



## TABLE OF CONTENTS

•	<b>Description</b>	<b>p.1</b>
•	<b>Abstracting and Indexing</b>	<b>p.2</b>
•	<b>Editorial Board</b>	<b>p.2</b>
•	<b>Guide for Authors</b>	<b>p.4</b>



ISSN: 2352-3646

## DESCRIPTION

The *NFS Journal* publishes high-quality original research articles and methods papers presenting cutting-edge scientific advances as well as review articles on current topics in all areas of **nutrition** and **food science**. The journal particularly invites submission of articles that deal with subjects on the interface of **nutrition** and **food research** and thus connect both disciplines. The journal offers a new form of submission **Registered Reports** (see below). *NFS Journal* is a forum for research in the following areas:

- Understanding the role of **dietary factors** (**macronutrients** and **micronutrients**, **phytochemicals**, **bioactive lipids** and **peptides** etc.) in **disease prevention** and maintenance of **optimum health**
- **Prevention** of **diet-** and **age-related pathologies** by **nutritional approaches**
- **Advances** in **food technology** and **food formulation** (e.g. novel strategies to reduce **salt**, **sugar**, or **trans-fat** contents etc.)
- Nutrition and food **genomics**, **transcriptomics**, **proteomics**, and **metabolomics**
- Identification and characterization of food components
- **Dietary sources** and **intake** of **nutrients** and **bioactive compounds**
- **Food authentication** and **quality**
- **Nanotechnology** in nutritional and food sciences
- (Bio-) **Functional properties** of foods
- **Development** and **validation** of novel **analytical** and **research methods**
- **Age-** and **gender-differences** in **biological activities** and the **bioavailability** of **vitamins**, **minerals**, and **phytochemicals** and other **dietary factors**
- Food **safety** and **toxicology**
- **Food** and **nutrition security**
- **Sustainability** of **food production**

### Benefits to authors

**Registered Reports:** *NFS Journal* offers pre-registration of the study design, planned experiments, and hypothesis and, if these are deemed interesting and worth publishing by members of the editorial board and outside expert reviewers, researchers will be able to publish their pre-registered studies in the journal irrespective of the outcome of the experiments, as long as the experiments have been performed accurately and data analyses and interpretation are according to the highest scientific standards and follow the pre-registered procedures. In order for authors to react to unforeseen and

exciting results, it will be possible to report additional exploratory analyses within a specific section of the Registered Reports.

We also provide many **author benefits**, such as **unlimited space** and **no restrictions on the number of tables and figures** that can be presented, free PDF files, a **liberal copyright policy**, and much more.

## ABSTRACTING AND INDEXING

---

Scopus  
Directory of Open Access Journals (DOAJ)

## EDITORIAL BOARD

---

### *Editor-in-Chief*

**Jan Frank**, Universität Hohenheim, Stuttgart, Germany  
Human nutrition, phytochemicals, bioavailability, tocopherols, tocotrienols, pharmacokinetics, human trials, animal models • Micronutrients • Vitamin E • Polyphenols • Biochemistry

### *Deputy Editor-in-Chief*

**Walter Vetter**, Universität Hohenheim, Stuttgart, Germany  
Food chemistry & analysis

### *Scientific Advisory Board*

**Helmut Sies**, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany

### *Editorial Board Members*

**Fernanda Abadio Finco**, Federal University of Rio de Janeiro, Brazil  
Phytochemicals, underutilised crops

**Emmanuel Ohene Afoakwa**, University of Ghana, Legon-Accra, Ghana  
Food technology

**Marc Biringier**, Fulda University of Applied Science, Fulda, Germany  
Analytical methods, Secondary plant ingredients, Vitamins, Metabolism

**Brad Bolling**, University of Connecticut, Connecticut, USA  
Polyphenols and other dietary bioactives, bioactive pigments, metabolism and bioavailability, nuts and berries, quantitative methods, inflammation, gut health

**Consuelo Borrás**, University of Valencia, Spain  
Aging, oxidative stress, gender, longevity, stem cells, phytoestrogens

**Anja Bosy-Westphal**, University of Hohenheim, Stuttgart, Germany  
Human intervention trials, energy balance

**Richard S. Bruno**, The Ohio State University, Columbus, Ohio, USA  
Vitamins, human intervention, animal models

**Silvio Buscemi**, Università degli Studi di Palermo, Palermo, Italy  
Clinical nutrition, diabetes mellitus type 2, obesity, cardiovascular risk

**Gang Chen**, Chinese Academy of Agricultural Sciences, China  
Chemical analysis, food contaminants, toxicology

**Niki Chondrogianni**, National Hellenic Research Foundation, Athens, Greece  
Proteasome, protein oxidation

**Alan Crozier**, University of Glasgow, Glasgow, Scotland, UK  
Bioavailability of dietary polyphenols, metabolism of phytochemicals, metabolomics, phytochemistry

