



## Recent Advances in Biosensors and Biosensing Protocols

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Biosensor is a self contained device which is capable of quantitatively or semi-quantitatively converting information regarding the presence of a compound or molecule to an analytically useful signal. The two key components of biosensors are receptor and a transducer. A receptor consists of a biomolecule (such as organelles, enzymes, tissue, antibodies etc.) that exerts specific interaction with a single or multiple analytes. The other key component transducer converts the chemical event into an analytical useful/measurable signal. The mode of transduction may be optical, thermal, electrochemical, electrical, piezoelectric or magnetic. The measurable signal thus generated is proportional to the concentration of a single or multiple analytes present in the sample. Biosensors are highly sensitive and capable of detecting a variety of elements, molecules, compounds, chemicals etc. with high speed and accuracy. Biosensors are often used to identify the early development of diseases, thereby highly useful as a point-of care device. Biosensors also find applications in the homeland security and in the war-fields. Biosensors are now increasingly employed to detect food borne pathogens and organelles in the food and drug industries. Rapid progress and advancements in micro-engineered systems sought to interface biology together with novel materials and electronics for the development of high speed and accurate devices that finds applications in medicine and in energy storage (such as biofuel cells). Considering all these critical importance of biosensors to the human society, the editors welcome articles on:

Principles of Biosensors

Mechanisms of Biosensors

Theoretical Models Explaining Biosensors' Operation

Optical Biosensors

Electrochemical Biosensors

Piezoelectric Biosensors

Thermal Biosensors

Electrical Biosensors

Magnetic Biosensors

Signal processing

Micro-total analysis systems ( $\mu$ -TAS)

BioMEMS

Lab-on-a-chip

Microfluidics

Journal of Biosensors and Bioelectronics (JBSBE) is an open access journal dedicated to publish articles in the research area of biosensors. JBSBE publishes short communications, full article and review on biosensors. Critical comments on the articles published in JBSBE and letter to the editor are also welcome. The scope of JBSBE is to publish articles that are original and truly interdisciplinary thereby, attracting numerous audiences with interest in the development, characterization and application of biosensors. JBSBE will continue to publish articles with high impact in the above mentioned research areas. ISI Impact Factor of JBSBE is 3.57 (As of June 30, 2011).

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