DESCRIPTION

*Reproductive BioMedicine Online* covers the **formation, growth** and **differentiation** of the **human embryo**. It is intended to bring to public attention new research on biological and clinical research on **human reproduction** and the human embryo including relevant studies on animals. It is published by a group of scientists and clinicians working in these fields of study. Its audience comprises researchers, clinicians, practitioners, academics and patients.

**Context:**
The period of human embryonic growth covered is between the formation of the primordial germ cells in the fetus until mid-pregnancy. High quality research on lower animals is included if it helps to clarify the human situation. Studies progressing to birth and later are published if they have a direct bearing on events in the earlier stages of pregnancy.

**Benefits to authors**
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our **author services**.

Please see our **Guide for Authors** for information on article submission. If you require any further information or help, please visit our **Support Center**

**IMPACT FACTOR**

2017: 2.967 © Clarivate Analytics Journal Citation Reports 2018

**ABSTRACTING AND INDEXING**

Current Contents / Clinical Medicine  
Science Citation Index Expanded  
EMBASE  
Scopus  
MEDLINE®  
SciFinder  
EBSCOhost
EDITORIAL BOARD

Chief Editor
Bart Fauser, Utrecht, Netherlands

Founder
Robert G. Edwards * †

Emeritus Senior Editor
J. Cohen *, Reprogenetics, Livingston, New Jersey, USA

Editors
Mina Alikani, Manhasset, New York, USA
Richard Anderson, Edinburgh, Scotland, UK
Juan García-Velasco, Madrid, Spain
Martin Johnson, Cambridge, England, UK

Section Editors

Experimental Reproductive Biology
Aaron Hsueh, Stanford, California, USA
David-Emlyn Parfitt, New York, New York, USA
Jonathan Van Blerkom, Boulder, Colorado, USA

Clinical Embryology
Elpida Fragouli, Oxford, UK
David Gardner, Parkville, Australia
Henry Malter, Greenville, South Carolina, USA
Zsolt Peter Nagy*, Atlanta, Georgia, USA
Dagan Wells, Oxford, UK

Assisted Reproductive Technology
Christophe Blockeel, Brussels, Belgium
Robert Casper, Toronto, Ontario, Canada
Pasquale Patrizio, New Haven, Connecticut, USA
John Yovich, Leederville, Western Australia, Australia

Infertility
Antonio Gargiulo, Boston, Massachusetts, USA
Georg Griesinger, Lübeck, Germany
Efstratios Kolibianakis, Thessaloniki, Greece
Tin-Chiu Li, Shatin, N.T., Hong Kong
Joe-Leigh Simpson, Miami, Florida, USA
Andrea Weghofer, Vienna, Austria

Male Reproduction and Fertility
Christopher De Jonge, Minneapolis, Minnesota, USA
Erma Drobnis, Columbia, Missouri, USA
Pierre Ray, Grenoble, France

Periconception, Pregnancy and Child Outcomes
Signe Altmäe, Granada, Spain
Cornelius Lambalk, Amsterdam, Netherlands
Michael Ludwig, Hamburg, Germany
Anja Pinborg, Copenhagen, Denmark

Reproductive Endocrinology and Health
Ioannis Messinis, Larissa, Greece
Emre Seli, New Haven, Connecticut, USA

Social Media Editor
Kimberley Dodd, London, UK

Statistical Advisors
Helen Saunders, Geneva, Switzerland
Eurof Walters, Cambridge, UK
Editorial Board
Ashok Agarwal, Cleveland, Ohio, USA
John Aitken, Newcastle, NSW, Australia
Monica Antinori, Rome, Italy
Basak Balaban, Istanbul, Turkey
Izhar Ben-Shlomo, Haifa, Israel
Virginia Bolton, London, UK
Andrea Borini, Bologna, Italy
Ernesto Bosch, Valencia, Spain
Jan Brosens, Coventry, UK
Alexander Bruce, Ceske Budejovice, Czech Republic
Ana Cobo, Valencia, Spain
Petra De Sutter, Ghent, Belgium
Thomas Ebner, Linz, Austria
Simon Fishele, Nottingham, UK
Jose Franco, Jr, Ribeirão Preto, Brazil
Samir Hamamah, Montpellier, France
Alan Handyside, London, UK
Chris Hansis, New York, NY, USA
Geraldine Harthorne, Coventry, UK
Outi Hovatta, Huddinge, Sweden
Semra Kahraman, Istanbul, Turkey
Anver Kuliev, Chicago, IL, USA
Masashige Kuwayama, Tokyo, Japan
Sheena Lewis, Belfast, Northern Ireland, UK
Dennis Lo, Hong Kong, China
Marcos Meseguer, Valencia, Spain
Markus Montag, Heidelberg, Germany
Tetsunori Mukaida, Hiroshima, Japan
Santiago Munné *, West Orange, NJ, USA
Willem Ombelet, Genk, Belgium
Jie Qiao, Beijing, China
Catherine Racowsky, Boston, MA, USA
Svetiana Rechtsky, Chicago, IL, USA
Laura Rienzi, Rome, Italy
Andrew Sharkey, Cambridge, UK
Eric Surrey, Lone Tree, CO, USA
Jason Swain, Ann Arbor, MI, USA
Chii-Ruey Tzeng, Taipei, Taiwan
Pierre Vanderzwalmen, Brussels, Belgium
Steven Young, Chapel Hill, NC, USA

