TABLE OF CONTENTS

- Description p.1
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.6

DESCRIPTION

Please note: Authors who have submitted or will submit papers between 12 July 2019 (included) and 12 July 2020 (excluded) will have their accepted paper published in CHM at no charge. Authors submitting papers on and after 12 July 2020 will be requested to pay the APC. 20% discount of APC will apply to all papers submitted on and before 30 June 2022.

From 12 July 2020 onwards, individual waiver requests shall be addressed to the editorial office at chmtianjin@126.com prior to submission, and will considered on a case-by-case basis and may be granted in cases of genuine need.

Chinese Herbal Medicines (CHM) is a peer-reviewed journal sponsored by Tianjin Institute of Pharmaceutical Research and Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences.

CHM is an international quarterly-published journal with the aim at pioneering in the research trend of herbal medicines from different countries or regions and providing a forum for the theoretical and clinical studies on traditional medicines, herbal medicines and natural products. The journal covers researches on medicinal materials and resources, active constituents (including biosynthesis, tissue culture, etc.), classical and complex formulae (including compatibility and incompatibility of prescriptions, pharmaceutics and technology), quality evaluation and safety, authentication (including molecular and morphological identification, etc.) of herb medicines in phytochemistry, pharmacology, toxicology, pharmacokinetics, and therapeutic function through experimental and clinical trials. The journal is intended to disseminate the latest developments and research progress in traditional and herbal medical sciences to researchers, practitioners, academics and administrators worldwide in the field of traditional and herbal medicines. The journal's international coverage ensures that research and progress from all regions of the world are widely included.

Article types accepted by CHM include, but are not limited to, editorials, original articles, reviews, short communications, and book reviews. Headed by experienced and internationally recognized Editors-in-Chief and supported by the well-represented international editorial board, CHM aims to be developed into a leading journal in the field of traditional and herbal medicine, and to become a communication bridge between traditional medicine and modern medicine.
ABSTRACTING AND INDEXING

Scopus
Chemical Abstracts
Index Copernicus
Ulrichsweb
Global Health
CAB International
Embase
China Academic Journals Full-text Database
Web of Science

EDITORIAL BOARD

Honorary Editor-in-Chiefs
Yung-Chi Cheng, Yale University Department of Pharmacology, United States of America
Pharmacology
Pei-gen Xiao, Chinese Academy of Medical Sciences & Peking Union Medical College Institute of Medicinal Plant Development, China
Medicinal materials and resources and phytochemistry

Editor-in-Chief
Liu Chang-xiao, Tianjin Institute of Pharmaceutical Research State Key Laboratory of Drug Delivery Technology and Pharmacokinetics, China
Pharmacokinetics

Associate Editor-in-Chiefs
Rudolf Bauer, Karl Franzens University Graz Pharmacognosy, Austria
Pharmacokinetics, phytochemicals, pharmacodynamics
Shi-Lin Chen, China Academy of Chinese Medical Sciences Institute of Chinese Materia Medica, China
Medicinal materials and resources, Biosynthesis/molecular biology
Thomas Effert, Johannes Gutenberg University, Institute of Pharmaceutical and Biomedical Sciences, Germany
Molecular pharmacology, toxicology
De-an Guo, Chinese Academy of Sciences, Shanghai Institute of Materia Medica, Department of Pharmacognosy, China
Preparation and quality control of traditonal Chinese medicine
Pulok Kumar Mukherjee, Institute of Bioresources and Sustainable Development, India
Chemistry of natural productAnalytical chemistry
Guido F. Pauli, University of Illinois at Chicago Department of Medicinal Chemistry and Pharmacognosy, United States of America
Chemistry of natural productAnalytical chemistryPharmacognosy
Xiao-bo Sun, Chinese Academy of Medical Sciences & Peking Union Medical College Institute of Medicinal Plant Development, China
Pharmacology
Li-da Tang, Tianjin Institute of Pharmaceutical Research, China
Pharmacology

