



# MICROELECTRONIC ENGINEERING

Nanotechnology and Processing for electronics, MEMS, Energy, Life Sciences

## AUTHOR INFORMATION PACK

### TABLE OF CONTENTS

|   |                                 |            |
|---|---------------------------------|------------|
| ● | <b>Description</b>              | <b>p.1</b> |
| ● | <b>Audience</b>                 | <b>p.2</b> |
| ● | <b>Impact Factor</b>            | <b>p.2</b> |
| ● | <b>Abstracting and Indexing</b> | <b>p.3</b> |
| ● | <b>Editorial Board</b>          | <b>p.3</b> |
| ● | <b>Guide for Authors</b>        | <b>p.5</b> |



ISSN: 0167-9317

### DESCRIPTION

*Microelectronic Engineering* is the premier **nano-processing**, and **nanotechnology** journal focusing on fabrication of electronic, bioelectronic, electromechanic and fluidic devices and systems, and their applications in the broad areas of electronics, energy, life sciences, and environment. It covers also the expanding interdisciplinary field of "more than Moore" and "beyond Moore" integrated nanoelectronics and **micro-nano systems**. Through its unique mixture of peer-reviewed articles, reviews, accelerated publications, short and Technical notes, and the latest research news on key developments, *Microelectronic Engineering* provides comprehensive coverage of this exciting, interdisciplinary and dynamic new field for researchers in academia and professionals in industry.

The journal addresses the following topics:

- Micro and Nano fabrication, Processing for Nanoelectronics (Lithography, Self-assembly, Plasma Processing, Metallization, 3D Integration, Related Materials)
- Nanoelectronic, Photonic, Nanoenergy Devices and Systems (fabrication, application and related materials)
- Micro - Nano Systems, Devices and Systems for Life Sciences, and Environment (Micro/Nano fluidics, MEMS/NEMS, BioMEMS, Lab on a chip)

In detail the topics covered are as follows:

#### 1. **Nanolithography** and **Nanopatterning**

- optical lithography
- EUV lithography and masks
- charged particle based lithography and patterning
- nanoimprint lithography techniques and templates
- maskless lithography
- emerging nanopatterning methods
- limits of nanolithography and nanopatterning

#### 2. **Pattern Transfer**

- ion technology
- plasma processing: etching, nanotexturing, bonding

#### 3. **Materials**

- metallization and barrier materials
- silicon on insulators
- dielectrics (low K and high K)

- interconnects
- new resist materials
- nanomaterials for device fabrication
- block copolymers
- polymers and flexible substrates

#### 4. **Nanometrology, Inspection and Testing**

- electron beam testers
- laser probes
- signal and image processing
- nanometrology
- AFM, Scanning probe measurements

#### 5. Advanced **Processing** and **Nanofabrication**

- process integration
- three dimensional integration
- rapid thermal processing
- process modelling and simulation
- equipment modelling
- laser assisted processing
- top-down / bottom-up (self - assembly) nanofabrication

#### 6. **Advanced Devices**

- nanometer devices for electronics and optoelectronics
- dimension-sensitive device properties
- advanced MOS devices
- vacuum nanoelectronics
- organic and molecular electronics
- mesoscopic devices
- micro- & nanofluidics
- other miniaturized devices for biology, chemistry, medicine

#### 7. Advanced fabrication and characterization for **heterogeneous micro-** and **nanosystems**

- electro-mechanical systems (MEMS, NEMS)
- optical systems
- fluidic systems
- biosystems
- lab-on-a-chip

Manuscripts of 5 (five) types are considered:

- Review Articles that inform readers of the latest research and advances in nanoelectronics, nanofabrication, micro-nano systems, and applications,
- Accelerated Publications (Letters) that feature exciting research breakthroughs in the field,
- Regular original research papers
- Short / Technical notes intended for original limited investigations or short description of original industrial or industrially-related research and development work
- News and Opinions that comment on topical issues or express views on the developments in related fields, or comment on previously published work.

## **AUDIENCE**

---

Scientists and engineers in industry and academia involved in micro and nanoelectronics.

