



TABLE OF CONTENTS

●	Description	p.1
●	Audience	p.2
●	Impact Factor	p.2
●	Abstracting and Indexing	p.2
●	Editorial Board	p.2
●	Guide for Authors	p.4



ISSN: 0272-8842

DESCRIPTION

Ceramics International covers the science of advanced ceramic materials. The journal encourages contributions that demonstrate how an understanding of the basic chemical and physical phenomena may direct materials design and stimulate ideas for new or improved processing techniques, in order to obtain materials with desired structural features and properties.

Ceramics International covers oxide and non-oxide ceramics, functional glasses, glass ceramics, amorphous inorganic non-metallic materials (and their combinations with metal and organic materials), in the form of particulates, dense or porous bodies, thin/thick films and laminated, graded and composite structures. Process related topics such as ceramic-ceramic joints or joining ceramics with dissimilar materials, as well as surface finishing and conditioning are also covered. Besides traditional processing techniques, manufacturing routes of interest include innovative procedures benefiting from externally applied stresses, electromagnetic fields and energetic beams, as well as top-down and self-assembly nanotechnology approaches. In addition, the journal welcomes submissions on bio-inspired and bio-enabled materials designs, experimentally validated multi scale modelling and simulation for materials design, and the use of the most advanced chemical and physical characterization techniques of structure, properties and behaviour.

Technologically relevant low-dimensional systems are a particular focus of *Ceramics International*. These include 0, 1 and 2-D nanomaterials (also covering CNTs, graphene and related materials, and diamond-like carbons), their nanocomposites, as well as nano-hybrids and hierarchical multifunctional nanostructures that might integrate molecular, biological and electronic components.

Ceramics International is particularly keen to attract papers which deal with fundamental scientific aspects that are relevant to the development of the whole range of advanced ceramics including e.g. phase equilibria and transformations, reactivity, transport processes, thermodynamic and electronic properties, as well as quantum effects in low dimensional materials.

Priority materials and areas of interest are: Advanced ceramics and composites for civil, military and industrial applications at room and moderate temperatures- High and ultrahigh temperature structural ceramics and composites for use in extreme environments; Electroceramics such as dielectric and microwave ceramics, ferroelectrics, piezoelectrics, pyroelectrics, thermoelectrics, ferroelastics; magnetic, multiferroic, semiconducting and fast ion-conducting ceramics; high T_c superconductors, topological insulators; Optical ceramics including luminescent and chromogenic materials, transparent conducting and semiconducting ceramics, electro-optical, magneto-optical and laser materials, inorganic optical fibers, plasmonic structures and electromagnetic metamaterials; Ceramics for

nuclear fission, fusion and nuclear waste management technologies; Bioinert and bioactive ceramics for the full range of medical applications, including functional nanoparticles, composite materials and hybrid hierarchical nanostructures for tissue engineering, delivery systems, bio imaging and neural interfaces.

AUDIENCE

Materials scientists, ceramicists.

IMPACT FACTOR

2016: 2.986 © Clarivate Analytics Journal Citation Reports 2017

ABSTRACTING AND INDEXING

Metals Abstracts
Science Abstracts
British Ceramic Abstracts
Applied Mechanics Reviews
Current Contents
SCISEARCH
Chemical Abstracts
Ceramic Abstracts
Materials Science Citation Index
Science Citation Index
Scopus

EDITORIAL BOARD

General Editor

P. Vincenzini, World Academy of Ceramics, National Research Council, Faenza, Italy

Editors-in-Chief

R.K. Bordia, Clemson University, Clemson, South Carolina, USA

Z.Y. Fu, Cheung Kong Scholar of the Ministry of Education of China, Wuhan University of Technology, Wuhan, China

T. Ohji, Advanced Manufacturing Research Inst., National Institute of Advanced Industrial Science and Technology (AIST), Chubu, Nagoya, Japan

V.C. Pandolfelli, Dept. of Materials Engineering, Universidade Federal de São Carlos, Sao Carlos, SP, Brazil

