

Special Issue

Micromachines for Bio-Electronic Integrations

Message from the Guest Editor

Bioelectronics that can interrogate and manipulate biologically significant functions will enable extensive downstream applications in sensing, energy, and healthcare. However, their performance to date is still limited by inherent structural and functional mismatches at the bioelectronic interfaces. Recent advances in micromachining create substantial opportunities to overcome these mismatches by engineering the physiochemical properties of electronics. In particular, both nano- and soft electronics demonstrate promising improvement for bio-integration through the reduction of device dimensions and/or substrate stiffness, enabling a more biocompatible design with intimate and chronically stable biocontact for implantable/wearable applications. Continual development in this field will ultimately allow seamless integration of the bio-abio systems in bioelectronics and achieve precise and programmable communications with the biological systems.

Guest Editor

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