DESCRIPTION

Genomics is a forum for describing the development of genome-scale technologies and their application to all areas of biological investigation.

As a journal that has evolved with the field that carries its name, Genomics focuses on the development and application of cutting-edge methods, addressing fundamental questions with potential interest to a wide audience. Our aim is to publish the highest quality research and to provide authors with rapid, fair and accurate review and publication of manuscripts falling within our scope. Topics within the scope of Genomics include, but are not limited to:

• **Genomics** including genome projects, genome sequencing, and genomic technologies and novel strategies.
• **Functional genomics** including transcriptional profiling, mRNA analysis, microRNA analysis, and analysis of noncoding and other RNAs using established and newly-emerging technologies (such as digital gene expression).
• **Evolutionary** and **comparative genomics**, including phylogenomics
• **Genomic technology** and methodology development, with a focus on new and exciting applications with potential for significant impact in the field and emerging technologies
• **Computational biology**, bioinformatics and biostatistics, including integrative methods, network biology, and the development of novel tools and techniques
• **Modern genetics** on a genomic scale, including complex gene studies, population genomics, association studies, structural variation, and gene-environment interactions
• **Epigenomics**, including DNA methylation, histone modification, chromatin structure, imprinting, and chromatin remodeling
• **Genomic regulatory analysis**, including DNA elements, locus control regions, insulators, enhancers, silencers, and mechanisms of gene regulation
• Genomic approaches to understanding the mechanism of disease pathogenesis and its relationship to genetic factors, including meta-genomic and the mode and tempo of gene and genome sequence evolution.
• **Medical Genomics**, Personal Genomics, and other applications to human health
• Application of **Genomic techniques** in model organisms that may be of interest to a wide audience.
• RNA-seq experiments without three or more biological replicates will not be accepted for differential expression-based articles.

Genomics primarily publishes original research articles but also welcomes proposals for full-length and mini reviews. All submissions to Genomics are subject to rigorous peer review and our goal is to
accept only the top 25-30% of submitted manuscripts. Please contact the Editorial Office with review proposals or any inquiries regarding the scope of the journal or the suitability of a manuscript for publication.

**IMPACT FACTOR**

2018: 3.160 © Clarivate Analytics Journal Citation Reports 2019

**ABSTRACTING AND INDEXING**

Scopus
Embase
EMBiology
Elsevier BIOBASE
BIOSIS Citation Index
Biological and Agricultural Index
Biological Abstracts
BIOSIS Previews
Chemical Abstracts
Current Awareness in Biological Sciences
Current Contents - Life Sciences
Genetics Abstracts
PubMed/Medline
Pascal Francis
Science Citation Index

**EDITORIAL BOARD**

*Editor-in-Chief*
Astrid Engel, Tulane University Department of Epidemiology, New Orleans, Louisiana, United States

*Executive Editors*
Yao-Zhong Liu, Tulane University, New Orleans, Louisiana, United States
Oliver Sieber, Walter and Eliza Hall Institute of Medical Research Systems Biology and Personalised Medicine Division, Parkville, Victoria, Australia
Marcelo Bento Soares, University of Illinois College of Medicine at Peoria Department of Cancer Biology and Pharmacology, Peoria, Illinois, United States
Ana María Viñas Díaz, University of Santiago de Compostela, Santiago de Compostela, Spain
Colum Walsh, Ulster University School of Biomedical Sciences, Coleraine, Londonderry, United Kingdom