R. Riedel, Institut für Materialwissenschaft, Technische Universität Darmstadt, Darmstadt, Germany

Editorial Board

J.H. Adair, Penn State University, University Park, Pennsylvania, USA

D. Agrawal, The Pennsylvania State University, University Park, PA, USA

A. Akbar, Dept. of Materials Science & Engineering, The Ohio State University, 295 Watts Hall, 2041 College Road, Columbus, Ohio, OH 43210, USA

R. Asthana, Dept. of Engineering and Technology, University of Wisconsin at Stout, 326 Fryklund Hall, USA

M.W. Barsoum, Dept. of Materials Science and Engineering, Drexel University, 3141 Chestnut Street, Philadelphia, Pennsylvania, PA 19104, USA

J.P. Bennett, Albany Research Center, Albany, OR, USA

G. Bertrand, CIRIMAT - ENSIACET, 4 Allée Emile Monso - B.P. 44362, 31432, Toulouse Cedex 4, France

K. Byrappa, Dept. of Geology, University of Mysore, P.B. 21, 570 006, Manasagangotri, Mysore, India

T. Chartier, SPCTS, Université de Limoges, 12, rue Atlantis, 87068, Limoges Cedex, France

P. Colombo, Dipart. di Ingegneria Meccanica, Settore Materiali, Università degli Studi di Padova, Via Marzolo 9, 35131, Padova, Italy

R. Danzer, University of Leoben, Leoben, Austria

B. Derby, University of Manchester, Manchester, England, UK

A. Domínguez-Rodríguez, Dept. de Física de la Materia Condensada, Universidad de Sevilla, Apartado 1065, 41080, Sevilla, Spain

