



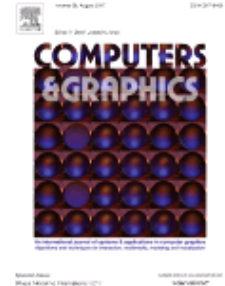
COMPUTERS & GRAPHICS

An International Journal of Systems & Applications in Computer Graphics

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

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



ISSN: 0097-8493

DESCRIPTION

Computers & Graphics is dedicated to disseminate information on research and applications of **computer graphics** (CG) techniques. The journal encourages articles on:

1. Research and applications of **interactive computer graphics**. We are particularly interested in novel interaction techniques and applications of CG to problem domains.
2. State-of-the-art papers on late-breaking, cutting-edge research on CG.
3. Information on innovative uses of graphics principles and technologies.
4. Tutorial papers on both teaching CG principles and innovative uses of CG in education.

Computers & Graphics provides a medium to communicate information concerning interactive CG and CG applications. The journal focuses on interactive computer graphics, visualization and novel input modalities including virtual environments, and, within this scope, on graphical models, data structures, languages, picture manipulation algorithms and related software.

Benefits to authors

We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our [author services](#).

Please see our [Guide for Authors](#) for information on article submission. If you require any further information or help, please visit our [Support Center](#)

AUDIENCE

Information Technologists concerned with graphical man/machine interaction and the application of computer graphics, Researchers and Practitioners in architectural design, transportation systems and mathematical problem solving.

IMPACT FACTOR

2016: 1.176 © Thomson Reuters Journal Citation Reports 2017

ABSTRACTING AND INDEXING

BMT Abstracts
Cambridge Scientific Abstracts
Computer Contents
Current Contents/CompuMath
Current Contents/Engineering, Computing & Technology
Current Contents/SciSearch Database
Information Science Abstracts
Engineering Index
Ergonomics Abstracts
INSPEC
PIRA
Research Alert
SSSA/CISA/ECA/ISMEC
Scopus

EDITORIAL BOARD

Editor-in-Chief

Joaquim Jorge, Depto. de Engenharia Informatica, IST/UTL, Avenida Rovisco Pais, 1000-049 Lisboa, Portugal
Sketch-Based Interfaces and Modeling, Multimodal User Interfaces, Graphical Modeling

Associate Editors

Loic Barthe, Université Paul Sabatier (Toulouse III), Toulouse, France
Sketching, Point-based modeling. Splatting. Subdivision surfaces. Implicit modeling. Voxelization. CSG. Blending. Shadows

Bedrich Benes, Purdue University, West Lafayette, IN, USA
Geometric Modeling, Interaction, Creative Tools, Human Computation, Crowdsourcing, Topology for Computation.

Mark Billinghurst, University of Canterbury, Christchurch, New Zealand
Augmented Reality, Virtual Reality, 3D User Interfaces, Mobile and Wearable computing. HCI

Ronan Boulic, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
3D Interactions, Motion Capture, Modeling, and Synthesis for Virtual Humans and Robots, Virtual Reality, Embodiment

Stefan Bruckner, University of Bergen, Bergen, Norway
Biomedical Visualization, Visual Exploration, Volume Visualization, Illustrative Techniques

Yiorgos Chrysanthou, University of Cyprus, Nicosia, Cyprus
Crowd Simulation, Animation, Rendering, Computer Games

John Collomosse, University of Surrey, Guildford, Surrey, England, UK
Non-photorealistic rendering, 3D Performance Capture, Sketch based visual search, Computer Vision, Machine Learning.

