DESCRIPTON

The purpose of the International Journal of Pediatric Otorhinolaryngology is to concentrate and disseminate information concerning prevention, cure and care of otorhinolaryngological disorders in infants and children. This includes a broad range of clinical and pathological disorders involving the ears, nose, throat and associated structures. The Journal provides a medium for clinical and basic science contributions in all of the areas of pediatric otorhinolaryngology. This includes medical and surgical otology, bronchoesophagology, laryngology, rhinology, diseases of the head and neck, and disorders of communication. Given that this is a pediatric-focused journal, all submissions that deal with clinical populations should have a patient age range of 0-18 years of age. Manuscripts with patients outside of this age range will not be considered for publication. The journal typically does not publish case reports unless there is an exceptional and novel case report is a very unique or important area within pediatric otolaryngology. For all other cases and brief reports, consider submitting to Otolaryngology Case Reports. Letters to the Editor that provide "expert opinion" on a publication are not generally considered for publication unless there is novel data supplied within the letter that warrants independent consideration.

Published in cooperation with the American Academy of Pediatrics Section on Otolaryngology and Bronchoesophagology, the Asociación Argentina de Otorrinolaringología y Fonoaudiología Pediátrica, the Association Française d’Otorhinolaryngologie Pédiatrique, the Australasian Society of Paediatric Oto-Rhino-Laryngology, the British Association for Paediatric Otorhinolaryngology, the Dutch/Flemish Working Group for Pediatric Otorhinolaryngology, the European Society for Pediatric Otorhinolaryngology, the Hungarian Society of Otorhinolaryngologists Section on Pediatric Otorhinolaryngology, the Interamerican Association of Pediatric Otorhinolaryngology, the Italian Society of Pediatric Otorhinolaryngology, the Japan Society for Pediatric Otorhinolaryngology, the Polish Society of Pediatric Otorhinolaryngology, and the Society for Ear, Nose and Throat Advances in Children.

AUDIENCE

Otorhinolaryngologists, Pediatricians, Speech and Hearing Specialists.
ABSTRACTING AND INDEXING

BIOSIS Citation Index
Current Contents - Life Sciences
Embase
PubMed/Medline
Index Copernicus
Science Citation Index
ENT News
Elsevier BIOBASE
Current Advances in Cancer Research
Index to Dental Literature
Index to Scientific Reviews
Neuroscience Citation Index
Notiziario Bibliografico di Audiologia, ORL & Foniatria
Scopus

EDITORIAL BOARD

Editor-in-Chief
Joseph E. Kerschner, Medical College of Wisconsin, Milwaukee, Wisconsin, United States of America

Founding Editor
Robert J. Ruben, Albert Einstein College of Medicine, Bronx, New York, United States of America

Associate Editors
Michael J. Cunningham, Boston Children’s Hospital, Boston, Massachusetts, United States of America
Sharon Cushing, University of Toronto Institute of Medical Science, Toronto, Ontario, Canada
Ann Hermansson, Lund University, Lund, Sweden
Makoto Ito, Jichi Medical University, Pediatric Otolaryngology, Tochigi, Japan
Livije Kalogjera, Sestre milosrdnice University Hospital Center, Zagreb, Croatia
Michel Mondain, University Hospital Centre Montpellier, Montpellier, France
Thomas P. Nikolopoulos, National and Kapodistrian University of Athens School of Health Sciences, Athens, Greece
John Russell, University College Dublin, Dept. of Otolaryngology, Co.Dublin, Ireland
Antonio Ysunza, Beaumont Hospital, Speech and Language Pathology, Troy, Michigan, United States of America

Managing Editor & Social Media Editor
Kate Niemer, Medical College of Wisconsin, Milwaukee, Wisconsin, United States of America

Statistical Editor
Ke Yan, Medical College of Wisconsin, Milwaukee, Wisconsin, United States of America

