JOURNAL OF COMPUTATIONAL DESIGN AND ENGINEERING

TABLE OF CONTENTS

- Description p.1
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.4

DESCRIPTION

Journal of Computational Design and Engineering is an international journal that aims to provide academia and industry with a venue for rapid publication of research papers reporting innovative computational methods and applications to achieve a major breakthrough, practical improvements, and bold new research directions within a wide range of design and engineering:

- Theory and its progress in computational advancement for design and engineering
- Development of computational framework to support large scale design and engineering
- Interaction issues among human, designed artifacts, and systems
- Knowledge-intensive technologies for intelligent and sustainable systems
- Emerging technology and convergence of technology fields presented with convincing design examples
- Educational issues for academia, practitioners, and future generation
- Proposal on new research directions as well as survey and retrospectives on mature field.

Examples of relevant topics include traditional and emerging issues in design and engineering but are not limited to:

- Field specific issues in mechanical, aerospace, shipbuilding, industrial, architectural, plant, and civil engineering as well as industrial design
- Geometric modeling and processing, solid and heterogeneous modeling, computational geometry, features, and virtual prototyping
- Computer graphics, virtual and augmented reality, and scientific visualization
- Human modeling and engineering, user interaction and experience, HCI, HMI, human-vehicle interaction(HVI), cognitive engineering, and human factors and ergonomics with computers
- Knowledge-based engineering, intelligent CAD, AI and machine learning in design, and ontology
- Product data exchange and management, PDM/PLM/CPC, PDX/PDQ, interoperability, data mining, and database issues
- Design theory and methodology, sustainable design and engineering, concurrent engineering, and collaborative engineering
- Digital/virtual manufacturing, rapid prototyping and tooling, and CNC machining
- Computer aided inspection, geometric and engineering tolerancing, and reverse engineering
- Finite element analysis, optimization, meshes and discretization, and virtual engineering
- Bio-CAD, Nano-CAD, and medical applications
- Industrial design, aesthetic design, new media, and design education
- Survey and benchmark reports
ABSTRACTING AND INDEXING

Directory of Open Access Journals (DOAJ)
Scopus
ScienceDirect
Emerging Sources Citation Index (ESCI)
Google Scholar
dblp - Computer Science Bibliography

EDITORIAL BOARD

Editor-in-Chief
Kunwoo Lee, Seoul National University, Korea

Co Editors-in-Chief
Shuming Gao, Zhejiang University, China
Sang Hun Lee, Kookmin University, Korea
Jami J. Shah, Arizona State University, USA
Hiromasa Suzuki, University of Tokyo, Japan

Editors
Balan Gurumoorthy, Indian Institute of Science, India
Kwang Hee Ko, Gwangju Institute of Science & Technology (GIST), Korea
Sangdo Noh, Sungkyunkwan University (SKKU), Republic of Korea
Helmut Pottmann, Technische Universität Wien, Austria
Myung-Il Roh, Seoul National University, Korea
Kenji Shimada, Carnegie Mellon University, USA