**Sonia de Pascual-Teresa**, Consejo Superior de Investigaciones Científicas (CSIC), Spain  
Bioefficacy of food components, polyphenols and health, cell culture, molecular mechanisms, bioavailability and metabolism

**Daniele Del Rio**, University of Parma, Parma, Italy  
Human nutrition, metabolism, phytochemicals, metabolomics

**Gunter Eckert**, Goethe-Universität Frankfurt, Frankfurt, Germany  
Mitochondria, aging, cognition

**Sarah Egert**, University of Bonn, Bonn, Germany  
Human intervention trials, fatty acids

**W. Florian Fricke**, University of Hohenheim, Stuttgart, Germany  
Bacteria, gut, intestine, microbiome

**Sami Ghnimi**, Ghent University, Incheon, The Republic of Korea  
Electrotechnologies for food preservation, membrane science and technology, food formulation

**Lutz Graeve**, University of Hohenheim, Stuttgart, Germany  
Cell culture, molecular biology

**Giuseppe Grosso**, Università degli Studi di Catania, Catania, Italy  
Nutritional epidemiology, public health nutrition

**Tilman Grune**, German Institute of Human Nutrition, Nuthetal, Germany  
Toxicology, redox chemistry, redox signalling, molecular biology, aging

**Victor Jiménez**, Universidad de Costa Rica, Costa Rica  
Plant foods, food security

**Afaf Kamal-Eldin**, United Arab Emirates (UAE) University, United Arab Emirates  
Lipids, lipid oxidation, antioxidants, chemistry

**Nesrin Kartal Özer**, Marmara University, Istanbul, Turkey  
Redox biology, signaling, age related diseases, micronutrients

**Joyce Kinabo**, Sokoine University, Morogoro, Tanzania  
Nutrition physiology, community nutrition

**Lenka Kourimska**, Czech University of Life Sciences, Prague, Czech Republic  
Food chemistry and analysis, sensory analysis, lipid oxidation and natural antioxidants, milk and dairy products quality

**Henok Kurabachew**, Hawassa University, Hawassa, Ethiopia  
Phytobacteriology, food security

**Rikard Landberg**, Sveriges lantbruksuniversitet (SLU), Uppsala, Sweden  
Method development, chemical analysis, phytochemicals, metabolism, epidemiology, and human intervention trials

**Jianfen Liang**, China Agricultural University, Beijing, China  
Food, nutrition, minerals, trace elements, cereal science, baked foods

**John Lodge**, Northumbria University, Newcastle upon Tyne, England, UK  
LC-MS metabolomics, vitamins, humans

**Ali Moazzami**, Sveriges lantbruksuniversitet (SLU), Uppsala, Sweden  
Nutritional metabolomics, metabolomic method development, nuclear magnetic resonance spectrometry

**Gerald Münch**, Western Sydney University, Sydney, New South Wales, Australia  
Inflammation, glycation, oxidative stress, Alzheimer's disease

**Andrew Neilson**, Virginia Polytechnic Institute & State University, Blacksburg, Virginia, USA  
Food science, food chemistry, natural products, phytonutrients, xenobiotics, polyphenols (catechins, procyanidins, condensed tannins), HPLC, UPLC, mass spectrometry, electrochemical detection, solid-phase extraction, obesity, diabetes, glucose, insulin, digestion, absorption, bioavailability, pharmacokinetics, colon, intestines, fish oil, eicosanoids, prostaglandins, inflammation

**Alastair Ross**, Chalmers University of Technology, Göteborg, Sweden  
GC-MS metabolomics, animal trials, human trials

**Geoffrey Savage**, Lincoln University, Christchurch, New Zealand  
Food biochemistry and analysis, plant foods, toxic components in foods, metabolic effects

**Nanette Ströbele-Benschop**, University of Hohenheim, Stuttgart, Germany  
Nutritional psychology, behavioral sciences

**Sascha Venturelli**, Eberhard-Karls-Universität Tübingen, Tübingen, Germany  
Epigenetics, cancer, cells

**Benno Zimmermann**, University of Bonn, Bonn, Germany  
Method development, analytical sciences, flavonoids, food chemistry

## GUIDE FOR AUTHORS

---

The **NFS Journal** publishes high-quality single-blind peer-reviewed original research articles and methods papers presenting cutting-edge scientific advances as well as review articles on current topics in all areas of **nutrition** and **food science**. The journal particularly invites submission of articles that deal with subjects on the interface of **nutrition** and **food research** and thus connect both disciplines. The journal offers a new form of submission **Registered Reports** (see below).

