COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY - PART A: MOLECULAR & INTEGRATIVE PHYSIOLOGY
An International Journal

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

- Description p.1
- Impact Factor p.2
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.7

DESCRIPTION

Comparative Biochemistry & Physiology (CBP) publishes papers in comparative, environmental and evolutionary physiology.

Part A: Molecular and Integrative Physiology (CBPA), focuses on physiological systems, including behavior, circulation, development, excretion, ion regulation, endocrinology, locomotory, nervous, nutrition, respiration, and thermal biology. Most studies address regulatory mechanisms and span multiple levels of biological organization.

All four CBP journals support and follow the editorial direction from all the major societies in the field: Australia & New Zealand Society of Comparative Physiology and Biochemistry (ANZSCPB) American Physiological Society (APS) Canadian Society of Zoologists (CSZ) Deutsche Zoologische Gesellschaft (DZG) European Society of Comparative Physiology and Biochemistry (ESCPB) Japanese Society for Comparative Physiology and Biochemistry (JSCPB) South American Society for Comparative Physiology and Biochemistry (SASCPB) Societe de Physiologie (SDP) Society for Experimental Biology (SEB) Society for Integrative & Comparative Biology (SICB)

Benefits to authors

CBP journals are focused on promoting the authors and the work published in the journal: All articles are carefully evaluated directly by the Editors-in-Chief who are leading experts in their field. Availability: contact the Editor-in-Chief via the Editorial Board page for any questions you may have. The Journal will provide upon request free PDFs to all authors who may not have access to their articles via their institution or library. Publication is free to authors (no color or page charges). Supporting open access: if your funding body or institution requires your article to be open access, CBP offers that option. Please see details here. Reuse figures from any CBP article via "get rights and content" hyperlink available within each article (below author names and affiliations) on ScienceDirect. Please click here for more information on more general author services.

Other CBP journals
Part B (CBPB): Biochemistry & Molecular Biology
Part C (CBPC): Toxicology & Pharmacology
Part D (CBPD): Genomics & Proteomics
IMPACT FACTOR

2022: 2.300 © Clarivate Analytics Journal Citation Reports 2023

ABSTRACTING AND INDEXING

Elsevier BIOBASE
Reference Update
Embase
EMBiology
Current Contents
PubMed/Medline
Web of Science
Current Contents
Current Contents - Life Sciences
Scopus

EDITORIAL BOARD

Editor-in-Chief
Michael Hedrick, PhD, Cal State East Bay, Hayward, California, United States of America

Associate Editors
Shelley Adamo, Dalhousie University, Department of Psychology and Neuroscience, Halifax, Nova Scotia, Canada
Ecoimmunology, comparative psychoneuroimmunology, physiological networks, insect neuroscience and behaviour

Jordi Altimiras, Linköping University, Linköping, Sweden
Cardiac pathological hypertrophy, cardiovascular physiology, molecular evolution, cardiac evolution, reptile physiology, avian physiology, developmental physiology, developmental plasticity, animal adaptation

Gary Anderson, University of Manitoba, Winnipeg, Manitoba, Canada
Physiology, endocrine mechanisms in fish

David Buchwalter, NC State University, Raleigh, North Carolina, United States of America
Comparative physiology, trace metals, temperature, respirometry, hypoxia, aquatic insects, ecological indicators

Encarnación Capilla, University of Barcelona, Barcelona, Spain
Fish physiology, Comparative endocrinology, Aquaculture, Primary cell cultures

Elena Fabbri, University of Bologna, Bologna, Italy
Cell signalling, mechanisms of action, hormones, endocrine disruptors, emerging contaminants in the environment, biomarkers.

