



# VISION RESEARCH

An International Journal for Functional Aspects of Vision

## AUTHOR INFORMATION PACK

### TABLE OF CONTENTS

●	<b>Description</b>	<b>p.1</b>
●	<b>Audience</b>	<b>p.2</b>
●	<b>Impact Factor</b>	<b>p.2</b>
●	<b>Abstracting and Indexing</b>	<b>p.2</b>
●	<b>Editorial Board</b>	<b>p.2</b>
●	<b>Guide for Authors</b>	<b>p.4</b>



ISSN: 0042-6989

### DESCRIPTION

1. *Vision Research* is a journal devoted to the functional aspects of **human, vertebrate and invertebrate vision** and publishes experimental and observational studies, reviews, and theoretical and computational analyses. *Vision Research* also publishes clinical studies relevant to normal visual function and basic research relevant to visual dysfunction or its clinical investigation. **Functional aspects of vision** is interpreted broadly, ranging from molecular and cellular function to perception and behavior. Detailed descriptions are encouraged but enough introductory background should be included for non-specialists. Theoretical and computational papers should give a sense of order to the facts or point to new verifiable observations. Papers dealing with questions in the history of vision science should stress the development of ideas in the field.

2. *Vision Research* publishes both reviews and mini-reviews. A mini-review is not intended to be a comprehensive overview but a survey of recent developments in a fast-growing and active area of vision research. Reviews and mini-reviews are generally invited, but proposals for either may also be submitted to the Editor in Chief.

3. *Vision Research* welcomes Letters to the Editor in response to articles published in *Vision Research*. A letter considered for publication is sent out for review and at the same time forwarded to the author or authors of the published article. If the letter is accepted they are invited to write a prompt reply, which the reviewers of the letter are also asked to review.

4. *Vision Research* publishes thematic special issues covering well-defined and timely research topics. Special issues are usually edited by guest editors with one or more members of the editorial board. Proposals for special issues should be submitted to the Editor in Chief or a member of the board. Papers from special non-recurrent symposia may also be published in *Vision Research* and symposium organizers are encouraged to approach the Editor in Chief.

5. *Vision Research* does not routinely publish methods papers but will consider submissions in which methods are tested and validated on real data and the results give insight into visual function or its description.

6. The obituary policy of *Vision Research* is restrictive. Obituaries should be submitted to the Editor in Chief and should be not more than one printed page in length including a photograph.

7. *Vision Research* participates in Elsevier's Open Archives publishing program and articles are automatically made open access, at no additional cost to the author, after an 18 month embargo.

Authors wanting to fund immediate open access should consult the journal's Open Access page [<http://www.elsevier.com/journals/vision-research/0042-6989/open-access-options>].

## AUDIENCE

---

Ophthalmologists, vision researchers, neuroscientists and clinicians.

## IMPACT FACTOR

---

2018: 2.178 © Clarivate Analytics Journal Citation Reports 2019

## ABSTRACTING AND INDEXING

---

Behavioral Medicine Abstracts  
Research Alert  
BIOSIS Citation Index  
Chemical Abstracts  
Current Contents - Life Sciences  
Elsevier BIOBASE  
Embase  
PubMed/Medline  
INSPEC  
Current Contents  
Ophthalmic Literature  
Pascal Francis  
Psychology Abstracts  
Current Contents  
Current Contents  
PsycINFO  
PsycLIT CD-ROM  
Scopus

## EDITORIAL BOARD

---

### *Editor-in-Chief*

**D.H. Foster**, Manchester, UK

### *Editorial Board*

**D. Alais**, Sydney, New South Wales, Australia  
**W. Baehr**, Salt Lake City, Utah, USA  
**S.A. Burns**, Bloomington, Indiana, USA  
**S. Chung**, Berkeley, California, USA  
**M. Herzog**, Lausanne, Switzerland  
**F. A. A. Kingdom**, Montreal, Quebec, Canada  
**P.R. Martin**, Sydney, New South Wales, Australia  
**P.V. McGraw**, Nottingham, UK  
**I. Oruç**, Vancouver, British Columbia, Canada  
**M. Rucci**, Rochester, New York, USA  
**A. Stockman**, London, UK  
**D. Troilo**, New York, New York, USA  
**P. Verghese**, San Francisco, California, USA  
**J.D. Victor**, New York, New York, USA  
**M.A. Webster**, Reno, Nevada, USA  
**C. Yu**, Beijing, China

