manuscripts and previously published papers. Authors should ensure that relevant previously published papers are cited and that instances of similarity are justified by clearly stating the distinction between a submitted paper and previous publications.