Senior Editors
Peter W. Alberti, University of Toronto Mississauga, Mississauga, Ontario, Canada
Charles Bluestone, Children’s Hospital of Pittsburgh of UPMC, Pittsburgh, Pennsylvania, United States of America
Margaretha Casselbrant, Children’s Hospital of Pittsburgh of UPMC, Pittsburgh, Pennsylvania, United States of America
Kenny H Chan, Children’s Hospital Colorado, Department of Pediatric Otolaryngology, Aurora, Colorado, United States of America
Robin Cotton, Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio, United States of America
Mark P. Haggard, University of Cambridge, Cambridge, United Kingdom
Gerald B. Healy, Boston Children’s Hospital, Boston, Massachusetts, United States of America
Jenő Hirschberg, St. John’s Hospital, Dept. of Pediatric Otorhinolaryngology, Budapest, Hungary
Kimitaka Kaga, The University of Tokyo, Bunkyo-Ku, Japan
Margaret Kenna, Boston Children’s Hospital, Boston, Massachusetts, United States of America
A. Richard Maw, Spire Bristol Hospital, Bristol, United Kingdom
Philippe Narcy, Hôpital Robert Debré, Dept. of Otolaryngology, Paris, France
Gerard M. O'Donoghue, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom
Perry L. Ogra, SUNY The State University of New York, Albany, New York, United States of America
Bolajoko Olusanya, Phonics Hearing Centre, Dept. of Community Health & Primary Care, Lagos, Nigeria
Tauno Palva†, University of Helsinki, HELSINKI, Finland
Blake Papsin, The Hospital for Sick Children, Toronto, Ontario, Canada
Desiderio Passali, Università degli Studi di Siena, Dept. of Audiology, Rome, Italy
Wolfgang Pirsig, Ulm University, Ulm, Germany
Christopher J. Post, Allegheny Health Network, Pittsburgh, Pennsylvania, United States of America
Isabelle Rapin, Albert Einstein College of Medicine, Bronx, New York, United States of America
Richard M. Rosenfeld, SUNY Downstate Health Sciences University College of Nursing, New York, New York, United States of America
Anne G. Schilder, University Medical Centre Utrecht, Utrecht, Netherlands
Tania Sih, University of Sao Paulo, SAO PAULO, Brazil
Richard J. Smith, The University of Iowa, Iowa City, Iowa, United States of America
C.D.A. Verwoerd, Erasmus Medical Center, Rotterdam, Netherlands
George H. Zalzal, Children's National Hospital, Washington, District of Columbia, United States of America