J. Dusza, Institute of Materials Research, SAS, Kosice, Slovakia

M. Ferrari, Istituto di Fotonica e Nanotecnologie (IFN), Consiglio Nazionale delle Ricerche (CNR), Trento, Italy
J.M. Ferreira, CICECO, Dept. of Biology, Universidade de Aveiro, Campus de Santiago, 3810-193, Aveiro, Portugal
J.R. Frade, Universidade de Aveiro, Aveiro, Portugal
N. Frage, Ben Gurion University of the Negev, 84120, Beer Sheva, Israel
W.L. Gladfelter, Institute of Technology, Dept. of Chemistry, University of Minnesota, 207 Pleasant Street S.E, Minneapolis, Minnesota, MN 55455-0431, USA
T. Graule, EMPA, Duebendorf, Switzerland
H.J. Hannink, Manufacturing and Infrastructure Technology (CMIT), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Normandy Road, Clayton, VIC 3168, Victoria, Australia
T. Ishikawa, Tokyo University of Science, Yamaguchi, Japan
S.J.L. Kang, KAIST, Daejeon, South Korea
M. Kawashita, Tohoku University, Sendai, Japan
D.K. Kim, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, The Republic of Korea
H-D. Kim, Engineering Ceramics Research Group, Korea Institute of Machinery and Materials, 531 Changwondaero, 641-831, Gyeongnam, The Republic of Korea
Y.-W. Kim, University of Seoul, Seoul, The Republic of Korea
J. Knowles, Eastman Dental Institute, University College London (UCL), 256 Grays Inn Road, WC1X 8LD, London, England, UK
W. Krenkel, Dept. of Ceramic Materials Engineering, Faculty of Engineering Science, Universität Bayreuth, Ludwig-Thoma-Strasse 36b, D-95447, Bayreuth, Germany
Y. Li, Wuhan University of Technology, Wuhan, China
H.T. Lin, Guangdong University of Technology, Guangzhou, China
J. Lis, Dept. of Materials Science and Ceramics, AGH University of Science & Technology, Al. Mickiewicza Adama 30, 30-059, Kraków, Poland
L.M. Llanes Pitarch, Dept. of Materials Science & Metallurgical Engineering, Universitat Politècnica de Catalunya (UPC), ETSEIB, avinguda Diagonal 647, 08028, Barcelona, Spain
P. Miele, Université de Montpellier, Montpellier, France
M. Naito, Joining and Welding Research Inst., Osaka University, 11-1 Mihogaoka, Ibaraki-shi, 567-0047, Osaka, Japan
A.P. Nosov, Inst. of Metal Physics, Russian Academy of Sciences, 18 S. Kovalevskaya St., 620219, Ekaterinburg, Russian Federation
J. Poirier, Polytech' Orléans, Orleans, France
I.E. Reimanis, Colorado School of Mines, Golden, Colorado, USA
K. Rezwani, Universität Bremen, 28359, Bremen, Germany
R.E. Riman, Rutgers University, Piscataway, New Jersey, NJ 08854, USA
A.S. Rogachev, ISMAN - RAS, Chernogolovka, Moscow Region, Russian Federation
F. Rosei, INRS-EMT, 1650 Blvd. Lionel Boulet, Varennes, J3X 1S2, Quebec, Canada
Y. Sakka, National Institute for Materials Science (NIMS), 305-0047, Tsukuba, Japan
Z. Shen, Stockholms Universitet, Stockholm, Sweden
W. Sigmund, Dept. of Materials Science and Engineering, University of Florida, 225 Rhines Hall, P.O. Box 116400, Gainesville, Florida, FL 32611, USA
M. Singh, QSS Group Inc, NASA Glenn Research Center, MS 106-5 Ceramic Branch, Cleveland, Ohio, OH 44135-3191, USA
R. Ramesh, Dept. of Mechanical Engineering, University of Malaya, 50603, Kuala Lumpur, Malaysia
G. Srinivasan, Oakland University, Rochester, Michigan, USA
D. Suvorov, Jozef Stefan Institute, Ljubljana, Slovenia
T. Troczynski, University of British Columbia, 2329 West Mall, Vancouver, V6T 1Z4, British Columbia, Canada
W.H. Tuan, Dept. of Materials and Science Engineering, National Taiwan University, No. 1, Sec. 4, Roosevelt Road, 10617, Taipei, Taiwan
A. Vinu, The University of Newcastle, Newcastle, UK
M. Wang, Department of Mechanical Engineering, The University of Hong Kong, 7/F, Haking Wong Building, Pokfulam Road, Hong Kong, China
S. Yin, Tohoku University, Sendai, Japan
N. Zhou, Henan University of Science and Technology, Luoyang, Henan, China
Y. Zhou, Aerospace Research Institute of Materials and Processing Technology, Beijing, China
Y. Zhou, Institute of Advanced Ceramics, Harbin Institute of Technology, 92 West Dazhi Street, Nan'gang District, 150001, Harbin, China

GUIDE FOR AUTHORS

INTRODUCTION

Ceramics International covers the science of advanced ceramic materials. The journal encourages contributions that demonstrate how an understanding of the basic chemical and physical phenomena may direct materials design and stimulate ideas for new or improved processing techniques, in order to obtain materials with desired structural features and properties.

Ceramics International covers oxide and non-oxide ceramics, functional glasses, glass ceramics, amorphous inorganic non-metallic materials (and their combinations with metal and organic materials), in the form of particulates, dense or porous bodies, thin/thick films and laminated, graded and composite structures. Process related topics such as ceramic-ceramic joints or joining ceramics with dissimilar materials, as well as surface finishing and conditioning are also covered. Besides traditional processing techniques, manufacturing routes of interest include innovative procedures benefiting from externally applied stresses, electromagnetic fields and energetic beams, as well as top-down and self-assembly nanotechnology approaches. In addition, the journal welcomes submissions on bio-inspired and bio-enabled materials designs, experimentally validated multi scale modelling and simulation for materials design, and the use of the most advanced chemical and physical characterization techniques of structure, properties and behaviour.

Technologically relevant low-dimensional systems are a particular focus of *Ceramics International*. These include 0, 1 and 2-D nanomaterials (also covering CNTs, graphene and related materials, and diamond-like carbons), their nanocomposites, as well as nano-hybrids and hierarchical multifunctional nanostructures that might integrate molecular, biological and electronic components.

Ceramics International is particularly keen to attract papers which deal with fundamental scientific aspects that are relevant to the development of the whole range of advanced ceramics including e.g. phase equilibria and transformations, reactivity, transport processes, thermodynamic and electronic properties, as well as quantum effects in low dimensional materials.

