DESCRIPTION

Food and Chemical Toxicology (FCT), an internationally renowned journal, that publishes original research articles and reviews on toxic effects, in animals and humans, of natural or synthetic chemicals occurring in the human environment with particular emphasis on food, drugs, and chemicals, including agricultural and industrial safety, and consumer product safety. Areas such as safety evaluation of novel foods and ingredients, biotechnologically-derived products, and nanomaterials are included in the scope of the journal. FCT also encourages submission of papers on inter-relationships between nutrition and toxicology and on in vitro techniques, particularly those fostering the 3 Rs.

The principal aim of the journal is to publish high impact, scholarly work and to serve as a multidisciplinary forum for research in toxicology. Papers submitted will be judged on the basis of scientific originality and contribution to the field, quality and subject matter. Studies should address at least one of the following: Adverse physiological/biochemical, or pathological changes induced by specific defined substances New techniques for assessing potential toxicity, including molecular biology Mechanisms underlying toxic phenomena Toxicological examinations of specific chemicals or consumer products, both those showing adverse effects and those demonstrating safety, that meet current standards of scientific acceptability

Authors must clearly and briefly identify what novel toxic effect(s) or toxic mechanism(s) of the chemical are being reported and what their significance is in the abstract. Furthermore, sufficient doses should be included in order to provide information on NOAEL/LOAEL values.

Manuscripts describing research involving the following areas will not be considered: materials/substances of only local interest materials/substances for which the chemical composition is not clearly defined only pharmacological properties, or potentially beneficial effects using in vitro or in vivo systems chemical analyses of toxins in foods without addressing the toxic implication to humans [risk assessment should be included] unrealistic human doses, inappropriate route of exposure, or in vitro experiments that do not reflect serum levels in humans

FCT is committed to the highest standards. Only papers that have not been previously published, that fit in the above mentioned scope, and that have been reviewed by experts in the field prior to publication will be accepted. Cover letters must state that the manuscript is new and original and not under consideration for publication elsewhere. Co-authors should be individuals who have contributed substantially to the content of the papers. All authors must declare any potential conflict of interest and all financial support.
Benefits to authors

We 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 the Guide for Authors for information on article submission. If you require further information or help, please visit our Support Center.

AUDIENCE

Food scientists, toxicologists, chemists and researchers working in the pharmaceutical industry.

IMPACT FACTOR

2017: 3.977 © Clarivate Analytics Journal Citation Reports 2018

ABSTRACTING AND INDEXING

EMBiology
Analytical Abstracts
Aqualine Abstracts
BIOSIS
Elsevier BIOBASE
Cambridge Scientific Abstracts
Chemical Abstracts
Chemical Hazards in Industry
Current Contents/BIOMED Database
Current Contents/Science Citation Index
Current Contents/SciSearch Database
EMBASE
Health and Safety Science Abstracts
MEDLINE®
International Packaging Abstracts
Research Alert
Toxicology Abstracts
Scopus

EDITORIAL BOARD

Editor-in-Chief
José L. Domingo, Lab.Toxicology and Environmental Health, School of Medicine, IISPV, Universitat Rovira i Virgili, Sant Llorenç 21, 43201, Reus, Catalonia, Spain

Co-Editors
Michael Aschner, Dept. of Molecular Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York, NY 10461, USA
Bryan Delaney, Research Fellow – Toxicology, DuPont Pioneer, Global Industry Affairs and Regulatory, 7100 NW 62nd Avenue, Johnston, Iowa, 50131, USA
Siegfried Knasmüller, Inst. of Cancer Research, Environmental Toxicology Group, Medical University Vienna, Inner Medicine I, Borschkegasse 8a, A-1090, Vienna, Austria
Chada Reddy, Dept. of Biomedical Sciences, University of Missouri, E102 Veterinary Medical Building, 1600 Rollins, Columbia, Missouri, 65211, USA

RIFM Guest Editor
Aristides Tsatsakis, Dept. of Forensic Sciences and Toxicology, University of Crete, 71409, Heraklion, Greece
Associate Editors