Donald Mykles, Colorado State University, Fort Collins, Colorado, United States of America
Molecular mechanisms that control molting, muscle atrophy and limb regeneration in crabs

Kristin O’Brien, University of Alaska Fairbanks, Fairbanks, Alaska, United States of America
Fish physiology and biochemistry, adaptations to cold temperature, bioenergetics

Holly Shiel, The University of Manchester, Manchester, United Kingdom
Cardiac physiology in ectotherms, electrophysiology, florescence microscopy, immunocytochemistry, immunohistochemistry

Denina Simmons, Ontario Tech University, Oshawa, Ontario, Canada
Aquatic toxicology, mass spectrometry, proteomics, metabolomics, environmental chemistry, blood plasma, bioinformatics,

Aldo Viarengo, Institute for the Study of Anthropic Impact and Sustainability in the Marine Environment National Research Council Genoa Branch, Genova, Italy
Mechanisms of heavy metal homeostasis and toxicity, effects of environmental stressors on cell signaling and functions, pollutants and oxidative stress, utilization of biomarkers in biomonitoring programs, development of new bioassays, Comparative Physiology, Comparative Toxicology, Ecotoxicology, development of new biomarkers
International Editorial Board

Neel Aluru, Woods Hole Oceanographic Institution, Department of Marine Chemistry and Geochemistry, Woods Hole, Massachusetts, United States of America
Epigenetics (DNA methylation, noncoding RNAs), toxicology, developmental biology, multigenerational effects, stress physiology, epitranscriptomics, targeted gene editing, oceans and human health

Michael Berenbrink, University of Liverpool, Liverpool, United Kingdom
Respiratory systems of vertebrates, physiological mechanisms

Kênia Bícego, São Paulo State University, Faculty of Agricultural and Veterinary Sciences, JABOTICABAL, Brazil
Comparative physiology, behavioral strategies used by ectothermic and endothermic vertebrates in response to stress, thermoregulation

Francisco Bozinovic†, Pontifical Catholic University of Chile, Santiago, Chile
Ecological and evolutionary physiology, comparative physiology

Leslie Buck, University of Toronto, Toronto, Ontario, Canada
Comparative physiology, biochemistry and neurobiology of anoxia tolerance

Carol Bucking, York University, Toronto, Ontario, Canada
Effects of digestion on the physiology of fish, role of the environment on physiology

Brad Buckley, Portland State University, Department of Biology, Portland, Oregon, United States of America
Physiological responses of marine species to elevated temperature and other stressors

Karen Burnett, College of Charleston, Charleston, South Carolina, United States of America
Immunology, cell biology and cell signaling, genetics, transcriptomics

Louis Burnett, College of Charleston Grice Marine Lab, Charleston, South Carolina, United States of America
Comparative physiology of respiration, ion and acid-base regulation in marine organisms

Kevin Campbell, University of Manitoba, Winnipeg, Manitoba, Canada
Evolutionary physiology, molecular evolution, mammalian evolution, respiratory proteins

Filipe Castro, University of Porto, Faculty of Sciences, Portugal
Evolutionary Biology, Endocrinology, Genomics, Comparative Physiology

Huihui Chen, Nanjing Institute of Geography and Limnology Chinese Academy of Sciences, Nanjing, China
Immunology, cell biology and cell signaling, genetics, transcriptomics

John Michael Conlon, Ulster University, Coleraine, United Kingdom
Antimicrobial and immunomodulatory peptides, Drug discovery, Type 2 diabetes, Obesity

Christine Cooper, Curtin University, Perth, Western Australia, Australia
Metabolic rate, evaporative water loss, body temperature, field metabolic rate, respirometry, environmental physiology, conservation physiology, myrmecophages

Paul Craig, University of Waterloo, Waterloo, Ontario, Canada
Epigenetic responses to environmental stressors

Dane Crossley, University of North Texas, Denton, Texas, United States of America
Cardio-respiratory physiology, developmental physiology of vertebrates, reptilian and avian biology

Andrew Donini, York University, Department of Biology, Toronto, Ontario, Canada
Salt, freshwater, aquatic insect, ammonia, epithelia, ion transport, aquaporins, water transport, septate junctions

Shaojun Du, University of Maryland Baltimore, Baltimore, Maryland, United States of America
Developmental genetics, genetic regulation of muscle development and diseases in zebrafish model

Andrew Esbaugh, The University of Texas at Austin College of Natural Sciences, Austin, Texas, United States of America
Environmental physiology, respiratory gas exchange, acid-base and osmoregulatory balance, the evolution of physiological systems, aquatic toxicology

