



# BIOSENSORS AND BIOELECTRONICS

The principal international journal devoted to research, design development and application of biosensors and bioelectronics

## AUTHOR INFORMATION PACK

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### 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  $\mu$ -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

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

## IMPACT FACTOR

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## ABSTRACTING AND INDEXING

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Pollution Abstracts  
Environmental Abstracts  
Medline/Index Medicus  
Current Contents  
Current Biotechnology Abstracts  
Biotechnology Research Abstracts  
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## GUIDE FOR AUTHORS

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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  $\mu$ -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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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.

### *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.

Review Articles should comprehensively cover a subject of current interest, comprise around 8000 words and be extensively referenced. Illustrations and summary tables are encouraged. Contributions may be submitted or invited.

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## **PREPARATION**

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The abstract is the part of your paper which will be read by the largest number of scientists so it plays a crucial role. The abstract is a condensation of the information (facts) in the paper and should be brief (150 - 250 words), specific and self-contained including the methods of the research and the principal results. 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.

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply "the text".

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This section should state the objectives of the work and provide an adequate background. It should also describe briefly the work presented in the paper. Avoid a detailed literature survey or a summary of the results.

#### **2. Material and methods**

It should provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

#### **3. Results**

Results should be clear and concise.

#### **4. Discussion**



This should explore the significance of the results of the work, not repeat them. Avoid extensive citations and discussion of published literature. A combined Results and Discussion section is often appropriate. The Results and Discussion should deal with the interpretation of the results in the light of previously published findings.

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It should be kept short and must be fully supported by the results reported. The Conclusions section should include the major conclusions, the limitations of the work and the future work.

## Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

### *Material and methods*

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

### *Theory/calculation*

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

### *Results*

Results should be clear and concise.

### *Discussion*

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

### *Conclusions*

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

## **Essential title page information**

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### **Abstract**

The abstract is the part of your paper which will be read by the largest number of scientists so it plays a crucial role. The abstract is a condensation of the information (facts) in the paper; it is not a description of the contents of the paper. The abstract should present as much as possible of the qualitative and quantitative information contained in the paper yet it should be brief (150 - 250 words), specific and self-contained.

The abstract may include the following:

1. The context for the work.
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4. Results (qualitative and quantitative).
5. Conclusions and their limitations (what was the meaning of the results).
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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.

### **Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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### *Electronic artwork*

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- Produce images near to the desired size of the printed version.
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104[NaCl]/mol l-1

4.2

3.5

0.26

rather than

[NaCl]/mol l-1

4.2 x 10-4

3.5 x 10-4

2.6 x 10-5

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Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2000. *J. Sci. Commun.* 163, 51–59.

Reference to a book:

Strunk Jr., W., White, E.B., 1979. *The Elements of Style*, third ed. Macmillan, New York.

Reference to a chapter in an edited book:

Mettam, G.R., Adams, L.B., 1999. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), *Introduction to the Electronic Age*. E-Publishing Inc., New York, pp. 281–304.

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