## **IMPACT FACTOR**

---

2013: 1.338 © Thomson Reuters Journal Citation Reports 2014

## ABSTRACTING AND INDEXING

---

ANTE  
Cambridge Scientific Abstracts  
Current Contents/Engineering, Computing & Technology  
Engineering Index  
INSPEC  
Research Alert  
SCISEARCH  
Science Citation Index  
Scopus

## EDITORIAL BOARD

---

### **Editor-in-Chief, Europe:**

**E. Gogolides**, Inst. of Microelectronics (IMEL) <http://imel.demokritos.gr/index.shtml> , National Centre for Scientific Research  
Micro and Nano fabrication for Life Sciences, Lab on a chip Plasma Nanoscience/ Nanomanufacturing  
Nanopatterning

### **Editor, Asia-Oceania:**

**M. Takai**, Osaka University, Japan  
Nano fabrication and analysis using ion, electron, and photon beams  
Reliability of ULSI including single event upset of SOI/SRAM  
Vacuum nanoelectronics including field emission display

### **Editor, America:**

**M. Peckerar**, Dept. of Electrical & Computer Engineering, University of Maryland, AV Williams Building, College Park, MD 20742-3275, Maryland, USA  
Microelectronic Process Technology and Process Modeling  
E-Beam Lithography Nanodevices

### **Founding Editor:**

**W.C. Nixon**, Cambridge, UK

### **Former Editors**

#### **Advisory Editors, Europe:**

**A. Boisen**, Danmarks Tekniske Universitet (DTU), Lyngby, Denmark  
**H. Brückl**, AIT Austrian Institute of Technology, Vienna, Austria  
**Y. Chen**, École Normale Supérieure, Paris, France  
**M. De Vittorio**, University of Salento, Lecce, Italy  
**M. Despont**, IBM Research GmbH, Rueschlikon, Switzerland  
**E. Di Fabrizio**, Istituto Italiano di Tecnologia, Genova, Italy  
**Z.A.K. Durrani**, Imperial College London, London, UK  
**S. Franssila**, Aalto University, Aalto, Finland  
**N. Gadegaard**, University of Glasgow, Glasgow, Scotland, UK  
**J. Greer**, University College Cork, Cork, Ireland  
**G. Groeseneken**, imec, Leuven, Belgium  
**M.E. Jones**, Imperial College London, London, England, UK  
**O. Joubert**, Centre National de la Recherche Scientifique (CNRS), Grenoble, France  
**D. Kern**, Eberhard-Karls-Universität Tübingen, Tübingen, Germany  
**P. Kruit**, Delft University of Technology, Delft, Netherlands  
**F. Pérez-Murano**, Universitat Autònoma de Barcelona (UAB), Bellaterra, Spain  
**I. Rangelow**, Technische Universität Ilmenau, Ilmenau, Germany  
**Y. Sacham - Diamand**, Tel Aviv University, Tel Aviv, Israel  
**C. Vieu**, Université de Toulouse, Toulouse, France

#### **Advisory Editors, America:**

**M. Chaker**, Institut National de la Recherche Scientifique (INRS), Varennes, Quebec, Canada  
**J.-W. Choi**, Louisiana State University, Baton Rouge, Louisiana, USA  
**P. Datskos**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA  
**S. Evoy**  
**G. M. Gallatin**, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland, USA  
**T. R. Groves**, University of Albany, Albany, Maryland, USA  
**J. Hartley**, University of Albany, Albany, New York, USA

**A. Iliadis**, University of Maryland, College Park, Maryland, USA  
**A. Khosla**, Mobecomm, Montreal, Quebec, Canada  
**P. Naulleau**, Lawrence Berkeley National Laboratory, Berkeley, California, USA  
**S. Pang**, University of Michigan, Michigan, USA  
**K. L. Turner**, University of California at Santa Barbara, Santa Barbara, USA

***Advisory Editors, Asia-Oceania:***

**M. Alkaisi**, University of Canterbury, Christchurch, New Zealand  
**K.-H. Baik**, ASML, Gyeonggi-Do, South Korea  
**R. Boswell**, Australian National University, New South Wales, Australia  
**H. Chen**, National Taiwan University, Taipei, Taiwan, ROC  
**T. Iwamatsu**, Renesas Technology Corporation, Itami, Japan  
**S.H. Kong**, Kyungpook National University, Daegu, South Korea  
**R. Liu**, Fudan University, Shanghai, China  
**S. Matsui**, NEC Corporation, Tsukuba, Ibaraki, Japan  
**H. Mimura**, Shizuoka University, Hamamatsu, Japan  
**S. Okazaki**, Gigaphoton Inc., Kanagawa, Japan  
**S. Shoji**, Waseda University, Tokyo, Japan  
**S. Takeuchi**, University of Tokyo, Tokyo, Japan  
**J Van Kan**, National University of Singapore, Singapore, Singapore  
**B. Yang**, Jilin University, Changchun, China