Editorial Board Members
Giovanni Appendino, University of Padua Department of Pharmacy Science, Italy
Biochemical pharmacology
Uriel Bachrach, Hebrew University of Jerusalem Faculty of Medicine, Israel
Biochemistry and Molecular Biology
Zohara Yaniv Bachrach, Hebrew University of Jerusalem Department of Genetics, Israel
Ethnopharmacology
Gang Bai, Nankai University College of Pharmacy, China
Chemistry of natural product, Preparation and quality control of traditional Chinese medicine, pharmacology
Henrik Balslev, Kasetsart University, Thailand
Medicinal materials and resources
Anna Rita Bilia, University of Florence, Italy
Phytochemical Analysis; Pharmacology
Francesca Borrelli, University of Naples Federico II Department of Pharmacy, Italy
Pharmacology
Shao-qing Cai, Peking University School of Pharmaceutical Sciences, China

Pharmacognosy
Chun-tao Che, The Chinese University of Hong Kong School of Chinese Medicine, Hong Kong

Kai-xian Chen, Shanghai Institute of Materia Medica Chinese Academy of Sciences Department of Pharmacy, China

Biological pharmacy, Integrative medicine
Ke-ji Chen, China Academy of Chinese Medical Sciences Xiyuan Hospital, China

Min-jun Chen, Peking Union Medical College Hospital, China

Pharmacology
Zhi-duan Chen, Institute of Botany Chinese Academy of Sciences, China

Medicinal materials and resources
Muhammed Iqbal Choudhary, University of Dschang, Cameroon

Phytochemical
Justin Jang Hann Chu, National University of Singapore, Singapore

Biomedicine, pharmacotherapy
Elaine Elisabetsky, Federal University of Rio Grande do Sul, Brazil

Pharmacology, Neuropharmacology
Ilkay Erdogan Orhan, Gazi University, Turkey

Pharmacognosy, phytotherapy, herbal medicines, herbal cosmetics, natural product chemistry
Wen-yuan Gao, Tianjin University, China

Biochemistry and Molecular Biology
Ahmad Ghorbani, Mashhad University of Medical Sciences Faculty of Medicine, Iran

Biomedicine; pharmacotherapy
Kazimierz Glowniak, Medical University of Lublin, Poland

Phytochemical
Leslie Gunatiaka, University of Arizona, United States of America

Medicinal materials and resources
Ameenah Gurib-Fakim, University of Mauritius, Mauritius

Natural Pharmaceutical Chemistry
Da-Cheng Hao, Dalian Jiaotong University, China

Medicinal Plant Resource Science
Masao Hattori, University of Toyama Faculty of Medicine Graduate School of Medicine and Pharmaceutical Science for Education Second Department of Internal Medicine, Japan

Pharmacology; Pharmacokinetics
Michael Heinrich, University of London, Department of Pharmacology, United Kingdom

Pharmacology
Guillermo Schmeda Hirschmann, University of Talca, Chile

Medicinal materials and resources and phytochemistry
Chi-Tang Ho, Rutgers University Department of Food Science, United States of America

Chemistry of natural product
Kurt Hostettmann, University of Geneva, Switzerland

Phytochemical Analysis
Peter J. Hylands, King's College London Institute of Pharmaceutical Science, United Kingdom

Standardisation of plant extracts, chemometric metabolomic approaches, natural product research,

Wei Jia, University of Hawai'i at Manoa, United States of America

Pharmacology
Ilkhas A. Khan, University of Mississippi, United States of America

Natural Pharmaceutical Chemistry
Tran Cong Khanh, Hanoi Medical University, Viet Nam

Medicinal Plant Resource Science
Jin-woong Kim, Kyoto University Institute for Chemical Research, Japan

Medicinal materials and resources
Yeong Shik Kim, Seoul National University, South Korea

Natural Pharmaceutical Chemistry
Katsuko Komatsu, Tokyo University of Pharmacy and Life Science School of Pharmacy, Japan

Biochemical Pharmacology
Ling-yi Kong, China Pharmaceutical University State Key Laboratory Of Natural Medicines, China

