

Special Issue

Progress and Challenges of Implantable Neural Interfaces

Message from the Guest Editors

Implantable neural interfaces have flourished in the past decades, and are playing an increasingly important role in fundamental neuroscience research and promising clinical solutions. Organic semiconductor materials, flexible low-dimensional materials, and integrated optoelectronic devices have been promising candidates for future applications. There are multiple challenges that must be met. For example, the large number of channels in probes or electrodes dedicated to deep-brain applications, excellent flexibility and stability of the neural prosthesis for function restoration (e.g., retinal prosthesis for vision restoration). Beyond the devices with wired power supply, wireless tools have significantly expanded the approaches for studies with freely moving animals. Implantable neural interfaces are the most straightforward tool for us to understand the brain and nervous system, and will guide us for the building of brain-machine interfaces (BMIs) and artificial intelligence. In this Special Issue, we invite submissions reporting the state-of-the-art development of implantable neural interfaces and their applications.

Guest Editors

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Deadline for manuscript submissions

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