Carsten Dachsbacher, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany
Interactive Rendering, Global Illumination, Visualization

Michael Doggett, Lund University, Sweden

Julie Dorsey, Yale University, New Haven, CT, USA
Appearance Modeling, Rendering, Sketch-Based Interfaces and Modeling

Elmar Eisemann, Delft University of Technology, Delft, Netherlands
Real-time rendering, Perceptual rendering, Non-photorealistic rendering, GPU

Hongbo Fu, City University of Hong Kong, Hong Kong, China

Yotam Gingold, George Mason University, Fairfax, Virginia, USA
Computer Graphics, Geometric Modeling, Interaction, Creative Tools, Human Computation, Crowdsourcing, Topology for Computers

Stefanie Hahmann, Université de Grenoble, Saint Ismier Cedex, France
Shape Modeling, Deformation, Curves and Surfaces

Kai Hormann, Università della Svizzera Italiana (USI), Lugano, Switzerland
Geometry Processing, Barycentric Coordinates, Subdivision, Mesh Parameterization

Alexander Hornung, The Walt Disney Company (Switzerland), Zurich, Switzerland
Light Fields, Stereoscopy, Image-Based Rendering and 3D Reconstruction

Shi-Min Hu, Tsinghua University, Beijing, China
Geometry processing, Image/Video processing, Deformation and Morphing

Tobias Isenberg, Rijksuniversiteit Groningen, Groningen, Netherlands
 Non-Photorealistic Rendering, Illustrative Visualization, Interactive Visualization, Large Displays, Direct-Touch Interaction

Min H. Kim, Korea Advanced Institute of Science and Technology (KAIST)

Gudrun Klinker, Technische Universität München, Garching bei München, Germany
 Augmented Reality, Virtual Reality, 3D User Interfaces

Paul Kry, McGill University, Montreal, QC, Canada
 Physics Based Simulation, Character Animation

Benjamin Lok, University of Florida, Gainesville, Florida, USA
 virtual reality, virtual humans, simulation and training, human-computer interaction

Belén Masia, Max Planck Institut für Informatik, Saarbrücken, Germany
 Computational Photography, Computational Displays, Applied Perception

Daniele Panozzo, New York University, New York, New York, USA
 Digital Geometry Processing, Computer Graphics, Digital Fabrication

Beryl Plimmer, University of Auckland, Auckland, New Zealand
 Sketching Interfaces, Digital Ink Recognition, Tangible Interfaces

Pierre Poulin, Université de Montréal, Montréal, Quebec, Canada
 Image Synthesis, Local and Global Illumination, Procedural Modeling, Natural Phenomena

Holly Rushmeier, Yale University, New Haven, CT, USA
 Rendering, 3D Scanning, Cultural Heritage, Perception

Faramarz Samavati, University of Calgary, Calgary, AB, Canada
 Computer Graphics, Modeling, Rendering, Animation, Visualization.

Luís Paulo Santos, Universidade do Minho, Braga, Portugal
 Interactive Rendering, Physically Based Global Illumination, Parallel Processing

Heidrun Schumann, Universität Rostock, Rostock, Germany
 Visual Analytics, Visualization of Multivariate data in Time and Space, Graph Visualization, Scalable Visual Interfaces

Michela Spagnuolo, IMATI - Institute of Applied Math & Information Technologies, Genova, Italy
 Shape Modelling, Geometry Processing, Computational Topology, 3D Search and Retrieval

Oliver Staadt, Universität Rostock, Rostock, Germany
 Virtual Reality, Visual Computing, Telepresence

Ayellet Tal, Technion - Israel Institute of Technology, Haifa, Israel
 Geometry processing, Shape Analysis

Matthias Teschner, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany
 Real-time rendering, Scientific Computing, Physical Simulation, Computer Animation, Computational Geometry, Collision Handling, and Human Perception of Motion with Applications in Entertainment Technology and Medical Simulation

Anna Vilanova i Bartrolí, Technische Universiteit Eindhoven, Eindhoven, Netherlands
 Medical visualization, Volume visualization, Multivalued visualization, Medical image analysis

Wenping Wang, The University of Hong Kong, Pokfulam, Hong Kong, Hong Kong
 Computer Graphics, Visualization, Geometric Computing, Image and Video Processing

Ruediger Westermann, Technische Universität München, Garching, München, Germany

Tim Weyrich, University College London (UCL), London, England, UK
 Appearance Modelling, Fabrication, Digital Humanities, Point-Based Graphics

Michael Wimmer, Technische Universität Wien, Wien, Austria
 Real-time rendering, Shadows, Procedural modeling

Kai (Kevin) Xu, National University of Defense Technology, Hunan, China
 Data-driven Shape Analysis and Processing, Computer Vision, and Machine Learning in Graphics

Anders Ynnerman, Linköping University, Sweden
 Medical Visualization, Astrovisualizaton, Volume Rendering, Immersive Visualizaton.