Caterina Faggio, University of Messina, Messina, Italy
Environmental contaminants and food additives; cell volume regulation and cytotoxicity in shellfish and fish; mechanisms responsible of the eryptosis, haematological and serological parameters in teleosts; oxidative stress markers and health status in non-target aquatic organisms, Environmental contaminants and food additives; cell volume regulation and cytotoxicity in shellfish and fish; mechanisms responsible of the eryptosis, haematological and serological parameters in teleosts; oxidative stress markers and health status in non-target aquatic organisms, Environmental contaminants and food additives, cell volume regulation and cytotoxicity in shellfish and fish, oxidative stress markers and health status in non-target aquatic organisms, mechanisms responsible of the eryptosis, haematological and serological parameters in teleosts

Shi-Jian Fu, Chongqing Normal University, Chongqing, China
Swimming performance, metabolic rate, phenotypic plasticity, specific dynamic action, thermal biology, hypoxtia tolerance, locomotion, personality, consistent interindivudual difference

Ze-Xia Gao, Huazhong Agricultural University, Wuhan, China
developmental biology, genomics, molecular regulation, molecular breeding

Todd Gillis, University of Guelph, Guelph, Ontario, Canada
Mechanisms of vertebrate heart function, evolution of protein structure and function
Katie Gilmour, University of Ottawa, Ottawa, Ontario, Canada
Physiological, biochemical and molecular approaches to study stress in fish
Chris N. Glover, Athabasca University, Athabasca, Alberta, Canada
Environmental physiology of aquatic organisms, aquatic toxicology, epithelial transport
Kendra Greenlee, North Dakota State University, Department of Biological Sciences, Fargo, North Dakota, United States of America
Insect physiology
Raymond Henry, Auburn University, Auburn, Alabama, United States of America
Comparative physiology. function of carbonic anhydrase
Wei Hu, Institute of Hydrobiology Chinese Academy of Sciences, Wuhan, China
Fish, molecular breeding, reproductive endocrinology, sex determination, sex differentiation, sex reversal, primordial germ cells, gene transfer, gene editing
Pung Pung Hwang, Academia Sinica, Taipei, Taiwan
Molecular physiology of ion regulation in zebrafish, functional genomics, stress physiology
Alex Ip, National University of Singapore, Singapore, Singapore
Biomimetics, ammonia toxicity, urea synthesis, molecular physiology, animal-dinoflagellate symbiosis
Jorke Harmen Kamstra, Utrecht University, Utrecht, Netherlands
Molecular biology, gene expression, epigenetics, endocrine disrupting chemicals, in vitro, zebrafish
Christopher Kennedy, Simon Fraser University, Burnaby, British Columbia, Canada
Applied biology, toxicology, pest management
Jae-Seong Lee, Sungkyunkwan University - Natural Sciences Campus, Suwon, South Korea
Epigenetics, Host-microbiome interaction, Hypoxia, Ocean acidification, Microplastic, Rotifers, Copepods, Daphnia magna
Xuefang Liang, Inner Mongolia University, Hohhot, China
Aquatic toxicity testing technology, chemical and pesticide safety evaluation, Molecular ecotoxicology, Toxicogenomics
Tyson MacCormack, Mount Allison University, Sackville, New Brunswick, Canada
Mechanisms of nanoparticle bioactivity or toxicity, Comparative animal physiology, fish physiology, cardiovascular physiology, energy metabolism
Edward Mager, University of North Texas, Denton, Texas, United States of America
Fish physiology, ecotoxicology, PAHs, crude oil, metals, water quality
Grant McClelland, McMaster University, Hamilton, Ontario, Canada
Ontogeny, Phenotypic plasticity and evolution of muscle metabolism, Integrative animal physiology, Biochemistry, Molecular biology, hypoxia, high altitude, muscle, exercise, thermogenesis
Marshall McCue, Sable Systems International, North Las Vegas, Nevada, United States of America
Comparative and evolutionary physiology, Food and nutrition, bioenergetics, metabolism
Danielle McDonald, University of Miami Marine Biology and Fisheries, Miami, Florida, United States of America
Whole animal physiology, transport and receptor physiology, stress, serotonin, pharmacology, pharmaceutical toxicology, PAH toxicology
Matteo Minghetti, Oklahoma State University, Stillwater, Oklahoma, United States of America
Metal homeostasis, fish physiology, cell biology, molecular ecotoxicology, Nutrition, Aquaculture
Christopher D. Moyes, Queen's University, Kingston, Ontario, Canada
Evolutionary physiology, muscle energetics, environmental physiology
Carlos Navas, University of Sao Paulo, SAO PAULO, Brazil
Physiological ecology, herpetology, ecological climate change, thermal physiology, thermal ecology
Fernando G. Noriega, Florida International University, Miami, Florida, United States of America
Physiology, mosquitoes, hormones, Physiology, hormones
Makoto Osada, Tohoku University, Sendai, Japan
Evolutionary physiology, muscle energetics, environmental physiology
Jason Podrabsky, Portland State University, Department of Biology, Portland, Oregon, United States of America
Physiology, development, metabolic dormancy, anoxia, hypoxia, epigenetics
Cosima Porteus, University of Toronto Scarborough, Toronto, Ontario, Canada
Fish physiology, olfaction, climate change, hypoxia, cardioventilatory response, oxygen sensing
Jeffrey Richards, The University of British Columbia, Vancouver, British Columbia, Canada
Molecular mechanisms of cellular responses to environmental stress
Matthew L. Rise, Memorial University of Newfoundland, St John's, Newfoundland and Labrador, Canada
Genomics, reproduction, development, growth, responses to pathogens and environmental stressors
Aaron Roberts, University of North Texas, Denton, Texas, United States of America
Ecotoxicology, effects of environmental stressors on aquatic organisms
Graham Scott, McMaster University, Hamilton, Ontario, Canada
Evolutionary physiology, Respiratory physiology, Energy metabolism, Environmental stress, Hypoxia, High altitude, Mammals, Birds, Fish
Frank Seebacher, The University of Sydney, Sydney, New South Wales, Australia
Physiological ecology, evolutionary physiology, thermal biology, ectothermy, endothermy