Priority materials and areas of interest are:

- Advanced ceramics and composites for civil, military and industrial applications at room and moderate temperatures;
- High and ultrahigh temperature structural ceramics and composites for use in extreme environments;
- Electroceramics such as dielectric and microwave ceramics, ferroelectrics, piezoelectrics, pyroelectrics, thermoelectrics, ferroelastics; magnetic, multiferroic, semiconducting and fast ion-conducting ceramics; high T_c superconductors, topological insulators;
- Optical ceramics including luminescent and chromogenic materials, transparent conducting and semiconducting ceramics, electro-optical, magneto-optical and laser materials, inorganic optical fibers, plasmonic structures and electromagnetic metamaterials;
- Ceramics for nuclear fission, fusion and nuclear waste management technologies;
- Bioinert and bioactive ceramics for the full range of medical applications, including functional nanoparticles, composite materials and hybrid hierarchical nanostructures for tissue engineering, delivery systems, bio imaging and neural interfaces.

Types of paper

Types of contributions: Original papers; review articles; short communications; letters to the editor. Internal laboratory reports are not usually suitable without drastic revision.

Original material: 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), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the Publisher.

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

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

All necessary files have been uploaded:

Manuscript:

- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)

Supplemental files (where applicable)

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)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our [Support Center](#).

BEFORE YOU BEGIN

Ethics in publishing

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

Declaration of interest

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. [More information](#).

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, a published lecture or academic thesis, see '[Multiple, redundant or concurrent publication](#)' for more information), 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 [Crossref Similarity Check](#).

A cover letter should be submitted with all submissions. The cover letter should confirm that the article is original and unpublished, and is not being or having been submitted for publication to any other journal, and that all the authors have read the paper and agree with its submission to Ceramics International.

Changes to authorship

Please note that **authorship changes are not permitted at proof stage** (i.e. post acceptance of your paper). Please take special care to ensure that the names and details of authors are correct at the time of submission of your manuscript. Changes of authorship will only be accepted in **very** limited cases where the paper has been resubmitted after review or significant amendment, and **before the paper is accepted**.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). 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. 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.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' ([more information](#)). Permitted third party reuse of gold open access articles is determined by the author's choice of [user license](#).

Author rights

As an author you (or your employer or institution) have certain rights to reuse your work. [More information](#).

Elsevier supports responsible sharing

Find out how you can [share your research](#) published in Elsevier journals.

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 a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of [existing agreements](#) are available online.

Open access

This journal offers authors a choice in publishing their research:

Subscription

- Articles are made available to subscribers as well as developing countries and patient groups through our [universal access programs](#).
- No open access publication fee payable by authors.
- The Author is entitled to post the [accepted manuscript](#) in their institution's repository and make this public after an embargo period (known as green Open Access). The [published journal article](#) cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

Gold open access

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following [Creative Commons user licenses](#):

Creative Commons Attribution (CC BY)

Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), 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-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.

The gold open access publication fee for this journal is **USD 2950**, excluding taxes. Learn more about Elsevier's pricing policy: <https://www.elsevier.com/openaccesspricing>.

Green open access

Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our [green open access page](#) for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. [Find out more](#).

This journal has an embargo period of 24 months.

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.

Full Online Submission

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Submit your article

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

Referees

Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our [Support site](#). Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

PREPARATION

Peer review

This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of one independent expert reviewer to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. [More information on types of peer review.](#)

Use of word processing software

Editors reserve the right to adjust style to certain standards of uniformity. Please use Word or Word Perfect files for the text of your manuscript.

Article Structure

Follow this order when typing manuscripts:

Title, Authors, Affiliations, Abstract, Keywords, Main text, Acknowledgements, Appendix, References, Figure Captions and then Tables. Do not import figures into the text - see Illustrations. Collate acknowledgements in a separate section at the end of the article and do not include them on the title page, as a footnote to the title or otherwise. Short communications should be kept to a maximum of four typewritten pages. A short communication should be a brief but complete description of an investigation, which will not be included in a later paper. It should be as completely documented as a full-length article.