Jun-Hai Yong, Tsinghua University, Beijing, China
 Computer Aided Geometric Design, Geometric Modeling, Shape Analysis

Xiaoru Yuan

Hao (Richard) Zhang, Simon Fraser University, Burnaby, British Columbia, Canada
 Shape processing. Points. Skeletons. Meshes. Surfaces. Architecture and Urban Simulation

Editor Emeritus

José Encarnação, Technische Universität Darmstadt, Darmstadt, Germany

Editorial Advisory Board

Bianca Falcidieno, Torre Di Francia, Genova, Italy

Shape Modelling, Geometry Processing, Computational Topology, 3D Search and Retrieval

Steven Feiner, Columbia University, New York, NY, USA

Augmented Reality, Virtual Reality, 3D User Interfaces, Knowledge-Based Design of Graphics and Multimedia, Mobile and Wearable Computing, Computer Games

James Foley, Yamacraw Mission, Atlanta, GA, USA

Henry Fuchs, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

Alec Jacobson, University of Toronto, Toronto, Ontario, Canada

Ming C. Lin, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

Céline Loscos, CReSTIC / IUT de Reims-Châlons-Charleville, France

Werner Purgathofer, Technische Universität Wien, Wien, Austria

Rendering, Virtual Reality, Color, Visualization

Vaclav Skala, University of West Bohemia, Plzen, Czech Republic

Algorithms, Fundamental Algorithms, Visualization, Projective Geometry

Lee Yong Tsui, Nanyang Technological University, Singapore, Singapore

Computer graphics, geometric modelling, CAD/CAM, 3D data recovery

Andries van Dam, Brown University, Providence, RI, USA

Brian Wyvill, University of Victoria, Victoria, BC, Canada

Implicit Modelling, Computational Aesthetics, Non-Photo realistic rendering

GUIDE FOR AUTHORS

Computers & Graphics is dedicated to disseminate information on research and applications of computer graphics (CG) techniques. The journal encourages articles on: 1. Research and applications of interactive computer graphics. We are particularly interested in novel interaction techniques and applications of CG to problem domains. 2. State-of-the-art papers on late-breaking, cutting-edge research on CG. 3. Information on innovative uses of graphics principles and technologies. 4. Tutorial papers on advanced CG topics and pedagogical papers on innovations in CG education or novel uses of CG in education.

Computers & Graphics provides a medium to communicate information concerning interactive CG and CG applications. The journal focuses on interactive computer graphics, visualization and novel input modalities including virtual environments, and, within this scope, on graphical models, data structures, languages, picture manipulation algorithms and related software.

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](#).

- Please review and approve your submission after your files have been uploaded.
- Please note that you should consider your submission as incomplete until you receive an email confirming receipt of your manuscript.
- Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance.

BEFORE YOU BEGIN

Be sure to read and follow the instructions below carefully before uploading. Please ensure your manuscript is set as double-column and that line numbers are included. For convenience, please use [this template](#) in addition to the [elsarticle class](#) for generating a LaTeX manuscript. The review process for this journal is double blind, so please remove any identifying items from your submission. Please **do not** submit any source files for your original manuscript. At this stage only a PDF of your manuscript, containing all figures, tables etc. should be provided. If a revised version of your paper is requested then source files should be uploaded at this stage.

Ethics in publishing

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

Cover Letter

Each submission should be accompanied by a cover letter.

In the Cover Letter, Please

- (1) provide a concise summary of the main contributions reported in your submission,
- (2) include the full reference and status (submitted, accepted, published) of the closest prior art, including your own, and
- (3) clarify how the material reported here differs from that prior art. This information should also be found in the manuscript itself. If a prior submission of your paper has been rejected, you may, if you wish, submit (as accompanying material) a description of what problems or concerns raised by the reviewers you have addressed in this version and how. This information may be particularly useful if we happen to invite a reviewer who has assessed your previous submission.