Editorial Board
Burcu Akinci, Carnegie Mellon University, USA
Young Choi, Chung-Ang University, Korea
Giorgio Colombo, Politecnico di Milano, Italy
Jonathan Corney, University of Strathclyde, UK
Debasish Dutta, Purdue University, USA
Charles Eastman, Georgia Tech, USA
Anath Fischer, Technion, Israel
Martin Fischer, Stanford University, USA
Jerry Y. H. Fuh, National University of Singapore, Singapore
Rajit Gadh, University of California at Los Angeles (UCLA), USA
SoonHung Han, Korea Advanced Institute of Science and Technology (KAIST), Korea
Martin Held, Universität Salzburg, Austria
John C. Hsu, California State University, USA
Shi-Min Hu, Tsinghua University, China
Leo Joskowicz, The Hebrew University of Jerusalem, Israel
Satoshi Kanai, Hokkaido University, Japan
Deok-Soo Kim, Hanyang University, Korea
Inhan Kim, Kyung-Hee University, Korea
Jinman Kim, The University of Sydney, Australia
Tae Wan Kim, Seoul National University, Korea
Wangdo Kim, Technical University of Lisbon, Portugal
Leif Kobbelt, RWTH Aachen University, Germany
Bonsang Koo, Seoul National Univ. of Science & Technology, Korea
Yongjin Kwon, Ajou University, Korea
Deukhee Lee, Korea Institute of Science and Technology, Korea
Jongsou Lee, Yonsei University, Korea
Joo-Haeng Lee, Electronics and Telecommunications Research Institute (ETRI), Korea
Jae Yeol Lee, Chonnam National University, Korea
Wonsook Lee, University of Ottawa, Canada
Teo Ai Lin, National University of Singapore, Singapore
Zhiliang Ma, Tsinghua University, China
Takashi Maekawa, Yokohama National University, Japan
Jun Mitani, University of Tsukuba, Japan
Duhwan Mun, Kyungpook National University, Korea
Ahmad H. Nasri, American University of Beirut, Lebanon
Hyungjun Park, Chosun University, Korea
Sangchul Park, Ajou University, Korea
Alexander Pasko, Bournemouth University, UK
Joean-Philippe Pernot, Arts et Métiers ParisTech, France
Tom Peters, University of Connecticut, USA
Kishore Pochiraju, Stevens Institute of Technology, USA
Hong Qin, SUNY Stony Brook, USA
Sudarsan Rachuri, National Institute of Standards and Technology (NIST), USA
John Rasmussen, Aalborg University, Denmark
Tathagata Ray, BITS Pilani, India
Caterina Rizzi, Università degli studi di Bergamo, Italy
Takis Sakkalis, Agricultural University of Athens, Greece
Josip Stjepandic, PROSTEP AG, Croatia
Yong Suh, California State University, USA
Joshua D. Summers, Clemson University, USA
Jian Sun, Tsinghua University, China
Kai Tang, Hong Kong University of Science and Technology (HKUST), Hong Kong
Tetsuo Tomiyama, Cranfield University, UK
Davide Tumino, Università degli Studi di Enna "Kore", Italy
Michael Yu Wang, Hong Kong University of Science and Technology (HKUST), Hong Kong
Xiangyu Wang, Curtin University, Australia
Magnus Wiktorsson, KTH Royal Institute of Technology, Sweden
Ali Rıza Yildiz, Uludag University, Turkey
Byounghyun Yoo, Korea Institute of Science and Technology, Korea
Yong Zeng, Concordia University, Canada
INTRODUCTION

Journal of Computational Design and Engineering is an international journal that aims to provide academia and industry with a venue for rapid publication of research papers reporting innovative computational methods and applications to achieve a major breakthrough, practical improvements, and bold new research directions within a wide range of design and engineering:

- Theory and its progress in computational advancement for design and engineering
- Development of computational framework to support large scale design and engineering
- Interaction issues among human, designed artifacts, and systems
- Knowledge-intensive technologies for intelligent and sustainable systems
- Emerging technology and convergence of technology fields presented with convincing design examples
- Educational issues for academia, practitioners, and future generation
- Proposal on new research directions as well as survey and retrospectives on mature field.

Examples of relevant topics include traditional and emerging issues in design and engineering but are not limited to:

- Field specific issues in mechanical, aerospace, shipbuilding, industrial, architectural, plant, and civil engineering as well as industrial design
- Geometric modeling and processing, solid and heterogeneous modeling, computational geometry, features, and virtual prototyping
- Computer graphics, virtual and augmented reality, and scientific visualization
- Human modeling and engineering, user interaction and experience, HCI, HMI, human-vehicle interaction(HVI), cognitive engineering, and human factors and ergonomics with computers
- Knowledge-based engineering, intelligent CAD, AI and machine learning in design, and ontology
- Product data exchange and management, PDM/PLM/CPC, PDX/PDQ, interoperability, data mining, and database issues
- Design theory and methodology, sustainable design and engineering, concurrent engineering, and collaborative engineering
- Digital/virtual manufacturing, rapid prototyping and tooling, and CNC machining
- Computer aided inspection, geometric and engineering tolerancing, and reverse engineering
- Finite element analysis, optimization, meshes and discretization, and virtual engineering
- Bio-CAD, Nano-CAD, and medical applications
- Industrial design, aesthetic design, new media, and design education
- Survey and benchmark reports

Types of article
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.

Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

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.

**Copyright**
Published manuscripts become the permanent property of Society of Journal of Computational Design and Engineering, and must not be published elsewhere without written permission. All articles published in the Journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article, as well as translation rights. No part of this publication may be reproduced, stored in any retrieval system, or transmitted in any form or by any means, electronic, mechanical, by photocopying, recording, or otherwise, without prior written permission from Society of Journal of Computational Design and Engineering. A copyright transfer form should be downloaded in the submission site and submitted to the editorial office by fax or e-mail containing a scanned copyright transfer form on acceptance.

Where material has been reproduced from other copyrighted sources, the letter(s) of permission from the copyright holder(s) to use the copyrighted sources must be supplied. Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (for more information see [https://www.elsevier.com/OAauthoragreement](https://www.elsevier.com/OAauthoragreement)). Permitted third party reuse of open access articles is determined by the author's choice of user license (see [https://www.elsevier.com/openaccesslicenses](https://www.elsevier.com/openaccesslicenses)).

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. For more information on author rights please see [https://www.elsevier.com/copyright](https://www.elsevier.com/copyright).