*Associate Editors*
Wenfeng An, South Dakota State University College of Pharmacy and Allied Health Professions Department of Pharmaceutical Sciences, Brookings, South Dakota, United States
Julia Béjar Alvarado, University of Málaga, Malaga, Spain
Kok-Gan Chan, University of Malaya, Kuala Lumpur, Malaysia
Jason Chin, Pacific Biosciences Inc, Menlo Park, California, United States
Dilek Colak, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia
Ekrem Dundar, Balikesir University, Balikesir, Turkey
Juan Fuxman Bass, University of Massachusetts Medical School, Worcester, Massachusetts, United States
Roman R. Ganta, Kansas State University, Manhattan, Kansas, United States
John Greally, Yeshiva University Albert Einstein College of Medicine, Bronx, New York, United States
Benjamin Haibe-Kains, University of Toronto, Toronto, Ontario, Canada
Jeffrey Han, Tulane University School of Medicine, New Orleans, Louisiana, United States
Ilkka Havukkala, New Zealand Ministry of Business Innovation and Employment, Wellington, New Zealand
Pankaj Kumar, University of Virginia School of Medicine, Charlottesville, Virginia, United States
Michael Lovett, Imperial College London, London, United Kingdom
Paulino Martínez, University of Santiago de Compostela, Santiago de Compostela, Spain
Declan McKenna, Ulster University - Jordanstown Campus, Coleraine, Northern Ireland
Holly Neibergs, Washington State University, Pullman, Washington, United States
Henry T. Nguyen, University of Missouri, Columbia, Missouri, United States
Pedro Oliveira, Icahn School of Medicine at Mount Sinai, New York, New York, United States
Elaine Ostrander, National Institutes of Health, Bethesda, Maryland, United States
Alexie Papanicolaou, Western Sydney University, Sydney, New South Wales, Australia
Daechan Park, Ajou University, Department of Biological Sciences, Suwon, Korea, Republic of
Holger Richly, Institute of Molecular Biology, Mainz, Germany
João Carlos Setubal, University of Sao Paulo, São Paulo, Brazil
Gaurav Sharma, Institute of Bioinformatics and Applied Biotechnology, Bangalore, India
Jeremy Shearman, National Center for Genetic Engineering and Biotechnology, Bangkok, Thailand
Gavin Sherlock, STANFORD UNIVERSITY SCHOOL OF MEDICINE, Stanford, California, United States
Turgay Unver, Dokuz Eylulu University, Izmir, Turkey
Hehuang (David) Xie, Virginia Tech University Bookstore, Blacksburg, Virginia, United States
GUIDE FOR AUTHORS

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

INTRODUCTION

The goal of Genomics is to promote the understanding of the structure, function, and evolution of genomes in all kingdoms of life and the application of genome sciences and technologies to challenging problems in biology and medicine. The scope of the journal is broad and we welcome original, full-length, and timely papers in all of the following areas:

- Comparative genomics analysis that yields valuable insights into conserved and divergent aspects of function, regulation, and evolution
- Bioinformatics and computational biology with particular emphasis on data mining and improvements in data annotation and integration
- Functional genomics approaches involving the use of large-scale and/or high-throughput methods to understand genome-scale function and regulation of transcriptomes and proteomes
- Identification of genes involved in disease and complex traits, including responses to drugs and other xenobiotics
- Significant advances in genetic and genomics technologies and their applications, including chemical genomics

In addition to full-length papers, Genomics accepts a number of different article types.
As a result of Genomics' strict quality measures, the journal rejects as much of 70 % of all submissions received.

Each manuscript should be accompanied by a Cover letter outlining the basic findings of the manuscript and their significance. Please submit, with the manuscript, the names and addresses of five potential referees.

Full length articles
Organization should be Abstract, Introduction, Results, Discussion, Materials and methods, Acknowledgments, and References. There is a limit of 8 display items (figures plus tables). Manuscripts should be no more than 7 published pages, excluding references. Accepted papers that are over 8 pages, or 56,000 characters (including spaces), may be returned to the authors for additional editing. To estimate: One published page is approximately 7000 characters; Count each table or figure as 2450 characters and add to the character count of your manuscript text.

Please note that there is no limit on the number of References. Genomics feels strongly that authors should be able to give credit where credit is due.

Readers are invited to submit ideas and proposals for reviews and minireviews; they should not submit complete or finished manuscripts prior to consultation with the editor-in-chief or one of the associate editors.

Contact details for submission
Articles for Genomics should be submitted via the journal's online submission and editorial system at https://www.evise.com/profile/#/GENO/login.

Customer support is available 24/7:
Please use our help site at: http://service.elsevier.com/. Here you will be able to learn more about the online submission and editorial system via interactive tutorials, explore a range of problem solutions via our knowledgebase, and find answers to frequently asked questions. You will also find our 24/7 support contact details should you need any assistance from one of our customer service representatives.

For questions on the submission and reviewing process, please contact the Editorial Office at genomics@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 the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

**BEFORE YOU BEGIN**

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

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

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

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care
and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.