Anonymization policy

Computers and Graphics uses double blind reviewing - i.e., during and after the review process, the reviewers are not supposed to know who the authors were, and authors are not supposed to know who reviewed their papers. Authors are asked to anonymize their submissions - submissions that are not appropriately anonymized will not be reviewed (except for extended versions of conference papers, see below). In particular, please mind the following: - Remove author and institutional identities (i.e., your name, the name of your university or company) from the title and header areas of the paper. - Remove any acknowledgements and references to funding agencies. - Keep citations to your previous work, so that reviewers can check that all relevant prior research has been taken into account, and cite your own work in the third person. Specifically you should avoid self references such as "As described in our previous work [4], " and preferably use "As described by Brian et al. [4], ".

Extended Versions of Conference Papers

Computers and Graphics encourages authors of excellent conference papers to submit extended and significantly revised versions of their manuscripts to be considered for publication. Below are the guidelines for such submissions:

- (1) Submissions to the Journal should use a different title than the conference paper.
- (2) The revised version should explicitly cite the conference paper. In particular, the revised introduction / related work section / paper should clearly state the extensions and changes as compared to the conference paper. These changes should also be reflected in the revised abstract and conclusions. This means that the anonymity of the authors cannot be kept secret, so for these extended submissions the anonymization policy described above does not hold. Please also include a copy of the original conference paper with the submission.
- (3) Overall the submission should contain at least 30% new material (approximately 2-3 pages in case of an 8-page conference paper). New material could include more in-depth discussion of the presented technique (including new images), additional results, or new extensions or applications to the technology presented in the conference paper. While authors are encouraged to significantly reword their submissions, simply rewording the conference paper cannot count as new material.

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 conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. If there are no conflicts of interest then please state this: 'Conflicts of interest: none'. [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 or as part of a published lecture or academic thesis or as an electronic preprint, see '[Multiple, redundant or concurrent publication](#)' section of our ethics policy 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 [CrossCheck](#).

Changes to authorship

Authors are expected to consider carefully the list and order of authors **before** submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only **before** the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the **corresponding author**: (a) the reason for the change in author list and (b) written confirmation (e-mail, 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.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors **after** the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will 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](#).

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 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 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 Open Access Publication Fee. Details of [existing agreements](#) are available online.

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 on their behalf, e.g. by their research funder or institution.

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.

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

For 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 open access publication fee for this journal is **USD 2400**, excluding taxes. Learn more about Elsevier's pricing policy: <http://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.

Elsevier Publishing Campus

The Elsevier Publishing Campus (www.publishingcampus.com) is an online platform offering free lectures, interactive training and professional advice to support you in publishing your research. The College of Skills training offers modules on how to prepare, write and structure your article and explains how editors will look at your paper when it is submitted for publication. Use these resources, and more, to ensure that your submission will be the best that you can make it.

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.

Please submit at <http://ees.elsevier.com/cag>.

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.

Share associated data on Mendeley Data

Mendeley Data is an open access, free-to-use data repository, which allows you to make available the data associated to your article, and receive extra citations. If you wish to make your data available, please visit this [link](#) to create a dataset. Your dataset will receive a reserved DOI upon creation - please notify your Journal Manager that you have created a dataset for your article, sending them the dataset DOI. Once your article is published, log in to Mendeley Data and publish your dataset. We will place links between your article and the dataset, making your data easily accessible with one click for your article readers. See the [Mendeley Data FAQ](#) for more information.

PREPARATION

Peer review

This journal operates a double 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 two independent expert reviewers 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.](#)

Preferred Formats

Although we accept submissions in different formats, PDF files produced using LaTeX are preferred. Always keep a backup copy of the electronic file for reference and safety. Save your files using the default extension of the program used.