## GUIDE FOR AUTHORS

---

### *Your Paper Your Way*

We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

**To find out more, please visit the Preparation section below.**

#### *Types of Papers*

**Review Articles** should comprehensively cover a subject of current interest, comprise typically around 8000 words and be extensively referenced. Illustrations and summary tables are encouraged. Reviews may be solicited by editors. If not solicited, authors are encouraged to contact editors before submitting a review to get their initial agreement. **Accelerated Publications** (Letters) should feature exciting research breakthroughs in the field, and should typically be maximum 4 journal pages, i.e. comprising typically 3000 words plus 3 single column (8cm x 8cm) figures and/or tables or equivalent. (see sizing instructions below) **Regular papers** should describe original research work not previously published, and should be complete descriptions of full investigations comprising typically 5000 words plus up to 6 single column figures and/or tables or equivalent (see sizing instructions below). **Short / Technical Notes** should be concise, but complete descriptions of original limited investigations or short description of new industrial or industrially related research and development work. They should be maximum 4 journal pages, i.e. comprising typically 3000 words with up to 3 single column figures and/or tables or equivalent (see sizing instructions below). **News and Opinions** that can serve one of the following purposes: a) Advertise to the general reader of MEE the pioneering work of the author's own group in a simple language, b) comment on topical issues, c) express views on the developments in related fields, d) comment on previously published work from other authors. These types of articles are SOLICITED by at least one of the editors. News and Opinions are NOT technical papers, and they are addressed to a broad audience. They should be BELOW 700 words (typically around 500) with up to 1 figure or table and must include references. The paper graphical abstract is an extra-online figure than can also convey the general picture. The paper abstract should be very short, typically below 50 words. At least half of a News and Opinions paper should be addressed to the general reader, with the extra half to the reader within the same discipline and to a smaller extent to the reader within the same research field.. Exceptions to these criteria may be permitted if you discuss your requirements in advance with an Editor.

Authors are encouraged to submit papers with size equal or smaller to the proposed size above, and supply extra information as **supplementary data (see below)**, which are available online. Submission of audiovisual data embedded in the manuscript or supplied as supplementary data is encouraged.

### **BEFORE YOU BEGIN**

#### *Ethics in publishing*

For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

#### *Human and animal rights*

If the work involves the use of animal or human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans <http://www.wma.net/en/30publications/10policies/b3/index.html>; EU Directive 2010/63/EU for animal experiments [http://ec.europa.eu/environment/chemicals/lab\\_animals/legislation\\_en.htm](http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm); Uniform Requirements for manuscripts submitted to Biomedical journals <http://www.icmje.org>. Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

#### *Conflict of interest*

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also <http://www.elsevier.com/conflictsofinterest>. Further information and an example of a Conflict of Interest form can be found at: [http://help.elsevier.com/app/answers/detail/a\\_id/286/p/7923](http://help.elsevier.com/app/answers/detail/a_id/286/p/7923).

### **Submission declaration and verification**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see <http://www.elsevier.com/postingpolicy>), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service CrossCheck <http://www.elsevier.com/editors/plagdetect>.

*Instructions for sizing a paper to 4 journal pages (e.g. Accelerated publication, or short / technical note, or specific special issue)*

Four (4) page articles submitted should be max 3750 words if no figures and tables are included (this word count does not include title, authors and abstract, but does include references). If you include figures you are urged to have them as 8cmX8cm maximum size for one column figures. Authors should subtract from the 3750 word count 250 words for each one column figure (8cmX8cm), and 500 words for each double figure (in one column or spanning two columns). Approximately the same word cost is valid for one and two column tables respectively. Figure and table captions should be included in the total maximum word count remaining after the subtraction of figures / tables.

### **Changes to authorship**

This policy concerns the addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts:

*Before the accepted manuscript is published in an online issue:* Requests to add or remove an author, or to rearrange the author names, must be sent to the Journal Manager from the corresponding author of the accepted manuscript and must include: (a) the reason the name should be added or removed, or the author names rearranged and (b) written confirmation (e-mail, fax, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed. Requests that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure as described above. Note that: (1) Journal Managers will inform the Journal Editors of any such requests and (2) publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.