### **Types of paper**

Full-length research articles, Review articles, Registered Reports, Hypothesis papers, Methods articles and Letters to the Editor. Original Articles: Original articles are the normal medium of publication. Although there is no fixed length, articles should be as concise as possible, while providing sufficient information for the work to be repeated and for the claims of the authors to be judged by the readers. Reviews: These are contributed by scientists who are leading specialists in their field of expertise, normally at the invitation of the Editors. Authors wishing to contribute a review paper are advised first to contact the Editor-in-Chief, Prof. Jan Frank. Please e-mail the outline and abstract of the proposed review to [jan.frank@nutres.de](mailto:jan.frank@nutres.de) before submission. Letters to the Editor: Letters to the Editor are intended to stimulate discussion and debate in areas of general concern and controversy and deal with the interface between nutrition and food research, and generally reflect the personal opinions of the author(s). They should be written in a continuous style and should normally not exceed two printed pages and contain no more than one figure and table. Registered Reports: These submissions undergo a two-phase review process in which study rationale and methodology are considered prior to the research being undertaken (click [here](#) for more details)

### **Contact details for submission**

Papers should be submitted using the NFS Journal online submission system, <https://www.evise.com/profile/api/navigate/NFS>. For questions on the submission or reviewing process, please contact the Editorial Office at [jan.frank@nutres.de](mailto:jan.frank@nutres.de).

### **Page charges**

This title is fully open access and therefore funded not through library subscription payments but through author fees. If you would like your article to be published open access, but you genuinely cannot afford these fees, then individual waiver requests are considered on a case-by-case basis and may be granted in cases of genuine need. Priority for this waiver programme will be given to applications by authors from countries eligible for the Research4Life programme. See <http://www.research4life.org/institutions.html>

### **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](#).

### *Human and animal rights*

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; [Uniform Requirements for manuscripts submitted to Biomedical journals](#). 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.

### *Declaration of interest*

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. [More information](#).

### *Submission declaration and verification*

Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see '[Multiple, redundant or concurrent publication](#)' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service [Crossref Similarity Check](#).

### *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 an 'Exclusive License Agreement' (see [more information](#) on this). Permitted third party reuse of open access articles is determined by the author's choice of [user license](#).

### **Author rights**

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

### *Elsevier supports responsible sharing*

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

### **Role of the funding source**

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

### *Funding body agreements and policies*

Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the 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 (CC BY)*

Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

#### *Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)*

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

The open access publication fee for this journal is **USD 1250**, excluding taxes. Learn more about Elsevier's pricing policy: <http://www.elsevier.com/openaccesspricing>.

### *Language (usage and editing services)*

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

### **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 and copies of the consents or evidence that such consents have been obtained must be provided to

Elsevier on request. 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.

### **Submission**

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

#### *Submit your article*

Please submit your article via <https://www.elsevier.com/profile/api/navigate/NFS>.

#### *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**

### **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. Lines should be numbered consecutively from beginning to end and line numbers should be placed on the left side of the page.

### **Peer review**

This journal operates a single blind review process. All contributions are typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. [More information on types of peer review](#).

#### *Use of word processing software*

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the [Guide to Publishing with Elsevier](#)). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

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

### **Article structure**

#### *Subdivision - numbered sections*

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

### *Introduction*

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

### *Material and methods*

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

### *Theory/calculation*

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

### *Results*

Results should be clear and concise.

### *Discussion*

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

### *Conclusions*

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

### *Appendices*

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

### **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.

### **Structured abstract**

A structured abstract, by means of appropriate headings, should provide the context or background for the research and should state its purpose, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), and principal conclusions. It should emphasize new and important aspects of the study or observations.

### *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*

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

### **Keywords**

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

### *Abbreviations*

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

### *Acknowledgements*

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.

### *Units*

Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

### *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**

#### *Image manipulation*

Whilst it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

## *Electronic artwork*

### *General points*

- Make sure you use uniform lettering and sizing of your original artwork.
- Embed the used fonts if the application provides that option.
- Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Size the illustrations close to the desired dimensions of the published version.
- Submit each illustration as a separate file.

A detailed [guide on electronic artwork](#) is available.

**You are urged to visit this site; some excerpts from the detailed information are given here.**

### *Formats*

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.

Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings, embed all used fonts.

TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.

TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.

TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

### **Please do not:**

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

### *Illustration services*

[Elsevier's WebShop](#) 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 encouraged.

A DOI can be used to cite and link to electronic articles where an article is in-press and full citation details are not yet known, but the article is available online. 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 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 pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

#### *Reference style*

*Text:* Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

*List:* Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

#### *Examples:*

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13 March 2003).

Reference to a dataset:

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

#### *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.

## AudioSlides

The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. [More information and examples are available](#). Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

## 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 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, at no cost, will be provided with a PDF file of the article via e-mail (the PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use). 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](#). Authors requiring printed copies of multiple articles may use Elsevier WebShop's '[Create Your Own Book](#)' service to collate multiple articles within a single cover.

## **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>