Editorial Board
Thierry van den Abbeele, Hôpital Robert Debré, Dept. of Pediatric Otorhinolaryngology, Paris, France
Mosaad Abdel-Aziz, Cairo University Kasr Alainy, Faculty of Medicine, Cairo, Egypt
Eelam A. Adil, Boston Children's Hospital, Boston, Massachusetts, United States of America
Martin C. Bailey, Portland Hospital for Women and Children, London, United Kingdom
Tomislav Baudoin, Clinical Hospital Centre Zagreb, Zagreb, Croatia
Luisa M. Bellussi, Università degli Studi di Siena, Siena, Italy
Kathleen R. Billings, Ann and Robert H Lurie Children's Hospital of Chicago, Chicago, Illinois, United States of America
Matthew Thomas Brigger, Rady Children's Hospital San Diego, San Diego, California, United States of America
Paolo Campisi, The Hospital for Sick Children, Toronto, Ontario, Canada
Dan Choo, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, United States of America
Robert Chun, Medical College of Wisconsin, Milwaukee, Wisconsin, United States of America
Sam Daniel, Université McGill, Montréal, Quebec, Canada
Craig Derkay, Children's Hospital of The King's Daughters, Norfolk, Virginia, United States of America
Joseph Dohar, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, Pennsylvania, United States of America
Hamdy El-Hakim, University of Alberta, Edmonton, Alberta, Canada
Philippe Eloy, Université Catholique de Louvain School of Medicine, Belgium, Belgium
Valerie A. Flanary, Froedert Hospital, Milwaukee, Wisconsin, United States of America
Joseph Funahashi, University of Rochester, Rochester, New York, United States of America
Ella Friedman, Baylor College of Medicine, Houston, Texas, United States of America
Jamie Funamura, UC Davis Health, Sacramento, California, United States of America
Sara Gault, Boston Children's Hospital, Boston, Massachusetts, United States of America
Nira Goldstein, SUNY Downstate Health Sciences University College of Medicine, New York, New York, United States of America
Orlando Guntinas-Lichius, Jena University Hospital, Jena, Germany
Earl H. Harley, Georgetown University Medical Center, Washington, District of Columbia, United States of America
Hans Hoeve, Erasmus University Rotterdam, Department of Otolaryngology, Rotterdam, Netherlands
David Holzmann, University of Zurich, Zurich, Switzerland
Paul Hong, Dalhousie University, Halifax, Nova Scotia, Canada
Wei-Chung Hsu, National Taiwan University College of Medicine, Taipei, Taiwan
Yukiko Iino, Tokyo-Kita Medical Center, Tokyo, Japan
Glenn Isaacson, Lewis Katz School of Medicine at Temple University, Philadelphia, Pennsylvania, United States of America
Jad Jabbour, Charlotte Eye Ear Nose and Throat Associates, Charlotte, North Carolina, United States of America
Peter Karkos, Aristotle University of Thessaloniki, Thessaloniki, Greece
Peggy Elaine Kelley, Providence Pediatric Ear Nose & Throat - Portland, Portland, Oregon, United States of America
Yusuf Kemaloglu, St. Marianna University School of Medicine, Kawasaki, Japan
Manabu Komori, The Jikei University School of Medicine, Minato-Ku, Japan
Paul Krakovitz, Cleveland Clinic, Cleveland, Ohio, United States of America
Haytham Kubbah, Royal Hospital for Children, Glasgow, United Kingdom
Alberto Leiberman, Ben-Gurion University of the Negev, Be'er Sheva, Israel
Jørgen Lous, University of Southern Denmark, Odense, Denmark
Scott C. Manning, Seattle Children's Hospital, Seattle, Washington, United States of America
Paola Marchisio, University of Milan, Milano, Italy
Margo McKenna, University of Rochester Medical Center, Rochester, New York, United States of America
Anna H. Messner, Baylor College of Medicine, Houston, Texas, United States of America
Noriko Morimoto, National Center for Child Health and Development, Setagaya-Ku, Japan
Takashi Nakagawa, National University Corporation Kyushu University, Fukuoka, Japan
Richard Nicollas, Aix-Marseille Université, Marseille, France
Grażyna Niedzielska, Children's Clinical Hospital, Dept. of Pediatric Otolaryngology, Phoniatrics and Audiology, Lublin, Poland
Kazunori Nishizaki, Okayama University, Okayama, Japan

www.elsevier.com/locate/ijporl
GUIDE FOR AUTHORS

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

Ensure that the following items are present:

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

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

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

For further information, visit our Support Center.

BEFORE YOU BEGIN

Ethics in publishing
Please see our information on Ethics in publishing.

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

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

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Research Council's Guide for the Care and Use of Laboratory Animals and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

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

**Declaration of 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 anonymized) or
the manuscript file (if single anonymized). If there are no interests to declare then please state this:
'Declarations of interest: none'. 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.

**Declaration of generative AI in scientific writing**

The below guidance only refers to the writing process, and not to the use of AI tools to analyse and
draw insights from data as part of the research process.

Where authors use generative artificial intelligence (AI) and AI-assisted technologies in the writing
process, authors should only use these technologies to improve readability and language. Applying
the technology should be done with human oversight and control, and authors should carefully review and
edit the result, as AI can generate authoritative-sounding output that can be incorrect, incomplete or
biased. AI and AI-assisted technologies should not be listed as an author or co-author, or be cited as
an author. Authorship implies responsibilities and tasks that can only be attributed to and performed
by humans, as outlined in Elsevier's [AI policy for authors](#).

Authors should disclose in their manuscript the use of AI and AI-assisted technologies in the writing
process by following the instructions below. A statement will appear in the published work. Please
note that authors are ultimately responsible and accountable for the contents of the work.

**Disclosure instructions**

Authors must disclose the use of generative AI and AI-assisted technologies in the writing process by
adding a statement at the end of their manuscript in the core manuscript file, before the References
list. The statement should be placed in a new section entitled 'Declaration of Generative AI and AI-
assisted technologies in the writing process'.

*Statement: During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order
to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed
and take(s) full responsibility for the content of the publication.*

This declaration does not apply to the use of basic tools for checking grammar, spelling, references
etc. If there is nothing to disclose, there is no need to add a statement.