Helmut Segner, University of Bern, Bern, Switzerland
Aquatic ecotoxicology, cytoprotective systems, hormone-active chemicals

Katherine Sloman, University of the West of Scotland, Paisley, United Kingdom
Behavioural physiology, fish ecology, fish welfare

Brian Small, University of Idaho Aquaculture Research Institute, Hagerman, Idaho, United States of America
Physiology and nutrition of aquacultured and wild fishes

Judit Smits, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
Ecotoxicology

Inna Sokolova, University of Rostock, Rostock, Germany
Environmental physiology and toxicology of marine organisms, adaptation to environmental stressors, effects of environmental change

James Staples, Western University, London, Ontario, Canada
Hibernation metabolism

Tomohiko Suzuki, Kochi University, Kochi, Japan
Arginine and creatine kinase, oxygen binding proteins, molecular evolution

Yoshio Takei, The University of Tokyo, Bunkyo-Ku, Japan
Fish biology, hormone control of osmoregulation, environmental adaptation, molecular evolution of fish

Akihiro Takemura, University of the Ryukyus, Nakagami-gun, Japan
Aquaculture, biological rhythm, circadian, coral reef, fish, gonadotropin, lunar cycle, melatonin, ovary, reproduction, sex steroids, tide, reproductive physiology, biological clock

Michael Tift, University of North Carolina Wilmington, Department of Biology & Marine Biology, Wilmington, North Carolina, United States of America

Anne Todgham, University of California, Davis, U.C. Davis Medical Center, Davis, California, United States of America
Environmental physiology, bioenergetics, thermal biology, polar biology, multiple stressors, phenotypic plasticity, environmental stress, integrative animal physiology, fishes, invertebrates

Glen J. Van Der Kraak, University of Guelph, Guelph, Ontario, Canada
Reproductive physiology, endocrine disruption, endocrinology, endocrine disruption, zebrafish, ovary

Mathilakath Vijayan, University of Calgary, Calgary, Alberta, Canada
Cellular and molecular mechanisms of stress tolerance

De-Hua Wang, Chinese Academy of Sciences, Beijing, China
Metabolic rate, thermogenesis, thermoregulation, thermal physiology, energy metabolism, mammals

