Special Issue

Field-Effect Transistors for Biosensing Applications

Message from the Guest Editor

The latest novelties in electronic biosensors indicate an increased interest for compatibilization between Field Effect Transistors (FETs) and bioreceptors, either enzymes, antibodies or cells, for the scope of the multiple analytes detection. Despite existing products based on substrate detection by Enzyme-FETs, or antigen detection by Immuno-FETs, the spatial coupling of various biodetection materials and nano-scale FETs is a serious challenge. Sometimes, enzymatic receptors need further functionalization, combinations of nano-particles and organic compounds or nano-porous materials anchored in the gate space of a FET transistor. On the other hand, the FET class expanded in a huge palette of nano-devices in the last years. In biosensing some transistors are successfully used - Organic-FET, Carbon Nanotubes FET, Grephene-FET, Silicon On Insulator FET as standard transistors. The main topic is related but not limited to:

- field-effect transistor
- enzyme
- antibody
- cells
- analyte
- technology
- applications
- performances
- Enzyme-FET
- Immuno-FET

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Message from the Editor-in-Chief

Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

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