**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 compliance, your article may be checked by Crossref Similarity Check and other
originality or duplicate checking software.

**Preprints**

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

Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Content should make no assumptions about the beliefs or commitments of any reader; contain nothing which might imply that one individual is superior to another on the grounds of age, gender, race, ethnicity, culture, sexual orientation, disability or health condition; and use inclusive language throughout. Authors should ensure that writing is free from bias, stereotypes, slang, reference to dominant culture and/or cultural assumptions. We advise to seek gender neutrality by using plural nouns ("clinicians, patients/clients") as default/wherever possible to avoid using "he, she," or "he/she." We recommend avoiding the use of descriptors that refer to personal attributes such as age, gender, race, ethnicity, culture, sexual orientation, disability or health condition unless they are relevant and valid. When coding terminology is used, we recommend to avoid offensive or exclusionary terms such as "master", "slave", "blacklist" and "whitelist". We suggest using alternatives that are more appropriate and (self-) explanatory such as "primary", "secondary", "blocklist" and "allowlist". These guidelines are meant as a point of reference to help identify appropriate language but are by no means exhaustive or definitive.

Reporting sex- and gender-based analyses

Reporting guidance

For research involving or pertaining to humans, animals or eukaryotic cells, investigators should integrate sex and gender-based analyses (SGBA) into their research design according to funder/sponsor requirements and best practices within a field. Authors should address the sex and/or gender dimensions of their research in their article. In cases where they cannot, they should discuss this as a limitation to their research's generalizability. Importantly, authors should explicitly state what definitions of sex and/or gender they are applying to enhance the precision, rigor and reproducibility of their research and to avoid ambiguity or conflation of terms and the constructs to which they refer (see Definitions section below). Authors can refer to the Sex and Gender Equity in Research (SAGER) guidelines and the SAGER guidelines checklist. These offer systematic approaches to the use and editorial review of sex and gender information in study design, data analysis, outcome reporting and research interpretation - however, please note there is no single, universally agreed-upon set of guidelines for defining sex and gender.

Definitions

Sex generally refers to a set of biological attributes that are associated with physical and physiological features (e.g., chromosomal genotype, hormonal levels, internal and external anatomy). A binary sex categorization (male/female) is usually designated at birth ("sex assigned at birth"), most often based solely on the visible external anatomy of a newborn. Gender generally refers to socially constructed roles, behaviors, and identities of women, men and gender-diverse people that occur in a historical and cultural context and may vary across societies and over time. Gender influences how people view themselves and each other, how they behave and interact and how power is distributed in society. Sex and gender are often incorrectly portrayed as binary (female/male or woman/man) and unchanging whereas these constructs actually exist along a spectrum and include additional sex categorizations and gender identities such as people who are intersex/have differences of sex development (DSD) or identify as non-binary. Moreover, the terms "sex" and "gender" can be ambiguous—thus it is important for authors to define the manner in which they are used. In addition to this definition guidance and the SAGER guidelines, the resources on this page offer further insight around sex and gender in research studies.

Authorship

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

Changes to authorship

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

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

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

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

Article transfer service
This journal uses the Elsevier Article Transfer Service to find the best home for your manuscript. This means that if an editor feels your manuscript is more suitable for an alternative journal, you might be asked to consider transferring the manuscript to such a journal. The recommendation might be provided by a Journal Editor, a dedicated Scientific Managing Editor, a tool assisted recommendation, or a combination. If you agree, your manuscript will be transferred, though you will have the opportunity to make changes to the manuscript before the submission is complete. Please note that your manuscript will be independently reviewed 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 a '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, it is recommended to state this.

**Open access**
Please visit our Open Access page for more information.

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

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

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

**International Journal of Pediatric Otorhinolaryngology**
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 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.

**Submit your article**

**Suggesting reviewers**
Please submit the names and institutional e-mail addresses of several potential reviewers.

You should not suggest reviewers who are colleagues, or who have co-authored or collaborated with you during the last three years. Editors do not invite reviewers who have potential competing interests with the authors. Further, in order to provide a broad and balanced assessment of the work, and ensure scientific rigor, please suggest diverse candidate reviewers who are located in different countries/regions from the author group. Also consider other diversity attributes e.g. gender, race and ethnicity, career stage, etc. Finally, you should not include existing members of the journal's editorial team, of whom the journal are already aware.