Chemistry of traditional Chinese medicine and chemistry of natural medicine
David Yue-Wei Lee, Center for Alternative Mclean Hospital, Harvard Medical School, United States of America
Drug abuse, alternative therapy for osteoarthritis

**Kuo-Hsiung Lee**, University of North Carolina System, United States of America
Pharmacocchemistry, Natural ingredient activity, Development of new drugs
**Shao Li**, Tsinghua University Department of Automation, China
Pharmacology
**Rui-chao Lin**, Beijing University of Chinese Medicine School of Traditional Chinese Medicine, China
Preparation and quality control of traditional Chinese medicine
**Liang Liu**, Macau University of Science and Technology, Macao
Clinical traditional Chinese medicine
**Yan-ze Liu**, Chinese Academy of Medical Sciences & Peking Union Medical College Institute of Medicinal Plant Development, China
**Guo-an Luo**, Tsinghua University School of Medicine, China
Analytical chemistry, Traditional Chinese medicine prescription chemistry, System biology of traditional Chinese Medicine
**Ai-ping Lv**, Hong Kong Baptist University, Hong Kong
Pharmacology
**Gail B. Mahady**, University of Illinois Chicago College of Pharmacy, United States of America
Pharmacology
**Toshiaki Makino**, Nagoya City University, Japan
Natural Pharmaceutical Chemistry
**Aung Myint**, Myanmar Ministry of Health and Sports, Myanmar
Clinical Chinese pharmacy
**Ampai Panthong**, Chiang Mai University Department of Pharmacology, Thailand
Pharmacology
**Yong Peng**, Chinese Academy of Sciences, Shanghai Institute of Materia Medica, Department of Pharmacognosy, China
Medicinal Plant Resource Science
**Satyajit D. Sarker**, Liverpool John Moores University, United Kingdom
Pharmacology, Natural Pharmaceutical Chemistry
**Alexander Shikov**, Saint Petersburg State Chemical Pharmaceutical Academy, Russian Federation
Pharmacokinetic
**Panee Sirisa-ard**, Chiang Mai University, Thailand
Natural Pharmaceutical Chemistry
**Krystyna Skalicka-Woźniak**, Medical University of Lublin Department of Pharmacognosy with Medicinal Plant Unit, Poland
Analytical chemistry, Pharmacology
**Han-dong Sun**, Kunming Institute of Botany Chinese Academy of Sciences, China
Medicinal materials and resources and phytochemistry
**Ren-xiang Tan**, Nanjing University, China
Natural Pharmaceutical Chemistry
**Francois Tillequin**, Istanbul University Faculty of Pharmacy, Turkey
Ethnopharmacology
**Peng-fei Tu**, Peking University School of Pharmaceutical Sciences, China
Natural Pharmaceutical Chemistry
**Roy Upton**, American Herbal Pharmacopoeia, United States of America
Medicinal Plant Resource Science
**Robert Verpoorte**, Leiden University Institute of Biology Leiden, Netherlands
Metabolomics, plants, alkaloids, extraction, plant tissue culture
**Alvaro Viljoen**, Tshwane University of Technology Department of Pharmaceutical Sciences, South Africa
Medicinal materials and resources
**Hildebert Wagner**, Ludwig Maximilian University Munich Chair of Pharmaceutical Biology Biotechnology, Germany
Analytical chemistry
**Guang-Ji Wang**, China Pharmaceutical University State Key Laboratory Of Natural Medicines, China
Pharmacokinetics
**Wei Wang**, Henan University of Traditional Chinese Medicine, China
Pharmacodynamic substances of natural drugs
**Yi-Tao Wang**, University of Macau, Macao
Quality evaluation of traditional Chinese medicine
**Yong-yan Wang**, China Academy of Chinese Medical Sciences Institute of Basic Theory in Chinese Medicine, China
Traditional Chinese medicine internal medicine
**Zheng-Tao Wang**, Shanghai University of Traditional Chinese Medicine, China
Pharmacognosy
Jintanaporn Wattanathorn, Khon Kaen University, Thailand
Pharmacology
Jian-he Wei, Chinese Academy of Medical Sciences & Peking Union Medical College Institute of Medicinal Plant Development, China
Medicinal Plant Resource Science
Chun-fu Wu, Shenyang Pharmaceutical University, Department of Pharmacology, China
Pharmacology
Tian-shung Wu, National Cheng Kung University Department of Chemical Engineering, Taiwan
Chemistry of traditional Chinese medicine and chemistry of natural medicine
Wan-ying Wu, Chinese Academy of Sciences, Shanghai Institute of Materia Medica, Department of Pharmacognosy, China
Preparation and quality control of traditional Chinese medicine
Xiao-he Xiao, 5th Medical Center of Chinese PLA General Hospital, China
Preparation and quality control of traditional Chinese medicine
Hong-xi Xu, Shanghai University of Traditional Chinese Medicine, China
Medicinal materials and resources
Bao-feng Yang, Harbin Medical University Department of Pharmacology, China
Pharmacognosy
Xiu-wei Yang, Peking University Health Science Center, Department of Natural Medicines, China
Natural products Chemistry, drug metabolism
Xin-sheng Yao, Jinan University College of Pharmacy, China
Chemistry of traditional Chinese medicine
Min Ye, Peking University, China
Chinese Herbal Medicine, Effective Components, Quality Control, Pharmacokinetics, Biosynthesis
Zu-Guang Ye, Nanjing University, China
Pharmacology
Shi-shan Yu, China Academy of Chinese Medical Sciences Institute of Chinese Materia Medica, China
Chemistry of natural medicine
Bo-li Zhang, Tianjin University of Traditional Chinese Medicine State Key Laboratory of Modern Chinese Medicine, China
Clinical use of traditional Chinese medicines
Wei-Dong Zhang, Second Military Medical University, China
Pharmacology, Preparation and quality control of traditional Chinese medicine, Chemistry of natural medicine
Zhi-rong Zhang, Sichuan University West China Hospital Department of Neurology, China
Pharmacology
Zhong-Zhen Zhao, Hong Kong Baptist University, Hong Kong
Quality control of traditional Chinese medicine
Hua Zhou, Macau University of Science and Technology, Macao
Pharmacology
INTRODUCTION