Deshou Wang, Southwest University, Chongqing, China
Fish endocrinology and reproduction, Sex determination and differentiation, Sex steroids, Body color formation, Gene editing

Shi Wang, Ocean University of China, Qingdao, China
Marine Genomics, Genome Sequencing, Genotyping, Gene Expression, Epigenetics, Evolution, Shellfish

Shiqiang Wang, Peking University, Beijing, China
Hibernation, calcium signaling, live cell imaging, excitation-contraction coupling

Tobias Wang, Aarhus University, Aarhus, Denmark

Daniel Warren, Saint Louis University, Saint Louis, Missouri, United States of America
Human cellular physiology, comparative animal physiology, ecological physiology, comparative biochemistry

Shugo Watabe, Kitasato University School of Marine Biosciences Graduate School of Marine Biosciences, Ofunato, Japan
muscle biochemistry, environmental adaptation, marine genomics and biotechnology

Dirk Weihrauch, University of Manitoba, Department of Biological Sciences, Winnipeg, Manitoba, Canada
transport physiology, osmoregulation, nitrogen excretion and acid-base regulation in invertebrates and fish

Andrew Whitehead, University of California Davis, Davis, California, United States of America
Genomics, comparative genomics

Jonathan M. Wilson

Tianjun Xu, Shanghai Ocean University, Shanghai, China
Innate immune; Signaling pathway; Molecular regulation; Immune gene evolution; Non-coding RNA; microRNA

Kohji Yamamoto, National University Corporation Kyushu University, Fukuoka, Japan

Feng You, Institute of Oceanology Chinese Academy of Sciences, Qingdao, China
Fish chromosome manipulation, fish endocrinology, fish gonadal differentiation, fish sex control, fish breeding, fish population genetics, Fish chromosome manipulation, Fish gonadal differentiation, Fish sex control, Fish endocrinology, Fish breeding, Fish population genetics

Tania Zenteno-Savín, Biological Research Centre of the Northwest, La Paz, Mexico
Oxidative stress, comparative physiology, one health
GUIDE FOR AUTHORS

INTRODUCTION
Please bookmark this URL: https://www.elsevier.com/locate/cbpa

The journal publishes original articles emphasizing comparative and environmental aspects of the physiology, biochemistry, molecular biology, pharmacology, toxicology and endocrinology of animals. Adaptation and evolution as organizing principles are encouraged. Studies on other organisms will be considered if approached in a comparative context.

Part A. Molecular and Integrative Physiology covers molecular, cellular, integrative, and ecological physiology. Topics include bioenergetics, circulation, development, excretion, ion regulation, endocrinology, neurobiology, nutrition, respiration, and thermal biology. Studies on regulatory mechanisms at any level or organization such as signal transduction and cellular interactions and control of behaviour are encouraged.

Part B. Biochemistry and Molecular Biology covers biochemical and molecular biological aspects of metabolism, enzymology, regulation, nutrition, signal transduction, promoters, gene structure and regulation, metabolite and cell constituents, macromolecular structures, adaptational mechanisms and evolutionary principles.

Part C. Toxicology and Pharmacology covers chemical and drug action at different levels of organization, biotransformation of xenobiotics, mechanisms of toxicity, including reactive oxygen species and carcinogenesis, endocrine disruptors, natural products chemistry, and signal transduction. A molecular approach to these fields is encouraged. Measured rather than nominal exposure concentrations of toxicants must be reported whenever possible. For water-borne exposures of aquatic organisms, reporting of detailed chemistry data for the exposure waters is encouraged. When reporting data obtained from bioassays (e.g., LC50 tests), raw data (i.e., the value of the measured biological response variable(s) for each treatment and each observation time) should be submitted as online supplementary material.

Part D. Genomics and Proteomics covers the broader comprehensive approaches to comparative biochemistry and physiology that can be generally termed as "-omics", e.g., genomics, functional genomics (transcriptomics), proteomics, metabolomics, and underlying bioinformatics. Papers dealing with fundamental aspects and hypotheses in comparative physiology and biochemistry are encouraged rather than studies whose main focus is purely technical or methodological.

Naturally, a certain degree of overlap exists between the different sections, and the final decision as to where a particular manuscript will be published after passing the rigorous review process lies with the editors.