Silvia Berlanga de Moraes Barros, School of Pharmaceutical Sciences, Universidade de São Paulo, Av.Prof.Lineu Prestes, S80, 05508-000 São Paulo, Brazil
Qasim Chaudhry, DEFRA Central Science Laboratory, The Food and Environment Research Agency, Sand Hutton, York, Y041 1LZ, UK
Roger Clemens, University of Southern California School of Pharmacy, Los Angeles, California, USA
Mark Feeley, Bureau of Chemical Safety, Chemical Hazard Assessment Division, Health Canada, Tunney’s Pasture, Ottawa, K1A 0L2, Ontario, Canada
Swaran Jeet Singh Flora, National Institute of Pharmaceutical Education and Research, Shree Bhawani Paper Mill Road - ITI compound, 229010, Raebareli, India
Guillermima Font, Fac. of Pharmacy, Dept. of Preventive Medicine, Universitat de València, Avgda Vicent Andres Estelies s/n, Burjassot, 46100, Valencia, Spain
Milan Georgiev, Inst. of Microbiology, Bulgarian Academy of Sciences, 139 Ruski Boulevard, 4000, Plovdiv, Bulgaria
Salmann Inayat-Hussain, Group Health, Safety and Environment Division, Head, Global Toxicology, Petroleum Nasional Berhad, Level 45, Tower 1, PETRONAS Twin Towers, KLCC, 50088, Kuala Lumpur, Malaysia
Demetrios Kouretas, Dept. of Biochemistry & Biotechnology, University of Thessaly, Larissa, Greece
Claire L. Kruger, Director of Health Sciences, Spherix Incorporated, 6430 Rockledge Dr., Westmoreland Bldg. #503, Bethesda, MD 20817, USA
Byung-Mu Lee, College of Pharmacy, Div. of Toxicology, Sungkyunkwan University (SKKU), Cheoncheon-dong 300, 440-746, Suwon, Gyeonggi-do, The Republic of Korea
Palma Ann Marone, Toxicology and Pathology Associates, LLC, Pharmacology and Toxicology, Virginia Commonwealth University, School of Medicine
Yeohwua Park, Dept. of Food Science, University of Massachusetts at Amherst, Amherst, Massachusetts, MA, USA
Ivonne M.C.M. Rietjens, Sectie Toxicologie, Agrotechnologie en voedingswetenschappen (AFSG), Wageningen Universiteit, Postbus 8000, Bodenumber 92, 6700 EA, Wageningen, Netherlands
Saura Sahu, Office of Applied Research and Safety Assessment, FDA, Center for Food Safety and Applied Nutrition, 8301 Muirkirk Road, Laurel, Maryland, 20708, USA
Dieter Schrenk, Dept. of Food Chemistry and Environmental Toxicology, Technische Universität Kaiserslautern, Erwin-Schroedinger-Str. 52, D-67663, Kaiserslautern, Germany

Emeritus Editors

Alan R. Boobis, Experimental Medicine and Toxicology, Div. of Investigative Science, Imperial College London, Hammersmith Campus, Du Cane Road, W12 0NN, London, UK
Joseph F. Borzelleca, President, Toxicology & Pharmacology, Inc., 8718 September Drive, Richmond, Virginia, VA 23229-7319, USA
A. Wallace Hayes, Dept. of Environmental Health, Harvard T.H. Chan School of Public Health, 300 Longwood Ave., Boston, Massachusetts, MA 02115-5747, USA
Hans Verhagen, Centre for Nutrition and Health (PB84), Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Postbus 1, 3720 BA Bilthoven, Netherlands