Emeritus Editorial Board
Kamal Ahuja *, London, UK
Safaa Al-Hasani, Luebeck, Germany
Hesham Al-Inany, Cairo, Egypt
Gulam Bahadur, London, UK
Juan Balasch, Barcelona, Spain
Jose Balmaceda, Santiago, Chile
Henning Beier, Aachen, Germany
Giuseppe Benagiano*, Rome, Italy
David Cram, Clayton, VIC, Australia
Jim Cummins, Murdoch, WA, Australia
Joao Cunha-Filho, Porto Alegre, Brazil
Salim Daya, Hamilton, Canada
Arun Dharmarajan, Nedlands, WA, Australia
Klaus Diedrich, Luebeck, Germany
Bruce Dunphy, Nova Scotia, Canada
Ursula Eichenlaub-Ritter, Bielefeld, Germany
Kay Elder, Cambridge, UK
Necati Fındıklı, Istanbul, Turkey
Sarah Franklin, Cambridge, UK
René Frydman, Clamart, France
Norbert Gleicher, New York, NY, USA
Victor Gomel, Vancouver, Canada
Timur Gürgan, Ankara, Turkey
Peter Hollands, London, UK
INTRODUCTION
This journal covers the formation, growth, implantation and early development of the human embryo and placenta. It is intended to bring to public attention new research on biological and clinical aspects of human reproduction and the human embryo, including relevant studies on animals. Its audience comprises researchers, clinicians, practitioners, academics and patients.

Context
The period of human embryonic growth covered is between the formation of the primordial germ cells in the fetus until mid-pregnancy. High quality research on lower animals is included if it helps to clarify the human situation. Studies progressing to birth and later are published if they have a direct bearing on events in the earlier stages of pregnancy.

Relevant topics
- Experimental reproductive biology
- Clinical embryology
- Assisted reproductive biology
- Infertility
- Male reproduction and fertility
- Periconception, pregnancy and child outcomes
- Reproductive endocrinology and health

Types of papers
Full Length Articles: a full-length report of original basic or clinical investigation. A Structured Abstract (which must include the following headings: Research Question, Design, Results, Conclusions) of no more than 255 words is required. This should be comprehensible to readers before they read the article. Avoid abbreviations and reference citations. The rest of the paper should be structured as follows: Introduction, Materials and methods, Results, Discussion, Acknowledgements, References. RBMOnline gives priority to reports of original research that are likely to change clinical practice or thinking about a disease. Submission of randomized controlled trials requires inclusion of a checklist and flowchart in accordance with the CONSORT guidelines and the registration number of the trial and the name of the trial registry.

Short communications: these must not exceed 1,000 words with no more than one table or illustration and five references. A Structured Abstract (which must include the following headings: Research Question, Design, Results, Conclusions) of no more than 255 words is required. The text should be structured in four parts: Introduction, Methods, Results and Discussion.

Review articles: a comprehensive review of prior publications relating to an important clinical subject. An abstract of no more than 200 words is required, presented in a single paragraph with no subheadings. The Introduction should indicate why the topic is important and should state the specific objective(s) of the review. The Conclusion should include the clinical implications and observations regarding the need for additional research. Systematic reviews should follow the PRISMA guidelines. Meta-analysis of observational studies should follow the MOOSE guidelines.

Further information can be obtained from the EQUATOR web site: http://www.equator-network.org/resource-centre/library-of-health-research-reporting/reporting-guidelines

Commentaries: for topics that authors wish to 'air'. Must not exceed 2,000 words with no more than one table or illustration and 10 references. An abstract in a single paragraph with no subheadings, 200 words maximum is required. The text can be unstructured or structured under headings of author’s choice.

Letters to the Editor: a question or challenge to an article published recently in RBMOnline. Letters must be received within 6 weeks of publication of the article to which they refer and should be no longer than 250 words.

Obituaries, Young Investigator Reviews and Mini-reviews are published by invitation only from the Editors.
Contact details for submission
Authors may send queries concerning the submission process, manuscript status, or journal procedures to the RBMOnline Editorial Office at office@rbmonline.com

Submission checklist
You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
- E-mail address
- Full postal address

All necessary files have been uploaded:
Manuscript:
- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print
Graphical Abstracts / Highlights files (where applicable)
Supplemental files (where applicable)

Further considerations
- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

BEFORE YOU BEGIN

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Human and animal rights
If the work involves the use of animal or 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 http://www.wma.net/en/30publications/10policies/b3/index.html; EU Directive 2010/63/EU for animal experiments http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm; Uniform Requirements for manuscripts submitted to Biomedical journals http://www.icmje.org.