Types of articles
A Research Paper is a paper that focuses on an experimental question of broad interest to the comparative physiology community. Word count (excluding references): typically 4000 -8000 words, with at least 2 figures / tables. Papers are normally subdivided into sections titled: Abstract, Introduction, Materials and Methods, Results, Discussion, and References. Results and discussion may be combined if appropriate.

A Short Communication is like a Regular Article in scope, but is of a nature that a complete story can be presented in a brief communication. As Short Communications are expected to have higher than average impact on the field rather than report on incremental research, they will receive prioritized and rapid publication. Word count: less than 3000 words, with no more than 2 figures / tables. Each paper will begin with "Short Communication:" followed by the title. The paper includes and Abstract, but is otherwise not subdivided into sections.

A Methods article is focused on applying a novel technology or approach that would inform the CBP readership about a novel technology applied to a comparative physiology question. Word count: typically less than 3000 words, with no more than 2 figures / tables. Each paper will begin with "Methods:" followed by the title. The paper is subdivided into abstract, background, methods, applications.
An **Invited Review** is a submission that is solicited by an Editor-in-Chief, Associate Editor or member of the Editorial Board. An invited review is published with free access for the first year. Word count: typically 6,000-10,000, with 2 or more figures/tables. Each paper will begin with "Invited Review:" followed by the title.

A **Graphical Review** article can be submitted without a specific invitation, but authors are encouraged to request input form the appropriate Editor-in-Chief to ensure that the paper falls within the scope of the journal. This article type is meant to summarize the most recent status of a specific topic mainly through illustrations. The text and the number of references allowed are limited to favor a focus on the figures. The article structure should be as follows: **Abstract:** up to 250 words. **Body** (exclusive of figure legends): up to 2000 words, double-spaced, Arial font, size 11. **3-5 color schemes/figures** summarizing the state of the specific topic covered. Each figure needs to be self-explanatory, including sufficient annotations to allow the readers to quickly grasp the content of the figure. **Figure legends** must be straight to the point, providing additional details which deepen the message of the figure itself. Please ensure that the reader, who may not be a direct expert in the field, can easily grasp the information provided. **References:** no more than 25 key articles that exemplify the most significant recent advances in the field. **Illustrations:** Authors are expected to use their own illustration resources. They may also make use of Elsevier's Illustration Services to ensure the best presentation of their images, in accordance with all technical requirements.

An example of GR is available [here](#).

A **Review** article can be submitted without a specific invitation, but authors are encouraged to request input form the appropriate Editor-in-Chief to ensure that the paper falls within the scope of the journal. Each paper will begin with "Review" followed by the title. The paper is not subdivided into sections. A review is published with free access for the first year. Word count: typically 6,000-10,000 words, with 2-4 figures or tables. Each paper will begin with "Review:" followed by the title.

A **Commentary** is a more narrowly written review, typically focused on a specific concept of immediate importance to the discipline. While it is expected that authors survey the peer-reviewed literature on the subject, a Commentary paper offers more room for more speculative consideration of a topic. Authors are advised to contact the Editor-in-Chief to determine if your topic is suitable. Word count: less than 3000 words, with no more than 2 figures/tables. Each paper will begin with "Commentary:" followed by the title. The paper is not normally subdivided into sections.

**BEFORE YOU BEGIN**

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

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

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

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Research Council's Guide for the Care and Use of Laboratory Animals and the authors should clearly indicate in the manuscript that such guidelines have been followed. The sex of animals must be indicated, and where appropriate, the influence (or association) of sex on the results of the study.
Declaration of competing interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors should complete the declaration of competing interest statement using this template and upload to the submission system at the Attach/Upload Files step. Note: Please do not convert the .docx template to another file type. Author signatures are not required. If there are no interests to declare, please choose the first option in the template. More information.

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

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

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

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

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

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

Submission declaration
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.

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).

Preprint posting on SSRN
In support of Open Science, this journal offers its authors a free preprint posting service. Preprints provide early registration and dissemination of your research, which facilitates early citations and collaboration.