Founding Editor

The late Leon Golberg

International Editorial Board

Mohamed Abdelmegeed, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health (NIH), Bethesda, Maryland, USA
Naveen Arora, Allergen Biology, CSIR Institite of Genomics and Integrative Biology, New Delhi, India
Susan Barlow
Andrew Bartholomaeus, School of Pharmacy, University of Canberra, Canberra, Australia
Nursen Basaran, Pharmaceutical Toxicology Department, Hacettepe University, Sihhiye, Ankara, Turkey
Maurizio Battino, Dipartimento di Scienze Cliniche Specialistiche ed Odontostomatologiche, Università Politecnica delle Marche, Ancona, Italy
Albert Braeuning, Dept. Food Safety, Federal Institute for Risk Assessment (BfR) Bundesinstitut für Risikobewer, Berlin, Germany
Felix Carvalho, Faculty of Pharmacy, Universidade do Porto, Porto, Portugal
Martin Clift, College of Medicine, Swansea University, Swansea, UK
T.F.X. Collins, Chevy Chase, Maryland, USA
Adrian Covaci, Toxicological Center, University of Antwerp, Wilrijk, Belgium
Deven Dandekar, Xenometrics LLC, Stilwell, Kansas, USA
Mukul Das, Food, Drug and Chemical Toxicology Group, Indian Institute of Toxicology Research, Lucknow, India
Barry Delcos, National Center for Toxicological Research (U.S. Food & Drug Admin), Jefferson, Arkansas, USA
Daniel Doerge, National Center for Toxicological Research (U.S. Food & Drug Admin), Jefferson, Arkansas, USA
Maria Dusinska, Norwegian Institute for Air Research, Kjeller, Norway
Margherita Ferrante, Department G. F. Ingrassia, Catania University, Catania, Italy
Isabel Ferreira, Campus de Santa Apolonia, Instituto Politecnico de Braganca (IPB), Braganca, Portugal
Metka Filipic, Dept. for Genetic Toxicology and Cancer Biology, National Institute of Biology, Ljubljana, Slovenia
Kirill Golokhvast, Far Eastern Federal University, Vladivostok, Russian Federation
Kamil Kuca, Biomedical Research Center, University Hospital Hradec Králové, Hradec Kralove, Czech Republic
Pamela Magee, School of Biomedical Sciences, Ulster University, Coleraine Co., Londonderry, Northern Ireland, UK
Howard I. Maibach, Dept. of Dermatology, University of California at San Francisco (UCSF), San Francisco, California, USA
Alberto Mantovani, Dept. of Veterinary Public Health & Food Safety, Istituto Superiore di Sanità, Rome, Italy
Andrey Nikiforov, Toxicology Regulatory Services, Charlottesville, Virginia, USA
Andreas Tsakalof, School of Medicine, University of Thessaly, Larissa, Greece
L.G. Valerio, Jr., Silverspring, Maryland, USA
Paul White, Environmental and Radiation Health Sciences Directorate, Health Canada, Ottawa, Ontario, Canada
Jianbo Xiao, University of Macau, Taipa, Macau, China
GUIDE FOR AUTHORS

Your Paper Your Way
We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.
To find out more, please visit the Preparation section below.

INTRODUCTION

Food and Chemical Toxicology (FCT), an internationally renowned journal, aspires to publish original research articles and reviews on toxic effects, in animals or humans, of natural or synthetic chemicals occurring in the human environment with particular emphasis on food, drugs, and chemicals, including agricultural and industrial safety, and consumer product safety. Areas such as safety evaluation of novel foods and ingredients, biotechnologically-derived products, and nanomaterials are included in the scope of the journal. FCT also encourages submission of papers on inter-relationships between nutrition and toxicology and on in vitro techniques, particularly those fostering the 3 Rs.

The principal aim of the journal is to publish high impact, scholarly work and to serve as a multidisciplinary forum for research in toxicology. Papers submitted will be judged on the basis of scientific originality and contribution to the field, quality and subject matter. Studies should address at least one of the following: Physiological, biochemical, or pathological changes induced by specific substances Techniques for assessing potential toxicity, including molecular biology Mechanisms underlying toxic phenomena Toxicological examinations of specific chemicals or consumer products, both those showing adverse effects and those demonstrating safety, that meet current standards of scientific acceptability.

Manuscripts concerning materials/substances of only local interest for which the chemical composition of the material/substance is not clearly defined will not be considered. Manuscripts addressing only pharmacological properties, or only potentially beneficial effects using in in vitro or in vivo systems, are not within the scope of the journal.

FCT is committed to the highest standards. Only papers that have not been previously published, that fit in the above mentioned scope, and that have been reviewed by experts in the field prior to publication will be accepted. Cover letters must state that the paper is new and original and not under consideration for publication elsewhere. Papers pending in other journals will not be considered. Co-authors should be individuals who have contributed substantially to the content of the papers.

Types of paper
The Journal's main purpose is the publication of papers reporting and interpreting original unpublished toxicological research, particularly studies promoting an understanding of the mechanisms underlying toxic effects or improvements in methods for predicting adverse effects. Papers reporting the toxicological examination of specific foods, chemicals or consumer products will be published, irrespective of the positive or negative nature of the results, provided the tests and reporting meet current standards of acceptability. In addition, Short Communications will also be considered, as will concise interpretative Reviews of toxicological topics of contemporary significance. Letters to the Editor will be limited to comments on contributions already published in the journal; if a letter is accepted, a response (for simultaneous publication) will be invited from the authors of the original contribution. All Letters to the Editor should be submitted to the Editor in Chief, Jose L. Domingo through the online submission system of the Journal.

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.