*After the accepted manuscript is published in an online issue:* Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

### **Article transfer service**

This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information about this can be found here: <http://www.elsevier.com/authors/article-transfer-service>.

### **Copyright**

This journal offers authors a choice in publishing their research: Open access and Subscription.

#### *For subscription articles*

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (for more information on this and copyright, see <http://www.elsevier.com/copyright>). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations (please consult <http://www.elsevier.com/permissions>). If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases: please consult <http://www.elsevier.com/permissions>.

#### *For open access articles*

Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (for more information see <http://www.elsevier.com/OAauthoragreement>). Permitted reuse of open access articles is determined by the author's choice of user license (see <http://www.elsevier.com/openaccesslicenses>).

### **Retained author rights**

As an author you (or your employer or institution) retain certain rights. For more information on author rights for:

Subscription articles please see <http://www.elsevier.com/journal-authors/author-rights-and-responsibilities>.  
Open access articles please see <http://www.elsevier.com/OAauthoragreement>.

### **Role of the funding source**

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

### **Funding body agreements and policies**

Elsevier has established agreements and developed policies to allow authors whose articles appear in journals published by Elsevier, to comply with potential manuscript archiving requirements as specified as conditions of their grant awards. To learn more about existing agreements and policies please visit <http://www.elsevier.com/fundingbodies>.

### **Open access**

This journal offers authors a choice in publishing their research:

#### **Open access**

- Articles are freely available to both subscribers and the wider public with permitted reuse
- An open access publication fee is payable by authors or their research funder

#### **Subscription**

- Articles are made available to subscribers as well as developing countries and patient groups through our access programs (<http://www.elsevier.com/access>)
- No open access publication fee

All articles published open access will be immediately and permanently free for everyone to read and download. Permitted reuse is defined by your choice of one of the following Creative Commons user licenses:

**Creative Commons Attribution (CC BY):** lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**Creative Commons Attribution-NonCommercial-ShareAlike (CC BY-NC-SA):** for non-commercial purposes, lets others distribute and copy the article, to create extracts, abstracts and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text and data mine the article, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, do not modify the article in such a way as to damage the author's honor or reputation, and license their new adaptations or creations under identical terms (CC BY-NC-SA).

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND):** for non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

To provide open access, this journal has a publication fee which needs to be met by the authors or their research funders for each article published open access.

Your publication choice will have no effect on the peer review process or acceptance of submitted articles.

The open access publication fee for this journal is **\$2400**, excluding taxes. Learn more about Elsevier's pricing policy: <http://www.elsevier.com/openaccesspricing>.

### **Language (usage and editing services)**

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop (<http://webshop.elsevier.com/languageediting/>) or visit our customer support site (<http://support.elsevier.com>) for more information.

### **Submission**

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts source files to a single PDF file of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF files at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail removing the need for a paper trail.

Please, submit your article via <http://ees.elsevier.com/mee/>

Please follow the instructions given on this site:

Author registers in EES (follow the instructions on the site) Select: Submit Manuscript from Main Menu When choosing Article Type, please select the type of article you wish to submit. If you are submitting to a special issue, please select the title of the special issue you are submitting to Select one editor. Please select ONLY one of the 3 main editors (Editor in Chief, Editor USA, Editor Japan) For the 3 main editor expertise and contact details please see:

[http://www.elsevier.com/wps/find/journaleditorialboard.cws\\_home/505660/editorialboard](http://www.elsevier.com/wps/find/journaleditorialboard.cws_home/505660/editorialboard)

If you are submitting to a special issue, please select ONLY the editor for the special issue.

### **Referees (mandatory)**

Please submit, with the manuscript, 1) the names, 2) expertise, 3) addresses and **professional** e-mail addresses (no yahoo, or gmail or similar) of 5 potential referees. **Please, propose referees outside your own country.** Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

### **Classification codes (mandatory)**

Please select the detailed expanded classification codes for the thematic area of your submission. These help editors find reviewers and are an indication of match between journal scope and your submission.

## **PREPARATION**

### **NEW SUBMISSIONS**

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

### **References**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.



## **Formatting requirements**

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

### *Figures and tables embedded in text*

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file.