### *Consultative Board*

**J. L. Barbur**, London, UK  
**E. Castet**, Marseille, France  
**C. W. G. Clifford**, Sydney, New South Wales, Australia  
**B. Farrell**, Syracuse, New York, USA

**M. Georgeson**, Birmingham, UK  
**S. A. Klein**, Berkeley, California, USA  
**I. Murakami**, Tokyo, Japan  
**D Osorio**, Brighton, Sussex, UK  
**M. Paradiso**, Providence, Rhode Island, USA  
**S. Shevell**, Chicago, Illinois, USA  
**J. A. Solomon**, London, England, UK  
**B. Spehar**, Sydney, New South Wales, Australia  
**B. Thompson**, Waterloo, Ontario, Canada  
**J. Tsotsos**, Toronto, Ontario, Canada  
**J. Wagemans**, Leuven, Belgium  
**J. Werner**, Sacramento, California, USA  
**D. Whitney**, Berkeley, California, USA

## GUIDE FOR AUTHORS

---

### *Your Paper Your Way*

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

**To find out more, please visit the Preparation section below.**

### *INTRODUCTION*

*Vision Research* is a journal devoted to the functional aspects of human, vertebrate, and invertebrate vision and publishes experimental and observational studies, reviews, and theoretical papers firmly based upon the current facts of visual science.

*Vision Research* also accepts experimental studies in which clinical material has been used to address an issue of basic research interest, or where basic research methods have been used to address an issue of clinical importance, or where basic research may have, as yet unapplied, clinical relevance, as far as mechanisms of function or dysfunction of the visual system are concerned. The words clinical and vision sciences should be interpreted in the broadest sense, as represented by the areas of expertise of the members of the Editorial Board.

Papers reporting detailed investigations are encouraged and authors should be advised to include enough background material in the introduction of their papers so that they are comprehensible to the non-specialist. The purpose of theoretical papers is to give a higher sense of order to the facts as they are presently known, or to point to new observations which can be verified experimentally. Papers dealing with questions in the history of visual science should lay stress upon the history of ideas in this field. *Vision Research* has always welcomed the broadest interpretation of visual science.

### *Types of paper*

**Research articles:** Papers should represent significant theoretical or experimental contributions to the field. **Reviews:** Reviews will generally be by invitation, but suggestions, to be sent to the Editor-in-Chief, are welcomed. **Minireviews:** A minireview is not intended to be a comprehensive history of the subject, but rather a survey of recent developments in fast-growing and active areas of vision research covering only the last few years. Minireviews, like reviews, will generally be by invitation, but authors volunteering to prepare a minireview are invited to submit proposals to the Editor-in-Chief including the following information: (1) title, (2) justification for a minireview at this time on the topic selected, (3) a rough outline and (4) a firm date for submission of the completed work, should the Editor-in-Chief accept the proposal. **Letters to the Editor:** If a letter to the Editor is received in response to an article published in the journal, the letter will be sent out for review and at the same time be forwarded to the author(s) of the original paper. If the letter is accepted, the author(s) of the original paper will be invited to write a reply within a short period of time, and the reviewers of the letter will be asked to review the reply. To avoid a continuing dialogue, only one letter to the editor from a reader on any one particular article is normally allowed. **Obituaries:** *Vision Research* has a restrictive Obituary policy. Obituaries should be submitted to the Editor-in-Chief, and should not exceed a length of one printed page including photograph.

*Vision Research* will regularly publish **thematic special issues** highlighting important new developments in vision research.

Papers from special non-recurrent symposia may also be published in *Vision Research*. Symposium organizers are requested to contact the Editor-in-Chief.

*Full papers* will be judged by two qualified reviewers and the Action Editor. *Vision Research* strives to provide an initial decision within 30 days.