**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.

**Conflict of interest**
*Food and Chemical Toxicology* follows the ICMJE recommendations regarding conflict of interest disclosures. All authors are required to report the following information with each submission: All third-party financial support for the work in the submitted manuscript. All financial relationships with any entities that could be viewed as relevant to the general area of the submitted manuscript. All sources of revenue with relevance to the submitted work who made payments to you, or to your institution on your behalf, in the 36 months prior to submission. Any other interactions with the sponsor of outside of the submitted work should also be reported. Any relevant patents or copyrights (planned, pending, or issued). Any other relationships or affiliations that may be perceived by readers to have influenced, or give the appearance of potentially influencing, what you wrote in the submitted work.

As a general guideline, it is usually better to disclose a relationship than not. This information will be acknowledged at publication in a Transparency Document. Additional information on the ICMJE recommendations can be found at: http://www.icmje.org. The form for conflict of interest disclosure
Submission declaration
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.

Submission declaration and verification
Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see http://www.elsevier.com/postingpolicy), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service CrossCheck http://www.elsevier.com/editors/plagdetect.

Each manuscript must also be accompanied by a cover letter outlining the basic findings of the paper and their significance. Furthermore, it is understood that with submission of this article the authors have complied with the institutional policies governing the humane and ethical treatment of the experimental subjects (i.e. animals and human subjects), and that they are willing to share the original data and materials if so requested.

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

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

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

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

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 required 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. Please see http://www.elsevier.com/funding.

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

Open access
This journal offers authors a choice in publishing their research:

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

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

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

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:
Creative Commons Attribution (CC BY)
Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 2800**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

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

This journal has an embargo period of 12 months.

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

Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the [English Language Editing service](https://www.elsevier.com/elsevierresearcheracademy) available from Elsevier's WebShop.

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
The Editors require submissions by the authors of the names and addresses of 4 potential reviewers for this submission. The institutional address and e-mail address are required. At least 2 of the referees should be from a different country to the corresponding author’s. The Editors reserve the right to use these or other reviewers.

PREPARATION

NEW SUBMISSIONS
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 your files to a single PDF file, which is used in the peer-review process. As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality...
figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

References
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.

Formatting requirements
There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

Please ensure the text of your paper is double-spaced – this is an essential peer review requirement.

Figures and tables embedded in text
Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

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

REVISED SUBMISSIONS
Use of word processing software
Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). 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 - 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.

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 lowercase 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.

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 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.

Highlights
Please amend your research highlights so that they consist of 3 to 5 brief bullet points which convey the core findings of your work. Please ensure EACH bullet point does NOT exceed 125 characters (including spaces). An example is given below:

RESEARCH HIGHLIGHTS EXAMPLE:

* Research highlights are a mandatory field of a submitted paper & therefore should not exceed 85 characters including spaces.

Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using British 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**
Abbreviations should be used sparingly; they should be defined when first used in the paper but also listed in alphabetical order under *Abbreviations* as a footnote to the title page (see above).

**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.).

**Nomenclature and units**
All measurements should be expressed in metric, preferably SI, units. Test chemicals and enzymes must be clearly identified, IUPAC and CAS names being used, wherever possible with the aid of CAS Registry and EC numbers. Pesticides should be referred to be their ISO names and human and veterinary drugs by their INNs.

**Footnotes**
Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

**Artwork**

*Electronic artwork*

**General points**
- Make sure you use uniform lettering and sizing of your original artwork.
- Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Indicate per figure if it is a single, 1.5 or 2-column fitting image.
- For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
- Please note that individual figure files larger than 10 MB must be provided in separate source files.

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**
Regardless of the application used, 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 the font or save the text as 'graphics'.
- TIFF (or JPEG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.
- TIFF (or JPEG): Bitmapped line drawings: use a minimum of 1000 dpi.
- TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

**Please do not:**
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- 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. 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.

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

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

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/food-and-chemical-toxicology

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: All citations in the text should refer to:
1. Single author: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. Two authors: both authors' names and the year of publication;
3. Three or more authors: first author's name followed by 'et al.' and the year of publication.
Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.
Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).... Or, as demonstrated (Jones, 1999; Allan, 2000).... Kramer et al. (2010) have recently shown ...'
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:
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.

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

**Research data**

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

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

**Data linking**

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

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

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

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

**Mendeley Data**

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

**Data in Brief**

You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for *Data in Brief* as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to *Data in Brief* where it will be editorially reviewed and published in the open access data journal, *Data in Brief*. Please note an open access fee of 500 USD is payable for publication in *Data in Brief*. Full details can be found on the *Data in Brief* website. Please use this template to write your *Data in Brief*.

**MethodsX**

You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will
automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the MethodsX website. Please use this template to prepare your MethodsX 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.

AFTER ACCEPTANCE
Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

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

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