## **REVISED SUBMISSIONS**

### *Use of word processing software*

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: <http://www.elsevier.com/guidepublication>). See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

## **Article structure**

### *Subdivision- numbered sections*

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to "the text". Any subsection may be given a brief heading. Each heading should appear on its own separate line. Indicative sections follow below:

### *Introduction*

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

### *Appendices*

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. *If the paper exceeds the page limits set for the particular type of article, or if the appendices contain a large amount of information, authors are encouraged to submit these information as SUPPLEMENTARY DATA (see below), which appear in one or more on-line files, but are not printed with the regular printed version of the journal.*

### **Essential title page information**

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that phone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be kept up to date by the corresponding author.**
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

#### *Abstract (mandatory)*

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

The abstract may include the following:

The context for the work. The purpose or objectives of the work (what was the research question or problem and why it is important). Theoretical or experimental methods used. Results (qualitative and quantitative). Conclusions and their limitations (what was the meaning of the results). Safety information concerning dangerous compounds or procedures if relevant.

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.

### **Graphical Abstract (mandatory)**

A **graphical abstract** is a concise, pictorial and visual summary of the main findings of the article, which can either be the concluding figure from the article or a figure that is specially designed for the purpose. A graphical abstract captures the content of the paper for readers at a single glance. For more information and examples, please see: <http://www.elsevier.com/graphicalabstracts>

### **Highlights (mandatory)**

**Highlights** are a short collection of bullet points that convey the core findings, and provide readers with a quick textual overview of the article. These three or four bullet points highlight what is distinctive about the research and describe the essence of the article. For more information and examples, please see

<http://www.elsevier.com/wps/find/authorsview.authors/highlights>

#### *Keywords (mandatory)*

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.

#### *Abbreviations*

Define abbreviations that are not standard in this field in a footnote. They must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

### **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.).

### *Nomenclature and units*

Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI. You are urged to consult IUPAC: <http://www.iupac.org> for further information.

### **Math formulae**

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

### **Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

### **Artwork**

#### *Image manipulation*

Whilst it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

#### *Electronic artwork*

##### *General points*

- Make sure you use uniform lettering and sizing of your original artwork.
  - Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
  - Number the illustrations according to their sequence in the text.
  - Use a logical naming convention for your artwork files.
  - Indicate per figure if it is a single, 1.5 or 2-column fitting image.
  - For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
  - Please note that individual figure files larger than 10 MB must be provided in separate source files.
- A detailed guide on electronic artwork is available on our website:

<http://www.elsevier.com/artworkinstructions>.

**You are urged to visit this site; some excerpts from the detailed information are given here.**

##### *Formats*

Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.

TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

##### **Please do not:**

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

##### *Color artwork*

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive**

**information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or online only. For further information on the preparation of electronic artwork, please see <http://www.elsevier.com/artworkinstructions>.

Please note: Because of technical complications that can arise by converting color figures to 'gray scale' (for the printed version should you not opt for color in print) please submit in addition usable black and white versions of all the color illustrations.

#### *Figure captions*

Ensure that each illustration has a caption. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

#### *Tables*

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

Each table should have a title which makes the general meaning understandable without reference to the text. Vertical lines should not be used to separate columns. Column headings should be sufficiently explanatory, and presented in a way consistent with the column width. Columns of figures multiplied by the same power of ten should not be presented as such. The power of ten should be indicated in the column heading, e.g.:

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

In order to demonstrate the repeatability/reproducibility of the method, Authors are asked to include relative standard deviations (RSD) or the coefficient of variations (CV) in tables.

## **References**

### *Citation in text*

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

### *Reference links*

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is encouraged.

### *Web references*

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

### *References in a special issue*

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

### *Reference management software*

This journal has standard templates available in key reference management packages EndNote (<http://www.endnote.com/support/enstyles.asp>) and Reference Manager (<http://refman.com/support/rmstyles.asp>). Using plug-ins to wordprocessing packages, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style which is described below.

### *Reference formatting*

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

### *Reference style*

*Text:* Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

*List:* Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

### *Examples:*

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

### *Journal abbreviations source*

Journal names should be abbreviated according to the List of Title Word Abbreviations: <http://www.issn.org/services/online-services/access-to-the-ltwa/>.