### *Contact details for submission*

Questions regarding submission should be sent to the *Vision Research* Editorial Office:  
e-mail: [vr@elsevier.com](mailto:vr@elsevier.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 online sources)
- 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**

If the research involves the use of human beings or animals as subjects or the use of human tissue, then as a prerequisite for the research, ethical approval should normally have been obtained from a relevant research ethics committee or institutional review board. The approval and its source should be reported in the methods section. For research with human beings, a statement is also needed indicating that informed consent was obtained from each participant. 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 national or international guidelines, e.g. [EU Directive 2010/63/EU for animal experiments](#), the National Institutes of Health Guide for the Care and Use of Laboratory Animals [National Academies Press, Eighth Edition, 2011](#) and the [UK Animals \(Scientific Procedures\) Act 1986](#). 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.

### **Ethics in publishing**

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

*Studies in humans and animals*

If the research involves the use of human beings or animals as subjects or the use of human tissue, then as a prerequisite for the research, ethical approval should normally have been obtained from a relevant research ethics committee or institutional review board. The approval and its source should be reported in the methods section. For research with human beings, a statement is also needed indicating that informed consent was obtained from each participant.

For clinical research with human beings, a statement is also expected that the research complies with [The Code of Ethics of the World Medical Association](#) (Declaration of Helsinki) for experiments involving humans and [Uniform Requirements for manuscripts submitted to Biomedical journals](#). For a clinical trial, a statement is also expected that the trial was appropriately registered. 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 national or international guidelines, e.g., [EU Directive 2010/63/EU for animal experiments](#), the National Institutes of Health Guide for the Care and Use of Laboratory Animals ([National Academies Press, Eighth Edition, 2011](#)), and the [UK Animals \(Scientific Procedures\) Act 1986](#) should clearly indicate in the manuscript that such guidelines have been followed.

### **Declaration of interest**

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential 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'. 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](#).

### *Preprints*

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

### **Use of inclusive language**

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

### *Contributors*

Each author is required to declare his or her individual contribution to the article: all authors must have materially participated in the research 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.

Requests for changes in authorship that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure described in the following section. Note that: Journal Managers will inform the Journal Editors of any such requests. Publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.

### *After the accepted manuscript is published in an online issue*

Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

### **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 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.

### **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 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 (CC BY)*

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

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

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

The gold open access publication fee for this journal is **USD 2350**, 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.

#### *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 the two). 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.

### **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/vr>

Upon submission, authors will be asked to suggest an Editor for their manuscript. Authors can select from the among the editors listed in the Editorial Board- see [Editorial Board](#)

#### *Referees*

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

## **PREPARATION**



## **NEW SUBMISSIONS**

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process. As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or lay-out that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

### *References*

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOIs is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at the proof stage for the author to correct.

### *Formatting requirements*

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions. If your article includes any Videos or other Supplementary material, this should be included in your initial submission for peer review purposes. Divide the article into clearly defined sections.

### *Figures and tables embedded in text*

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

### *Peer review*

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

## **REVISED SUBMISSIONS**

### *Use of word processing software*

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the [Guide to Publishing with Elsevier](#)). See also the section on Electronic artwork. To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

### *LaTeX*

You are recommended to use the Elsevier article class [elsarticle.cls](#) to prepare your manuscript and [BibTeX](#) to generate your bibliography. Our [LaTeX site](#) has detailed submission instructions, templates and other information.

## **Article structure**

### *Subdivision - numbered sections*

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

### *Introduction*

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

### *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, whether one's own or someone else's, then make the origin clear by inserting a declaration of the form 'reproduced from' and also cite the source. Any modifications to existing methods should also be described.

### *Results*

Results should be clear and concise.

### *Discussion*

This section should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section may sometimes be appropriate, but findings and interpretation should be clearly distinguished. Avoid extensive citations and discussion of published literature.

### *Conclusions*

The main conclusions of the study may be presented in a short Conclusions section, no more than a few sentences long. It may stand alone or form a subsection of a Discussion or Results and Discussion section.

