COMPUTERS & MATHEMATICS WITH APPLICATIONS
An International Journal

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.4

DESCRIPTION

Computers & Mathematics with Applications provides a medium of exchange for those engaged in fields contributing to building successful simulations for science and engineering using Partial Differential Equations (PDEs).


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.

This journal has an Open Archive. All published items, including research articles, have unrestricted access and will remain permanently free to read and download 48 months after publication. All papers in the Archive are subject to Elsevier's user license.

If you require any further information or help, please visit our Support Center

AUDIENCE

Mathematicians and Computer Scientists, others who use mathematics and computer science in any discipline.

IMPACT FACTOR

2019: 3.370 © Clarivate Analytics Journal Citation Reports 2020
ABSTRACTING AND INDEXING

Applied Science & Technology Abstracts
INSPEC
COMPENDEX
Zentralblatt MATH
Applied Mechanics Reviews
Cambridge Scientific Abstracts
Computer Contents
Pascal Francis
SSSA/CISA/ECA/ISMEC
Scopus
Science Citation Index
Web of Science
Web of Science
Current Contents
Current Contents - Engineering, Technology & Applied Sciences

EDITORIAL BOARD

Editor-in-Chief
Daniele Boffi, King Abdullah University of Science and Technology, Mathematical and Computer Sciences and Engineering Division, 23955-6900, Thuwal, Saudi Arabia

Managing Editors
Leszek Demkowicz, The University of Texas at Austin, Austin, Texas, United States
Adaptive finite and boundary element methods, Computational acoustics and electromagnetics
Alexander Düster, Hamburg University of Technology, Hamburg, Germany
Norbert Heuer, Pontificial Catholic University of Chile, Santiago de Chile, Chile
Numerical analysis including: FEM, BEM, coupling, domain decomposition, Schwarz methods, preconditioners, p-, hp-versions approximation of singularities, fractional order Sobolev spaces
Jichun Li, University of Nevada Las Vegas, Las Vegas, Nevada, United States
Waldemar Rachowicz, Tadeusz Kosciuszko Cracow University of Technology, Krakow, Poland

Editorial Board
Regina Almeida, National Laboratory of Scientific Computing, PETROPOLIS, Brazil
Stabilized and multiscale finite element methods, computational fluid dynamics, adaptive methods, stochastic finite elements
Marek Behr, RWTH Aachen University, Aachen, Germany
Computational fluid dynamics, finite element methods, viscoelastic flows, free-surface flows, shape optimization, physiological model development, aeroelasticity, parallel computing
Long Chen, University of California Irvine, Irvine, California, United States
FEM, adaptivity, multigrid, mesh generation, superconvergence
Eric Tsz Shun Chung, The Chinese University of Hong Kong Department of Mathematics, Hong Kong, Hong Kong
Discontinuous Galerkin methods, Multiscale methods, adaptive multiscale model reduction, numerical homogenization, computational wave propagation, flow and transport in heterogeneous media
Weihua Deng, Lanzhou University, Lanzhou, China
Scientific Computation and Numerical Analysis; Statistical Physics and Stochastic Simulations; Nonlinear Dynamics and Anomalous Diffusion; Nonlocal PDE and Stochastic Representation
Stefan Diebels, Saarland University, Saarbruecken, Germany
Continuum mechanical modeling, experimental mechanics/material's characterization multiphase continuum mechanics/theory of porous media, extended continua (Cosserat/micromorphic continua), numerical treatment of multifield problems
Martin J. Gander, University of Geneva, Geneva, Switzerland
Lucia Gastaldi, University of Brescia, Brescia, Italy
FEM, a priori and a posteriori error analysis of approximation of PDE, adaptive finite element methods, eigenvalue problems for PDE, fluid-structure interaction
Jean-Luc Guermond, Texas A&M University College Station, College Station, Texas, United States
Numerical Analysis, FE methods, Discontinuous Galerkin FE methods, fluid flows, 3D Navier-Stokes equations, 3D Turbulence, magneto-hydodynamics, Maxwell equations, nonlinear conservation equations, HJ equations, entropy viscosity, radiative transport equation, Boltzmann equation.

Jun Hu, Peking University, Beijing, China
Nonconforming finite element methods, adaptive finite element methods, Reissner-Mindlin plate problems, eigenvalue problems, variational inequalities

Manfred Krafczyk, Braunschweig University of Technology, Braunschweig, Germany
CFD, kinetic methods, especially Lattice Boltzmann methods, HPC, fault tolerant computing

Mieczyslaw Kuczma, Poznan University of Technology, Poznan, Poland
Mechanics of solids and structures, smart materials and structures, variational inequalities, complementarity problems, finite elements

Jens Markus Melenk, TU Wien University, Wien, Austria
FEM, hp-FEM and spectral methods, meshless methods, BEM, adaptivity, numerical methods for singular perturbations, Helmholtz equation, scattering problems, approximation theory

Neela Nataraj, Indian Institute of Technology Bombay, Mumbai, India
FEM, viscoelasticity, mixed methods, parallel implementations

Nilima Nigam, Simon Fraser University, Burnaby, British Columbia, Canada
Numerical analysis, computational acoustics and electromagnetics, mathematical modeling in the physical and biological sciences.

