Special Issue

Advances in Bipolar and Array-Based Surface EMG: Detection, Interpretation and Teaching

Message from the Guest Editors

This Special Issue is designed to address problems related to the nature and geometry of electrodes and of the electrode–skin interface as a source of noise, as well as of artifacts and of power line interference. It includes but is not strictly limited to the following main topics which are addressed from the point of view of the user:sEMG electrode types and sensors for signal detection (bipolar and electrode arrays); High-density surface EMG (HDsEMG) detection systems and spatial filters; The nature of the electrode–skin interface or coupling; Reducing noise, artifact, and power line interference at the electrode level by skin treatment; Understanding techniques for the reduction of noise, artifacts, and power line interference by basic signal processing; Automatic detection of signal quality and related warnings; Raw signals and their envelopes; Detection of anatomical/physiological parameters of motor units (MU) and MU action potentials, including diffusion and crosstalk; Physical models and methods for teaching these concepts to clinicians as well as the limitations of the techniques mentioned above.

Guest Editors

Prof. Dr. Roberto Merletti

Dr. Isabella Campanini

Prof. Dr. Catherine Disselhorst-Klug

Deadline for manuscript submissions

closed (31 July 2022)

Sensors

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Impact Factor 3.5
CiteScore 8.2
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mdpi.com/si/91239

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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