**Conflict of interest**

*Genomics* follows the ICMJE recommendations regarding conflict of interest disclosures. All authors are required to report the following information with each submission: (1) All third-party financial support for the work in the submitted manuscript. (2) All financial relationships with any entities that could be viewed as relevant to the general area of the submitted manuscript. (3) All sources of revenue with relevance to the submitted work who made payments to you, or to your institution on your behalf, in the 36 months prior to submission. (4) Any other interactions with the sponsor of outside of the submitted work should also be reported. (5) Any relevant patents or copyrights (planned, pending, or issued). (6) Any other relationships or affiliations that may be perceived by readers to have influenced, or give the appearance of potentially influencing, what you wrote in the submitted work. As a general guideline, it is usually better to disclose a relationship than not. This information will be acknowledged at publication in a Transparency Document link directly in the article. Additional information on the ICMJE recommendations can be found at: [http://www.icmje.org/](http://www.icmje.org/). The form for conflict of interest disclosure can be downloaded here: [http://www.icmje.org/coi_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) (if this link does not display properly in your browser, please right-click the link and select "Save Target As..." or "Save Link as..." from the pop-up menu).

**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').

**Author contributions**

For transparency, we encourage authors to submit an author statement file outlining their individual contributions to the paper using the relevant CRediT roles: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; Writing - review & editing. Authorship statements should be formatted with the names of authors first and CRediT role(s) following. More details and an example

**Changes to authorship**

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

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

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' ([see more information on this](https://www.elsevier.com/authors/author-agreements)). 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](https://www.elsevier.com/authors/gold-open-access)). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

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

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

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

**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 English Language Editing service available from Elsevier’s Author Services.

**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.
Additional Information
Sharing information and materials

It is expected that all new biological or other reagents described in papers published in *Genomics* will be made available freely to all qualified members of the scientific community upon written request. If delays in strain or vector distribution are anticipated, or if these are available from sources other than the author(s), this must be indicated and, if the editor thinks it necessary, explained.

Submission of data to databases

The editorial policy of *Genomics* is to require the use of databases. Deposit of data in the appropriate database(s) is a condition of publication. New nucleotide data must be submitted and deposited in the DDBJ/EMBL/GenBank databases and an accession number obtained before the paper can be accepted for publication. Submission to any one of the three collaborating databanks is sufficient to ensure data entry in all.

The accession number should be included in the manuscript as a footnote on the title page: "Sequence data from this article have been deposited with the DDBJ/EMBL/GenBank Data Libraries under Accession No. ...." If requested, the database will withhold release of data until publication. The most convenient method for submitting sequence data is by the World Wide Web:

DDBJ via SAKURA, [http://sakura.ddbj.nig.ac.jp/](http://sakura.ddbj.nig.ac.jp/)
EMBL via WEBIN, [http://www.ebi.ac.uk/embl/Submission/webin.html](http://www.ebi.ac.uk/embl/Submission/webin.html)
Mouse Genome Informatics, [http://www.informatics.jax.org/mgihome/](http://www.informatics.jax.org/mgihome/)

For special types of submissions (for example, genomes, bulk submissions), additional submission protocols are available from the above sites. Database contact information:

DDBJ:
Center for Information Biology and DNA Data Bank of Japan
National Institute of Genetics
1111 Yata
Mishima, Shizuoka 411-8540, Japan
Telephone: 81 55981 6853; Fax: 81 55981 6849
E-mail: ddbj@ddbj.nig.ac.jp
Web URL: [http://www.ddbj.nig.ac.jp/](http://www.ddbj.nig.ac.jp/)

EMBL
EMBL Nucleotide Sequence Submissions
European Bioinformatics Institute
Wellcome Trust Genome Campus
Hinxton, Cambridge CB10 1SD, UK
Telephone: 44 1223 494499; Fax: 44 1223 494472
E-mail: datasubs@ebi.ac.uk
Web URL: [http://www.ebi.ac.uk](http://www.ebi.ac.uk)

GenBank
National Center for Biotechnology Information
National Library of Medicine
Building 38A, Room 8N-802
Bethesda, MD 20894, USA
Telephone: (301) 496-2475; Fax: (301) 480-9241