Fabio Nobile, Federal Polytechnic School of Lausanne, Lausanne, Switzerland
Numerical approximation of PDEs with stochastic data; polynomial chaos approximations; sparse grids; uncertainty quantification; finite element method; fluid-structure interaction; cardiovascular mathematics

Abani K. Patra, University at Buffalo - The State University of New York, Buffalo, New York, United States
Adaptive meshing, parallel computing, uncertainty quantification, linear system solvers, domain decomposition theory, geophysical modeling, scientific

Jorg Peters, UNIVERSITY OF FLORIDA, CSE Building, Gainesville, FL 32611-6120, United States
Impact of geometry on PDEs (eg. representation and shape of boundary surfaces); higher order isoparametric methods (reparameterization on `physical domains'); (interactive) simulation of tissue

Ernesto Prudencio, The University of Texas at Austin, Austin, Texas, United States
Uncertainty quantification, Bayesian analysis, Markov chain Monte Carlo, Bayesian filtering, optimal design of experiments, model emulation with Gaussian processes, rare events, validation, domain decomposition, multigrid, preconditioners, inverse problems, scalable parallel numerical and statistical algorithms for large scale computational problems, software design of mathematical libraries

Serge Prudhomme, Montreal Polytechnic, Montreal, Quebec, Canada
Finite Elements, a posteriori error estimation, adaptive methods, model adaptivity, Verification and Validation, inverse problems, uncertainty quantification

Joachim Schöberl, TU Wien University, Wien, Austria
High order finite elements, mixed finite elements, preconditioning, Maxwell equations.

Raul Tempone, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
Lucas Wilcox, Naval Postgraduate School, Monterey, California, United States
Discontinuous Galerkin methods; computational time-domain acoustic, electromagnetic and elastic wave scattering; parallel and GPU/many-core computing.

Zohar Yosibash, Ben-Gurion University of the Negev, Be’er Sheva, Israel
Computational biomechanics, high-order FEMs, singularities in elliptic PDEs, numerical analysis of nonlinear elliptic PDEs, fracture mechanics

Tarek I. Zohdi, University of California Berkeley, Berkeley, California, United States
Material modeling, particulate flow, electromagnetics and homogenization

Founding Editor-in-Chief
E.Y. Rodin, Washington University in St Louis, Saint Louis, Missouri, United States

Publisher
Simone Munao, Elsevier
GUIDE FOR AUTHORS

INTRODUCTION

Computers & Mathematics with Applications provides a medium of exchange for those engaged in fields contributing to building successful simulations for science and engineering using Partial Differential Equations (PDEs).


Contact details for submission

During the submission process you will be asked to choose a member of the Editorial Board of the journal whose field of interest is closest to the work submitted. For a complete and up to date listing of the members of the Editorial Board of the journal, please consult the journal's webpage at: https://www.elsevier.com/locate/camwa.

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. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

Author contributions
For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example

Authorship
All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

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

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

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

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

**Open access**
Please visit our [Open Access page](#) for more information.

*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](#) available from Elsevier's Author Services.

**Full Online Submission**
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts source files to a single PDF file of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF files at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail removing the need for a paper trail.
Due to publishing constraints, only three submissions per author, per year will be considered, at the discretion of the Editor-in-Chief. Cognate papers by the same author will not be published in the same issue; such series of papers will be considered only with the understanding that, if accepted, they will not appear in the same issue.

Referees
Please read the requirements for submitting reviewers thoroughly and completely before preparing an appropriate list of referees to submit on-line with your manuscript.

Failure to meet the requirements will result in the rejection of your article.

REQUIREMENTS FOR SUBMITTING REVIEWERS

(1) Please prepare a list of 8 (eight) proposed reviewers. You MUST include Full Names, Department, University, Country and Email Addresses for each proposed reviewer. This list should not contain names which have been suggested by you or any of your co-authors for previously submitted manuscripts. It should be a globally geographically diverse list of potential reviewers; there should be no more than two suggested referees from any particular area/region/country.

If you, or any of your co-authors, have submitted to our offices previously, to any of our journals, please note that you must have a different list of reviewers for each manuscript submitted.

All proposed reviewers MUST be fluent in English to ensure the integrity of each review and the correct processing of all manuscripts.

(2) Proposed reviewers MUST BE knowledgeable in your area of research and these reviewers should not be persons with whom any of the authors have in the past or currently have a personal/working/professional relationship (i.e., instructors, co-workers, advisors, students, former co-authors, etc.).


PREPARATION

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.

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 optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights 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).

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

Classification Codes
Please provide classification codes as per the standard AMS codes. A full list and information for these
can be found at http://www.ams.org/msc.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page
of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first
mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

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

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

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

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.

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.
• Ensure that color images are accessible to all, including those with impaired color vision.
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/halftone (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.

**Reference links**
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.
A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

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

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

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

Reference management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. 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.

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

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

Reference style
Text: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.
Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

List: Number the references (numbers in square brackets) in the list in the order in which they appear in the text.
Examples:
Reference to a journal publication:
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:

**Video**
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

**Data visualization**
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

**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.

**AFTER ACCEPTANCE**

**Online proof correction**
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

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

The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Author Services. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**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