**Elsevier supports responsible sharing**
Find out how you can share your research published in Elsevier journals.

**Open access**
Every peer-reviewed research article appearing in this journal will be published open access. This means that the article is universally and freely accessible via the internet in perpetuity, in an easily readable format immediately after publication. The author does not have any publication charges for open access. The Society of CAD/CAM Engineers will pay to make the article open access. A [CC user license](https://www.elsevier.com/openaccesslicenses) manages the reuse of the article (see [https://www.elsevier.com/openaccesslicenses](https://www.elsevier.com/openaccesslicenses)). All articles will be published under the following license:

*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.

**Elsevier Researcher Academy**
Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

**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](https://www.elsevier.com) available from Elsevier's Author Services.

**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, LaTeX) 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

Editorials
Editorials are invited articles or comments concerning a specific paper in the Journal or a topical issue in the field. Although editorials are normally invited or written by an Editor, unsolicited editorials may be submitted. Typical length: 1500-2000 words, 10-20 references.

Review Articles
These should aim to provide the reader with a balanced overview of an important and topical subject related to the aim and scope of this journal, and highlight unresolved questions and future directions. Most reviews are solicited by the editors, but unsolicited submissions may also be considered for publication. Section headings should be: Abstract, Introduction, brief main headings, and References. Typical length: 4000-6000 words, 40-80 references.

Original Articles
These may report significant developments, describe the relevant theoretical background, present a workable algorithm and give examples taken from real applications, stressing the practicality of the approach being presented. These can also contain new analyses of techniques related to computational design and engineering in practice, presenting authoritative results in a way that is likely to stimulate and influence research. Section headings can be: Abstract, Introduction, Material and Methods, Theory/Calculation, Results, Discussion, Conclusions, Acknowledgments (if applicable), Appendices (if applicable), and References. The Introduction should provide a brief background to the subject of the paper, explain the importance of the study, and state a precise study question or purpose. The Material and Methods section should describe the study design and methods, and state the procedures employed in the research. The Theory/Calculation section should extend, not repeat, the background to the article already dealt with in the Introduction, lay the foundation for further work, and represent a practical development from a theoretical basis. The Results section should comprise the study results presented in a logical sequence, supplemented with tables and/or figures. Take care that the text does not repeat data that are presented in the tables and/or figures. The Discussion section should be used to emphasize the new and important aspects of the study, placing the results in context with published literature and the implications of the findings. The Conclusions section should place the conclusions that follow from the study results. Typical length: 4000-6000 words, 20-40 references.

Letters to the Editor
These include brief constructive comments concerning previously published articles in the journal. Letters should have a title and include appropriate references, and include the corresponding author's e-mail address. Letters are edited, sometimes extensively, to sharpen their focus. They may be sent for peer review at the discretion of the Editors. Typical length: 300-600 words, 5 references; 1 table and/or 1 figure may be included.

Contact details for submission
Manuscripts for Journal of Computational Design and Engineering may be submitted using online https://www.evise.com/profile/api/navigate/JCDE. For editorial questions, please contact us via e-mail editor-in-chief@jcde.org, telephone +82-2-501-6862, or fax +82-2-501-6863.

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 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.
Use of word processing software
It is important that the file be saved in the native format of the word processor used. The text should be in single-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 word processor'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). 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 artwork.
To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

LaTeX
You are recommended to use the Elsevier article class elsarticle.cls to prepare your manuscript and BibTeX to generate your bibliography.
Our LaTeX site has detailed submission instructions, templates and other information.

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

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.

Vitae
Submit a short (maximum 100 words) biography of each author, along with a passport-type photograph accompanying the other figures. Please provide the biography in an editable format (e.g. Word), not in PDF format.

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.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.

• **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. **Ensure that the e-mail address is given and that contact details are 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.

**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.

**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**

A graphical abstract is mandatory for this journal. It should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images also in accordance with all technical requirements.

**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**

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.).

**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.

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.

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.

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. Using citation 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 from different reference management software.

Reference style
Text: Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Sixth Edition, ISBN 978-1-4338-0561-5, copies of which may be ordered online or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK.

List: references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:
Reference to a journal publication:

Reference to a journal publication with an article number:

Reference to a book:

Reference to a chapter in an edited book:

Reference to a website:

Reference to a dataset:

Reference to a conference paper or poster presentation:

**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.

**Illustration Services**
Elsevier's WebShop ([http://webshop.elsevier.com/illustrationservices](http://webshop.elsevier.com/illustrationservices)) offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

**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 be notified and receive a link to the published version of the open access article on ScienceDirect. This link is in the form of an article DOI link which can be shared via email and social networks. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Author Services.

**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](https://www.elsevier.com)