### **AudioSlides**

The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. More information and examples are available at <http://www.elsevier.com/audioslides>. Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

### **Supplementary Data (highly recommended)**

To reduce the size of your paper, improve its readability or enhance the information content of it you are encouraged to include details as **supplementary information files**, which are peer reviewed and appear on line, but not in the printed version of the journal. These can contain extra text, figures, or tables substantiating and expanding on the experimental or theoretical analysis described in the main paper, and play the role of on-line appendixes. Supplementary files could also include other types of files:

Supplementary files offer the author additional possibilities to publish supporting applications, high resolution images, background datasets, sound clips, and more that cannot be fitted in the paper, or would make the paper too long. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: <http://www.sciencedirect.com>. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article by selecting in EES the file type "**E-components**

- **Supplementary material for online publication only**" and supply a concise and descriptive name for each file. For more detailed instructions please visit our artwork instruction pages at <http://www.elsevier.com/artworkinstructions>.

Please note that all submitted items including artwork, graphical abstracts, videos, and supplementary data will be reviewed by referees.

### **Video Data**

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include these either within the body of the article or as supplementary data (see above).

For videos included within the body of the article, this can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. More specifically to embed audio/ video files in the main manuscript, you need to upload the audio/video files by selecting in the EES "E-components - Supplementary material for online publication only". Then you must upload a video frame or image to be embedded in the manuscript by selecting "Video Still" file-type in the drop-down menu of EES and upload a video frame or image. Readers will click on the image to listen/ view the audio/video. All submitted files should be properly labelled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a preferred maximum size of 50 MB. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect: <http://www.sciencedirect.com>. For videos included within the body of the article please supply 'stills' with your files by selecting file-type "video still" in EES: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages at <http://www.elsevier.com/artworkinstructions>.

Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

### **Interactive plots**

This journal encourages you to include data and quantitative results as interactive plots with your publication. To make use of this feature, please include your data as a CSV (comma-separated values) file when you submit your manuscript. Please refer to <http://www.elsevier.com/interactiveplots> for further details and formatting instructions.

### **Submission checklist**

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

#### **Ensure that the following items are present:**

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address
- Telephone

All necessary files have been uploaded, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

Further considerations

- Manuscript has been 'spell-checked' and 'grammar-checked'
- All references mentioned in the Reference list are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)

Printed version of figures (if applicable) in color or black-and-white

- Indicate clearly whether or not color or black-and-white in print is required.
- For reproduction in black-and-white, please supply black-and-white versions of the figures for printing purposes.

For any further information please visit our customer support site at <http://support.elsevier.com>.

## **AFTER ACCEPTANCE**

### **Use of the Digital Object Identifier**

The Digital Object Identifier (DOI) may be used to cite and link to electronic documents. The DOI consists of a unique alpha-numeric character string which is assigned to a document by the publisher upon the initial electronic publication. The assigned DOI never changes. Therefore, it is an ideal medium for citing a document, particularly 'Articles in press' because they have not yet received their full bibliographic information. Example of a correctly given DOI (in URL format; here an article in the journal *Physics Letters B*):

<http://dx.doi.org/10.1016/j.physletb.2010.09.059>

When you use a DOI to create links to documents on the web, the DOIs are guaranteed never to change.

### *Article based publishing*

Microelectronic Engineering now offers article-based publishing, which means that: Your article is published in an "Issue in Progress" as soon as it is finalized- no need to wait until the journal issue is complete. Your article is immediately fully citable (includes volume, issue, and page numbering). Your article is published an average of 7 weeks faster than before.

If you would like to know more about article-based publishing, please visit

<http://www.elsevier.com/wps/find/authors.authors/abp>

### **Online proof correction**

Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

### **Offprints**

The corresponding author, at no cost, will be provided with a personalized link providing 50 days free access to the final published version of the article on [ScienceDirect](#). This link can also be used for sharing via email and social networks. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's WebShop (<http://webshop.elsevier.com/myarticleservices/offprints>). Authors requiring printed copies of multiple articles may use Elsevier WebShop's 'Create Your Own Book' service to collate multiple articles within a single cover (<http://webshop.elsevier.com/myarticleservices/booklets>).

## **AUTHOR INQUIRIES**

You can track your submitted article at [http://help.elsevier.com/app/answers/detail/a\\_id/89/p/8045/](http://help.elsevier.com/app/answers/detail/a_id/89/p/8045/). You can track your accepted article at <http://www.elsevier.com/trackarticle>. You are also welcome to contact Customer Support via <http://support.elsevier.com>.

### **AUTHOR BENEFITS**

The corresponding author, at no cost, will be provided with a PDF file of the article via e-mail or, alternatively, 25 free paper offprints. The PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use.

© Copyright 2014 Elsevier | <http://www.elsevier.com>