### *Appendices*

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

### **Essential title page information**

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

### **Highlights**

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

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

### **Abstract**

A concise and factual abstract is required of 150 to 250 words, written in complete sentences, without subheads or separation into paragraphs. It should state briefly the purpose of the research, the principal results, and major conclusions. Because the abstract may appear separately from the article, it must be able to stand alone. For this reason, citations, e.g. 'Smith (1999)', should normally be omitted, but if essential, e.g. in critiques and replies, then just the journal name, volume, year in parentheses, and pages should be given, e.g. 'Vision Research 48 (2008) 18371851'. Non-standard or uncommon abbreviations should be avoided, but if essential, they must be defined at their first mention in the abstract and repeated in main body of the text. Abstracts in Vision Research do not normally contain the details of statistical tests or results. A statement that an effect or interaction

was significant usually suffices. Where the plus-minus symbol " " is used to indicate a range of error or uncertainty, the measure should be defined, e.g. standard error, standard deviation, or confidence interval. The definition should also be given in the main body of the text.

#### *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.

#### **Keywords**

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

#### *Abbreviations*

If absolutely necessary, define abbreviations that are not standard in this field at their first mention in the Abstract and again in the main body of the text. 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.).

#### *Units*

Follow internationally accepted rules and conventions: use the international system of units (SI). You are urged to consult IUPAC: Nomenclature of Organic Chemistry: <http://www.iupac.org/> for further information.

#### *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.

#### *Footnotes*

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

#### **Artwork**

##### *Image manipulation*

Whilst it is accepted that authors sometimes need to manipulate images for clarity, the use of manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal applies the following policy: no specific

feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

### *Electronic artwork*

#### *General points*

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

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

#### *Formats*

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

EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.

TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

#### **Please do not:**

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

#### *Color artwork*

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

#### *Figure captions*

Ensure that each illustration has a caption. A caption should comprise a label, e.g. 'Fig. 1', followed by 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.

#### *Text graphics*

Text graphics may be embedded in the text at the appropriate position. If you are working with LaTeX and have such features embedded in the text, these can be left. See further under Electronic artwork.

### **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. Ensure that each table has a caption, consisting of a label, e.g. 'Table 1', and a title.

### **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 shortened form, that is, journal name, volume, year in parentheses, and pages, e.g. 'Vision Research 48 (2008) 18371851'. 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.

#### *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.

#### *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/vision-research>

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

#### *Reference formatting*

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

#### *2: Name and year system*

*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 or three authors:* both authors' names and the year of publication;
3. *Four 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, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer et al. (2000) have recently shown ...'

*List:* References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

#### *Examples:*

Reference to a journal publication:

Van der Geer, J., Hanraads, J.A.J., & Lupton, R.A. (2000). The art of writing a scientific article. *Journal of Science Communication*. 163, 51–59.

Reference to a book:

Strunk Jr., W., & White, E.B. (1979). *The Elements of Style*, third ed. Macmillan, New York.

Reference to a chapter in an edited book:

Mettam, G.R., & Adams, L.B. (1999). How to prepare an electronic version of your article, in: Jones, B.S. & Smith, R.Z. (Eds.), *Introduction to the Electronic Age*. E-Publishing Inc., New York, pp. 281–304.

*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. Before submitting your article, you can deposit the relevant datasets to *Mendeley Data*. Please include the DOI of the deposited dataset(s) in your main manuscript file. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the [Mendeley Data for journals page](#).

#### *Data in Brief*

You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for *Data in Brief* as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to *Data in Brief* where it will be editorially reviewed and published in the open access data journal, *Data in Brief*. Please note an open access fee of 600 USD is payable for publication in *Data in Brief*. Full details can be found on the [Data in Brief website](#). Please use [this template](#) to write your Data in Brief.

#### *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](#).

#### *Manuscript length*

Authors are urged to be as concise as their material will allow, both in text and in illustrations. Articles should generally not exceed 6000 words and 8 figures, and authors may be asked to shorten papers where reviewers or editors feel text or figures are redundant. Manuscripts exceeding 10000 words will require prior approval of the Editor-in-Chief.

## **AFTER ACCEPTANCE**

### **Online proof correction**

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

### **Offprints**

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

Elsevier's [Author Services](#). 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>