Chinese Herbal Medicines (CHM) is a peer-reviewed journal sponsored by Tianjin Institute of Pharmaceutical Research and Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences.

CHM is an international quarterly-published journal with the aim at pioneering in the research trend of herbal medicines from different countries or regions and providing a forum for the theoretical and clinical studies on traditional medicines, herbal medicines and natural products. The journal covers researches on medicinal materials and resources, active constituents (including biosynthesis, tissue culture, etc.), classical and complex formulae (including compatibility and incompatibility of prescriptions, pharmaceutics and technology), quality evaluation and safety, authentication (including molecular and morphological identification, etc.) of herb medicines in phytochemistry, pharmacology, toxicology, pharmacokinetics, and therapeutic function through experimental and clinical trials. The journal is intended to disseminate the latest developments and research progress in traditional and herbal medical sciences to researchers, practitioners, academics and administrators worldwide in the field of traditional and herbal medicines. The journal’s international coverage ensures that research and progress from all regions of the world are widely included.

Types of article

Article types accepted by CHM include, but are not limited to, editorials, original articles, reviews, short communications, and book reviews. Headed by experienced and internationally recognized Editors-in-Chief and supported by the well-represented international editorial board, CHM aims to be developed into a leading journal in the field of traditional and herbal medicine, and to become a communication bridge between traditional medicine and modern medicine.

Contact details for submission

For further information or any help, please feel free to contact the Editorial Office of at chmtianjin@126.com.

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 on Ethics in publishing.

Studies in humans and animals
If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. The manuscript should be in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals and aim for the inclusion of representative human populations (sex, age and ethnicity) as per those recommendations. The terms sex and gender should be used correctly.

Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

Informed consent and patient details
Studies on patients or volunteers require ethics committee approval and informed consent, which should be documented in the paper. Appropriate consents, permissions and releases must be obtained where an author wishes to include case details or other personal information or images of patients and any other individuals in an Elsevier publication. Written consents must be retained by the author but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless you have written permission from the patient (or, where applicable, the next of kin), the personal details of any patient included in any part of the article and in any supplementary materials (including all illustrations and videos) must be removed before submission.

Declaration of competing 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. Authors should complete the declaration of competing interest statement using this template and upload to the submission system at the Attach/Upload Files step. Note: Please do not convert the .docx template to another file type. Author signatures are not required. If there are no interests to declare, please choose the first option in the template. 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.

Clinical trial results
In line with the position of the International Committee of Medical Journal Editors, the journal will not consider results posted in the same clinical trials registry in which primary registration resides to be prior publication if the results posted are presented in the form of a brief structured (less than 500 words) abstract or table. However, divulging results in other circumstances (e.g., investors' meetings) is discouraged and may jeopardise consideration of the manuscript. Authors should fully disclose all posting in registries of results of the same or closely related work.

Reporting clinical trials
Randomized controlled trials should be presented according to the CONSORT guidelines. At manuscript submission, authors must provide the CONSORT checklist accompanied by a flow diagram that illustrates the progress of patients through the trial, including recruitment, enrollment, randomization, withdrawal and completion, and a detailed description of the randomization procedure. The CONSORT checklist and template flow diagram are available online.

Registration of clinical trials
Registration in a public trials registry is a condition for publication of clinical trials in this journal in accordance with International Committee of Medical Journal Editors recommendations. Trials must register at or before the onset of patient enrolment. The clinical trial registration number should be included at the end of the abstract of the article. A clinical trial is defined as any research study that prospectively assigns human participants or groups of humans to one or more health-related interventions to evaluate the effects of health outcomes. Health-related interventions
include any intervention used to modify a biomedical or health-related outcome (for example drugs, surgical procedures, devices, behavioural treatments, dietary interventions, and process-of-care changes). Health outcomes include any biomedical or health-related measures obtained in patients or participants, including pharmacokinetic measures and adverse events. Purely observational studies (those in which the assignment of the medical intervention is not at the discretion of the investigator) will not require registration.

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](https://www.elsevier.com/locate/chmed) 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.

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. [More information](https://www.elsevier.com/locate/chmed).

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

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

**Funding body agreements and policies**
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

**Open access**
This is an open access journal: all articles will be immediately and permanently free for everyone to read and download. To provide open access, this journal has an open access fee (also known as an article publishing charge APC) which needs to be paid by the authors or on their behalf e.g. by their research funder or institution. Permitted third party (re)use is defined by the following Creative Commons user licenses:

*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 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.
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 anonymized 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. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

Editors are not involved in decisions about papers which they written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups.

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.

Article structure

Subdivision - unnumbered sections
Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

Introduction
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Material and methods
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Theory/calculation
A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results
Results should be clear and concise.

Discussion
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.
Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Essential title page information
• **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
• **Author names and affiliations.** 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.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of $531 \times 1328$ pixels (h \times w) or proportionally more. The image should be readable at a size of $5 \times 13$ 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 and 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.).

**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.

**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](https://www.elsevier.com/locate/chmed) 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) in addition to color reproduction in print. Further information on the preparation of electronic artwork.

Illustration services
Elsevier's Author Services 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.

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 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, Seventh Edition, ISBN 978-1-4338-3215-4, copies of which may be ordered online. 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:
Reference to software:

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

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

**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.

**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.

**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 you to share data that supports your research publication in an appropriate data repository, and enables you to interlink the data with your published articles. If you are sharing data, 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.

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.

For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

## AFTER ACCEPTANCE

### Availability of accepted article
This journal makes articles available online as soon as possible after acceptance. This concerns the Journal Pre-proofs (both in HTML and PDF format), which have undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but are not yet the definitive versions of record. A Digital Object Identifier (DOI) is allocated, thereby making it fully citable and searchable by title, author name(s) and the full text. The article's PDF also carries a disclaimer stating that it is an unedited article. Subsequent production stages will simply replace this version.

### 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 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