



Capacitive and Impedance-Based Biosensors

Guest Editor:

Prof. Dr. Bo Mattiasson

Division of Biotechnology, Lund University, Box 117, 221 00 Lund, Sweden

Deadline for manuscript submissions:

closed (15 May 2022)

Message from the Guest Editor

Capacitive and impedance biosensors belong to the group of label-free affinity biosensors. This type of biosensors measures changes in dielectric properties and/or thickness of the dielectric layer at the electrolyte/electrode interface. Capacitive biosensors have been successfully used for the detection of proteins, nucleotides, heavy metal ions, saccharides, small organic molecules, and microbial cells so far. The concentration range where this type of sensors can operate is from 10^{-17} M up to 10^{-2} M. The affinity capture was initially based on the use of antibodies and other biomolecules. In recent years, the molecular imprinting method has been used to create very sensitive and selective biorecognition cavities on the surfaces of capacitive gold electrodes. This Special Issue summarizes the principles of the two biosensor types and different applications of capacitive biosensors and impedance-based units in health care, environmental monitoring, food quality analysis, etc., and molecular imprinting is expanding with its recent capacitive biosensor applications.





sensors



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro

Dipartimento di Ingegneria
Elettrica e dell'Informazione
(Department of Electrical and
Information Engineering),
Politecnico di Bari, Via Edoardo
Orabona n. 4, 70125 Bari, Italy

Message from the Editor-in-Chief

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.

Author Benefits

Open Access : free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [PubMed](#), [MEDLINE](#), [PMC](#), [Ei Compendex](#), [Inspec](#), [Astrophysics Data System](#), and [other databases](#).

Journal Rank: JCR - Q2 (*Chemistry, Analytical*) / CiteScore - Q1 (Instrumentation)

Contact Us

Sensors Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/sensors
sensors@mdpi.com
[X@Sensors_MDPI](#)