Note: the editor decides whether or not to invite your suggested reviewers.

**PREPARATION**

**Queries**
For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our Support Center.
Peer review
This journal operates a single anonymized 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. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal’s usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

Revised Submissions
When submitting the revised manuscript, please make sure that you upload the final version of the paper. Please remove the old version(s) of the manuscript before submitting the revised version.

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

Abstract
For Full Length Articles (Research Papers) a structured abstract, by means of appropriate headings (e.g. Objectives, Methods, Results, Conclusion), 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. Abstracts for Case Reports should not exceed 100 words and should not have a structured format. Abstracts for Review Papers may be structured or non-structured depending on author preference.

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

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

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

Results
Results should be clear and concise.

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

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

Essential title page information
• Title. Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
• Author names and affiliations. Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
• Corresponding author. Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.
• Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

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

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

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.

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

A detailed guide on electronic artwork is available.

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

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.
Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
• EPS (or PDF): Vector drawings, embed all used fonts.
• TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
• TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
• TIFF (or JPEG): Combinations bitmapped line/halftone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately large for the content.

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

Figure captions
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.
Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

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

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

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

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

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

Preprint references
Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

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.

**Reference style**

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

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

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

**Examples:**

Reference to a journal publication:


Reference to a journal publication with an article number:


Reference to a book:


Reference to a chapter in an edited book:


Reference to a website:


Reference to a dataset:


Reference to software:


**Journal abbreviations source**

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

**Video**

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

**Genetics**

Authors should use gene notation and symbols approved by the HUGO Gene Nomenclature Committee (HGNC). Human gene symbols and loci should be italicized and protein products should not. Both should be written in capital letters. Avoid listing multiple gene names. If the authors would like to use the most historically used gene name, please denote this in the introduction at first mention of the gene (e.g: ‘GSDME (also known as DFNA5)) and constantly use one name throughout the text. If
the manuscript includes the names of microRNAs, the authors should use the Sanger nomenclature (e.g: miR-96). Similar to gene names, authors can include and use the historically used name as long as it is denoted.

The most up-to-date guidelines are summarized on the Mutation Nomenclature Homepage (http://www.hgvs.org/varnomen/). At first mention of a variant we ask authors to provide both the cDNA and protein change separated by a semicolon (e.g:c.122A>G; p.His41Arg). Afterwards, authors should only reference the protein change when discussing the variant. In some cases, such as splice-altering variants using the cDNA name is acceptable throughout the text (e.g: c.919-2A>G).

Authors must include the RefSeq and version number (e.g: NM_004004.5) in both the materials and methods table legend where the gene is mentioned. Authors are asked to report the genomic position of all variants reported in tables. If there is not a corresponding table with variant information, the authors are asked to provide a supplemental table which includes the genomic positions of the variants in the text.

Authors should include the MIM ID’s of both genes and phenotypes at the first mention of the gene name and phenotype (e.g: 'WFS1 (MIM: 606201)' or 'Wolfram syndrome 1 (MIM: 222300)’)

Pedigrees should be drawn according to the recommendations of the National Society of Genetic Counselors (PMID: 18792771 ).

**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, which may also include 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).

**Research Elements**

This journal enables you to publish research objects related to your original research – such as data, methods, protocols, software and hardware – as an additional paper in a Research Elements journal.

Research Elements is a suite of peer-reviewed, open access journals which make your research objects findable, accessible and reusable. Articles place research objects into context by providing detailed descriptions of objects and their application, and linking to the associated original research articles. Research Elements articles can be prepared by you, or by one of your collaborators.

During submission, you will be alerted to the opportunity to prepare and submit a manuscript to one of the Research Elements journals.

More information can be found on the Research Elements 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**

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

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

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

**Offprints**

The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. 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.

Observational studies are required to use STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines. The STROBE statement may be found here: [https://www.strobe-statement.org/](https://www.strobe-statement.org/). The appropriate checklist must be included in the manuscript submission (e.g. cohort, case-control, or cross-sectional studies).

**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.