



Photonics for Basic and Clinical Brain Research

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Message from the Guest Editors

Dear Colleague,

Optical technologies have been indispensable for unlocking the mysteries of the brain since the very inception of modern neuroscience. To help maintain the vital role of photonics for yielding impactful discoveries in neuroscience, we invite you to “shed more light” on the brain by contributing an article to an upcoming special issue of Photonics entitled: **“Photonics for Basic and Clinical Brain Research”**.

This special section highlights optical-based modalities applied for understanding healthy and diseased brain physiology and morphology. This special issue will welcome basic, methodological and applied cutting-edge research contributions focusing on:

- Healthy and diseased brain function
- Cerebral hemodynamics and neurovascular coupling
- Cerebral energy metabolism
- Optical neural interfaces
- Optical modulation of neural and microvascular activity
- Neuroimmune interactions
- Instrumentation development for in vivo, in vitro, and ex vivo brain imaging and modulation
- Multimodal and multiscale brain imaging methods
- Validation of methods and tools developed for preclinical and clinical brain research