Latex

Please use the Elsevier "elsarticle" LaTeX style to prepare your document. It can be found here along with detailed instructions for LaTeX preparation: <https://www.elsevier.com/authors/author-schemas/latex-instructions>. Please ensure your manuscript is set as double-column and that line numbers are included. For convenience, please use [this template](#) together with the elsarticle class. Please do not submit any source files for your **original** manuscript. At this stage only a PDF of your manuscript, containing all figures, tables etc. should be provided. If you need high-resolution versions of images, please provide them as attachments for reviewer convenience. If a **revised** version of your paper is requested, then source files should be uploaded at this stage. If the LaTeX file is suitable, proofs will be produced without the need to rekeying the text, thus considerably speeding up final copyediting. Figures may be inserted in the usual way using an `\includegraphics` command, at the position in the article where they are cited.

Your LaTeX file will be most useful as input for the printed article if you obey the following rules of thumb:

1. Be consistent. If you use a macro for a phrase, use it throughout.
2. Use standard LaTeX mark-up. Do not hardcode your own layout for e.g. section headings, but use the usual LaTeX macro for this purpose.
3. Keep it simple. Do not define macros that accomplish complicated layout. They will also make the input process complicated.

Article structure

Use of wordprocessing software

It is important that the file be saved in the native format of the wordprocessor used. The text should be in double-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the wordprocessor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. 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>). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic illustrations.

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

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.

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.

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.

Graphical Abstract

Please provide, when submitting your article, a graphical abstract. This comprises one figure representative of the work described. Maximum final dimensions of the figure are 5 x 5 cm: bear in mind readability after reduction, especially if using one of the figures from the article itself. Graphical abstracts will be collated to provide a contents list for rapid scanning.

Highlights

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). You can view [example Highlights](#) on our information site.

Keywords

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

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

Please upload acknowledgements as a separate file and do not include them at the end of your manuscript.

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.

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.

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.

Line drawings

The lettering and symbols, as well as other details, should have proportionate dimensions, so as not to become illegible or unclear after possible reduction; in general, the figures should be designed for a reduction factor of two to three. The degree of reduction will be determined by the Publisher. Illustrations will not be enlarged. Consider the page format of the journal when designing the illustrations.

Do not use any type of shading on computer-generated illustrations.

Photographs (halftones)

Remove non-essential areas of a photograph. Do not mount photographs unless they form part of a composite figure. Where necessary, insert a scale bar in the illustration (not below it), as opposed to giving a magnification factor in the caption.

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. [Further information on the preparation of electronic artwork.](#)

Figure captions

Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. 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.

Text graphics

Text graphics may be embedded in the text at the appropriate position. If you are working with LaTeX and have such features embedded in the text, these can be left. See further under Electronic artwork.

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.

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.

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/computers-and-graphics>

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.

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] Van der Geer J, Hanraads JAJ, Lupton RA. The art of writing a scientific article. *J Sci Commun* 2010;163:51–9.

Reference to a book:

[2] Strunk Jr W, White EB. *The elements of style*. 4th ed. New York: Longman; 2000.

Reference to a chapter in an edited book:

[3] Mettam GR, Adams LB. How to prepare an electronic version of your article. In: Jones BS, Smith RZ, editors. *Introduction to the electronic age*, New York: E-Publishing Inc; 2009, p. 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 13.03.03].

Reference to a dataset:

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

Note shortened form for last page number. e.g., 51–9, and that for more than 6 authors the first 6 should be listed followed by 'et al.' For further details you are referred to 'Uniform Requirements for Manuscripts submitted to Biomedical Journals' (*J Am Med Assoc* 1997;277:927–34) (see also [Samples of Formatted References](#)).

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 files in one of our recommended file formats with a preferred maximum size of 150 MB in total. Any single file should not exceed 50 MB. 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.

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](#).

ARTICLE ENRICHMENTS

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.

Interactive MATLAB Figure Viewer

This journal features the Interactive MATLAB Figure Viewer, allowing you to display figures created in MATLAB in the .FIG format in an interactive viewer next to the article. [More information and submission instructions](#).

Interactive plots

This journal enables you to show an Interactive Plot with your article by simply submitting a data file. [Full instructions](#).

AFTER ACCEPTANCE

Proofs

One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF

proofs which can be annotated; for this you will need to [download the free Adobe Reader](#), version 9 (or higher). Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the [Adobe site](#).

If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and scan the pages and return via e-mail. 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. We will do everything possible to get your article published quickly and accurately. 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 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.

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