DESCRIPTION

Biosensors & Bioelectronics has an open access mirror journal Biosensors & Bioelectronics: X, sharing the same aims and scope, editorial team, submission system and rigorous peer review.

Biosensors are defined as analytical devices incorporating a biological material, a biologically derived material or a biomimic intimately associated with or integrated within a physicochemical transducer or transducing microsystem, which may be optical, electrochemical, thermometric, piezoelectric, magnetic or micromechanical (Turner et al., 1987; Turner, 1989). Biosensors & Bioelectronics is the principal international journal devoted to research, design, development and application of biosensors and bioelectronics. It is an interdisciplinary journal serving professionals with an interest in the exploitation of biological materials and designs in novel diagnostic and electronic devices including sensors, DNA chips, electronic noses, lab-on-a-chip and μ-TAS. Biosensors usually yield a digital electronic signal which is proportional to the concentration of a specific analyte or group of analytes. While the signal may in principle be continuous, devices can be configured to yield single measurements to meet specific market requirements. Examples of Biosensors include immunosensors, enzyme-based biosensors, organism- and whole cell-based biosensors. They have been applied to a wide variety of analytical problems including uses in medicine, biomedical research, drug discovery, the environment, food, process industries, security and defence. The design and study of molecular and supramolecular structures with molecular biorecognition and biomimetic properties for use in analytical devices is also included within the scope of the journal. Here the focus is on the complementary intersection between molecular recognition, nanotechnology, molecular imprinting and supramolecular chemistry to improve the analytical performance and robustness of devices.

The emerging field of Bioelectronics seeks to exploit biology in conjunction with electronics in a wider context encompassing, for example, biological fuel cells, bionics and biomaterials for information processing, information storage, electronic components and actuators. A key aspect is the interface between biological materials and micro- and nano-electronics.

While endeavouring to maintain coherence in the scope of the journal, the editors will accept reviews and papers of obvious relevance to the community, which describe important new concepts, underpin understanding of the field or provide important insights into the practical application, manufacture and commercialisation of biosensors and bioelectronics.
AUDIENCE

Biotechnologists, biochemists, bioelectrochemists, analytical chemists, chemical engineers, electronic engineers.

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Aims and Scope

Biosensors & Bioelectronics has an open access mirror journal, Biosensors & Bioelectronics:X.

Biosensors & Bioelectronics is the principal international journal devoted to research, design, development and application of biosensors and bioelectronics. It is an interdisciplinary journal serving professionals with an interest in the exploitation of biological materials and designs in novel diagnostic and electronic devices including sensors, DNA chips, electronic noses, lab-on-a-chip and μ-TAS.

Biosensors are defined as analytical devices incorporating a biological material (e.g. tissue, microorganisms, organelles, cell receptors, enzymes, antibodies, nucleic acids, natural products etc.), a biologically derived material (e.g. recombinant antibodies, engineered proteins, aptamers etc) or a biomimic (e.g. synthetic receptors, biomimetic catalysts, combinatorial ligands, imprinted polymers etc) intimately associated with or integrated within a physicochemical transducer or transducing microsystem, which may be optical, electrochemical, thermometric, piezoelectric, magnetic or micromechanical (Turner et al., 1987; Turner, 1989). Biosensors usually yield a digital electronic signal which is proportional to the concentration of a specific analyte or group of analytes. While the signal may in principle be continuous, devices can be configured to yield single measurements to meet specific market requirements. Examples of Biosensors include immunosensors, enzyme-based biosensors, organism- and whole cell-based biosensors. They have been applied to a wide variety of analytical problems including uses in medicine, biomedical research, drug discovery, the environment, food, process industries, security and defence. The design and study of molecular and supramolecular structures with molecular biorecognition and biomimetic properties for use in analytical devices is also included within the scope of the journal. Here the focus is on the complementary intersection between molecular recognition, nanotechnology, molecular imprinting and supramolecular chemistry to improve the analytical performance and robustness of devices.

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Types of papers

Full papers should describe original research work not previously published, and should be complete descriptions of full investigations comprising around 5000 words and with up to 6 figures and/or tables.

Short Communications should be concise but complete descriptions of original limited investigations comprising around 3000 words with up to 3 figures and/or tables.

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If the paper reports a new instrument or method then the abstract should include a description of its advantages and disadvantages compared to other established techniques. The abstract should not include trivial experimental details, references, figures or equations.

**Keywords**

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

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