PREPARATION
NEW SUBMISSIONS
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

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

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

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

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

Nomenclature and Units
Authors must use approved nomenclature for all genes, and all manuscripts will undergo a nomenclature check prior to publication. All unapproved symbols must be replaced with approved symbols (throughout the text and figures). To avoid delays to your manuscript please obtain approval for any new gene symbols prior to submitting your manuscript. Copies of emails documenting the approval of any new symbols should accompany all submissions. Approved human gene symbols may be obtained before submission from the HUGO Gene Nomenclature Committee (HGNC: contact Dr Elspeth Bruford, EMBL-European Bioinformatics Institute, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire CB10 1SD, UK); e-mail: hgn@genenames.org; http://www.genenames.org/. Approved mouse nomenclature may be obtained before submission from L. J. Maltais, The Jackson Laboratory, Bar Harbor, ME 04609-0800, USA; telephone: (207) 288-6429; fax: (207) 288-6132; e-mail: ljm@informatics.jax.org; http://www.informatics.jax.org/nomen/. In mouse, mutant strains and transgenic alleles also require approved symbols; see http://www.informatics.jax.org/. Use of unapproved gene symbols will likely delay publication.

Human and mouse protein symbols should be denoted in all capital letters (for example, FGF8). Use of "h" and "m" prefixes to distinguish between human and mouse proteins is not permitted. Instead, "mouse" or "human" should be inserted before the relevant protein symbol in cases where it is necessary to distinguish between human and mouse proteins. (This protocol extends to proteins of all other organisms.)

Authors must use SI units and follow the guidelines for abbreviations and symbols of the IUPAC-IUBMB Joint Commission on Biochemical Nomenclature (http://www.chem.qmw.ac.uk/iupac/jcbn/).

Please note that the instructions related to Abbreviations, Abstract, Keywords & Math formulae still apply to all new submissions.

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

REVISED SUBMISSIONS
**Use of word processing software**

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the [Guide to Publishing with Elsevier](https://www.elsevier.com/authorcenter)). See also the section on Electronic artwork.

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

**Article structure**

**Subdivision - numbered sections**

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

**Introduction**

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

**Material and methods**

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

**Theory/calculation**

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

**Results**

Results should be clear and concise.

**Discussion**

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

**Conclusions**

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

**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. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

**Keywords**

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

**Abbreviations**

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

**Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

**Formatting of funding sources**

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**GenBank**

**DNA sequences and GenBank accession numbers.** Authors wishing to enable other scientists to use the accession numbers cited in their papers via links to these sources should type this information in the following manner: For each and every accession number cited in an article, authors should type the accession number in bold, underlined text. Letters in the accession number should always be capitalized (see example below). This combination of letters and format will enable the typesetter to recognize the relevant texts as accession numbers and add the required link to GenBank sequences. Example: GenBank accession nos. **AI631510**, **AI631511**, **AI632198**, and **BF223228**, a B-cell tumor from a chronic lymphatic leukemia (GenBank accession no. **BE675048**), and a T-cell lymphoma (GenBank accession no. **AA361117**).
Authors are encouraged to check accession numbers used very carefully. An error in a letter or number can result in a dead link. In the final version of the printed article, the accession number text will not appear bold or underlined. In the final version of the electronic copy, the accession number text will be linked to the appropriate source in the NCBI databases, enabling readers to go directly to that source from the article.

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

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

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

A detailed guide on electronic artwork is available.
You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.
TIFF (or JPEG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.
TIFF (or JPEG): Bitmapted line drawings: use a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.
Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
• Supply files that are too low in resolution.
• Submit graphics that are disproportionately large for the content.

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

Figure captions
Ensure that each illustration has a caption. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

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.

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

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

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

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


FREE Reference Style
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples: [dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. http://dx.doi.org/10.17632/xwj98nb39r.1.
Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

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

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

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

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

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

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

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

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

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).
Mendeley Data
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

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

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

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

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

Additional Information
Cover art. Authors submitting a manuscript for consideration may also submit color figures for exclusive use as cover illustrations. These figures do not need to relate to the manuscript being submitted, but should relate to the larger scope and focus of Genomics. Submit art in electronic form (TIFF and EPS files only). A short (one-line) legend should accompany each figure.

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. 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