Text Layout:

Use double spacing and wide (3 cm) margins. (Avoid full justification, i.e., do not use a constant right-hand margin.) Ensure that each new paragraph is clearly indicated. Present tables and figure legends on separate pages at the end of the manuscript. If possible, consult a recent issue of the journal to become familiar with layout and conventions. Number all pages consecutively, use 12 or 10 pt font size and standard fonts.

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.

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 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.

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.

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.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax 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

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.

Keywords

Immediately after the abstract, provide a maximum of four keywords. Each keyword should be accompanied by the capital letter denoting the category from which the keyword has been selected. [Click here](#) for a complete list of keywords (PDF version).

Abbreviations

Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract 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.).

Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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.

Temperatures should be given in degrees Celsius. The unit 'billion' (10⁹ in America, 10¹² in Europe) is ambiguous and should not be used.

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 can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Artwork

Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.

A detailed [guide on electronic artwork](#) is available.

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

Formats

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.

Regardless of the application used other than Microsoft Office, 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 all used fonts.

TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.

TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.

TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

Electronic Annexes

We strongly encourage you to submit electronic annexes, such as short videos, computer-enhanced images, audio clips and large databases. Please refer to the Artwork Instructions (Multimedia files) at <http://www.elsevier.com/artworkinstructions> for details on file types to be used. In the text of your article you may wish to refer to the annex. This is not mandatory, however, if you do wish to refer to the annex in the text then please do so using this example: "See Electronic Annex 1 in the online version of this article." Production will insert the relevant URL at the typesetting stage after this statement.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

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.

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.

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

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

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support [Citation Style Language styles](#), such as [Mendeley](#) and [Zotero](#), as well as [EndNote](#). Using the word processor plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. [More information on how to remove field codes](#).

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:

<http://open.mendeley.com/use-citation-style/ceramics-international>

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

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.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13 March 2003).

Reference to a dataset:

[dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. <https://doi.org/10.17632/xwj98nb39r.1>.

Journal abbreviations source

Journal names should be abbreviated according to the [List of Title Word Abbreviations](#).

Video

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 links to these 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. All submitted files should be properly labeled 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 file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including [ScienceDirect](#). Please supply 'stills' with your files: 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](#). 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.

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](#). Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

Supplementary material

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the [research data](#) page.

Data linking

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the [database linking page](#).

For [supported data repositories](#) a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. Before submitting your article, you can deposit the relevant datasets to *Mendeley Data*. Please include the DOI of the deposited dataset(s) in your main manuscript file. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the [Mendeley Data for journals page](#).

Data statement

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the [Data Statement page](#).

AFTER ACCEPTANCE

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 will, at no cost, receive a customized [Share Link](#) providing 50 days free access to the final published version of the article on [ScienceDirect](#). The Share Link can be used for sharing the article via any communication channel, including email and social media. 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](#). Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

Additional information

Notification:

Authors will be notified of the acceptance of their paper by the editor. The Publisher will also send a notification of receipt of the paper in production.

Copyright: All authors must sign the Transfer of Copyright agreement before the article can be published. This transfer agreement enables Elsevier to protect the copyrighted material for the authors, but does not relinquish the authors' proprietary rights. The copyright transfer covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions,

microfilm or any other reproductions of similar nature and translations. Authors are responsible for obtaining from the copyright holder permission to reproduce any figures for which copyright exists. For more information please go to our copyright page <http://www.elsevier.com/copyright>.

Author Benefits:

No page charges: Publication in this journal is free of charge.

Author discount:

Contributors to Elsevier journals are entitled to a 30% discount on all Elsevier books. See <http://www.elsevier.com/homepage/booksbutler> for more information.

Online Paper Tracking:

Authors can track the status of their accepted paper online at <http://www.elsevier.com/trackarticle> using the reference supplied by the Publisher.

AUTHOR INQUIRIES

Visit the [Elsevier Support Center](#) to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

You can also [check the status of your submitted article](#) or find out [when your accepted article will be published](#).

© Copyright 2018 Elsevier | <https://www.elsevier.com>