Ethical approval documentation
Ethical approval documentation is mandatory when submitting full-length articles and short communications, but not mandatory for other article types (reviews, commentaries). The documentation may take various forms. Authors would normally submit all proposed studies for consideration by their institution's Internal Review Board (IRB) or Ethics Committee. A copy of the response letter from the IRB or Ethics Committee, which clearly states that either approval is not required for the research to be undertaken, or that approval has been granted, which includes the IRB reference number as well as the date, should be uploaded as part of the submission. Alternatively, please provide a copy of the paragraph of your institution's IRB policy document (referenced and dated) which states that IRB approval is not required. The Editors will view all such documents carefully before deciding whether to proceed with further consideration of the submission.
Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

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

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').

Contributors
Each author is required to declare his or her individual contribution to the article: all authors must have materially participated in the research and/or article preparation, so roles for all authors should be described. The statement that all authors have approved the final article should be true and included in the disclosure.

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

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

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

**Reporting clinical trials**
Randomized controlled trials should be presented according to the CONSORT guidelines. At manuscript submission, authors must provide the CONSORT checklist accompanied by a flow diagram that illustrates the progress of patients through the trial, including recruitment, enrollment, randomization, withdrawal and completion, and a detailed description of the randomization procedure. This might be acceptable as supplementary information. The CONSORT checklist and template flow diagram can be found on http://www.consort-statement.org.

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

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. [More information.](#)

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

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

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

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

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.
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-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 2750, excluding taxes. Learn more about Elsevier's pricing policy: 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 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.

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 but copies should not be provided to the journal. Only if specifically requested by the journal in exceptional circumstances (for example if a legal issue arises) the author must provide copies of the consents or evidence that such consents have been obtained. For more information, please review the Elsevier Policy on the Use of Images or Personal Information of Patients or other Individuals. Unless
you have written permission from the patient (or, where applicable, the next of kin), the personal
details of any patient included in any part of the article and in any supplementary materials (including
all illustrations and videos) must be removed before submission.

**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 [http://ees.elsevier.com/rbmo](http://ees.elsevier.com/rbmo).

**Referees**

Please submit the names and institutional e-mail addresses of several potential referees. For more
details, visit our Support site. Note that the editor retains the sole right to decide whether or not the
suggested reviewers are used.

**PREPARATION**

**Peer review**

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

**Use of word processing software**

It is important that the file be saved in the native format of the wordprocessor 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 wordprocessor'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: [https://www.elsevier.com/guidepublication](https://www.elsevier.com/guidepublication)). Note
that source files of figures, tables and text graphics will be required. Please do not embed figures or
tables 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'
fuctions of your wordprocessor.

**Article structure**

**Subdivision - unnumbered sections**

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

**Introduction**

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

**Materials and methods**

Provide sufficient detail to allow the work to be reproduced. Methods already published should be
indicated by a reference: only relevant modifications should be described.

**Results**

Results should be clear and concise.

**Discussion**

This should explore the significance of the results of the work, not repeat them. Avoid extensive
citations and discussion of published literature. The main conclusions of the study should preferably
be presented as the final paragraph of the Discussion.
Appendices
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Vitae
Include in the manuscript a short (maximum 50 words) biography of the lead author, along with a passport-type photograph accompanying the other figures. The lead author may be other than the first author or the corresponding author.

Key Message
Immediately after the abstract, a short key message of approximately 50 words is required when submitting a review or an original research article. Please describe in two or three sentences the core findings of your paper, including why the work is important and what the implications might be.

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.

Abstract
A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. For Full Length Articles and Short Communications, a structured abstract is required which includes all of the following headings: Research Question, Design, Results, 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
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 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
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.

Nomenclature and units
Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI. You are urged to consult IUB: Biochemical Nomenclature and Related Documents for further information.

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

A detailed guide on electronic artwork is available.

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

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

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

EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.
Please do not:

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

Color artwork

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

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.

Please submit tables as editable text and not as images. Tables should be placed either at the end of the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.
Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

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

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

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/reproductive-biomedicine-online
When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

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 should be listed first alphabetically, then chronologically.
Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999). Kramer et al. (2010) have recently shown ....'
List: Include all authors and initials - do not use et al. 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 book:
Reference to a chapter in an edited book:
Reference to a dataset:

Removing Field Codes From A Manuscript
Electronic reference field codes/hyperlinks are embedded in a document as a reference list is assembled. They link references in a manuscript to the reference program. Only the author can remove them and they must be removed as they interfere with the publisher’s software. To remove field codes please refer to your electronic reference program for instructions.

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 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

Proofs
One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs which can be annotated; for this you will need to download the free Adobe Reader, version 9 (or higher). Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the Adobe site.

If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and scan the pages and return via e-mail. 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. We will do everything possible to get your article published quickly and accurately. 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