During submission to Editorial Manager, you can choose to release your manuscript publicly as a preprint on the preprint server SSRN. Your choice will have no effect on the editorial process or outcome with the journal. Please note that the corresponding author is expected to seek approval from all co-authors before agreeing to release the manuscript publicly on SSRN.
You will be notified via email when your preprint is posted online and a Digital Object Identifier (DOI) is assigned. Your preprint will remain globally available free to read whether the journal accepts or rejects your manuscript.

For more information about posting to SSRN, please consult the SSRN Terms of Use and FAQs.

Use of inclusive language

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

Reporting sex- and gender-based analyses

Reporting guidance

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

Definitions

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

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

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

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

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

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

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

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

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

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

Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's Author Services.
Referees
The slowest part of the review process is finding reviewers who meet the criteria for expertise and have sufficient time to take on these onerous tasks. It will accelerate the review process if you suggest reviewers that are suitable, using the following guidelines.

Free from conflict: Referees should be arms-length from the authors. This means they should be from different institutions and with no history of meaningful collaboration within 2 years.

International representation: At least two of your suggestions should be from outside your home country. At least one referee should be from our Editorial Board

Justification: Referees are not selected unless the editors can find evidence of their expertise through a publication record or institutional homepage. A URL can help the Editors verify that the recommended reviewer is appropriate.

Editors use the recommended reviewers as an indication of whether the authors believe their work can withstand scrutiny by international peers. If you cannot identify five expert, arms-length reviewers from different countries, then we see this as a sign that your study may not have broad appeal to our international readership, and may not be sent out for review.

PREPARATION

Queries
For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our Support Center.

Peer review
This journal operates a single anonymized review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of one independent expert reviewer to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

Manuscript file format
Editorial Manager (EM) is the journal's editorial system. EM automatically extracts the information from your submitted file to save you time during submission. Therefore, only EDITABLE source files must be uploaded for the main manuscript file - including figure captions, and these will typically have the extension .docx, .doc, or .tex. A PDF is NOT an acceptable source file for the manuscript. All other submission files can be supplied in your preferred file format. We strongly recommend you use the formatting recommended https://www.ariessys.com/wp-content/uploads/Best-Practices-for-Metadata-Extraction.pdf to enter authors names and information in your Manuscript file. The information can then be automatically extracted to fill in many required submission fields on the following pages, saving you a lot of time.

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

Article structure
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.

Statistics
Submissions are incomplete without detailed information on independent replication of experiments, statistical approaches and statistical analysis.
Theory/calculation
A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results
Results should be clear and concise.

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

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

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

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

If submitting a Review article, write "REVIEW" at the top of the title page.

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

Highlights should be submitted in a separate Word 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 of a maximum of 250 words 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.

The abstract should be a single paragraph not exceeding 250 words.
Graphical Abstract
A Graphical abstract is required for this journal and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. A Graphical abstract should as much as possible provide a visual indication of the context of the results depicted and should contain simple labels. Specifications: the maximum size of the image should be 200 x 500 pixels with a minimum resolution of 300 dpi. A Graphical Abstract should be one image and should not contain multiple panels; visualize one process or make one point clear; for ease of browsing, images should have a clear start and end, preferably 'reading' from top to bottom or left to right. No additional text, outline or synopsis should be included. Any text or label must be part of the image file. Graphical abstracts should be submitted as a separate file in the online submission system. Graphical Abstracts can be uploaded by selecting "Graphical Abstract" from the drop-down list when uploading files. In case of Review or Perspective articles, you may reuse one of your figures as graphical abstract. The graphical abstract will be displayed in online search result lists, the Contents List and the online article, but will not appear in the article PDF file or print.

Up to ten key words, which may or may not appear in the title, should be listed in alphabetical order after the abstract. Only these key words, together with the title, will be used for indexing purposes.

Keywords
Authors should supply five keywords after the Abstract. Please take the time to choose your keywords as they increase the discoverability of your article via search engines. They should not be words from the title or the abstract specifically because that would not improve the discoverability.

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.

DNA sequences and GenBank Accession numbers
Many Elsevier journals cite "gene accession numbers" in their running text and footnotes. Gene accession numbers refer to genes or DNA sequences about which further information can be found in the database at the National Center for Biotechnical Information (NCBI) at the National Library of Medicine and other public databases. Elsevier 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 capitalised. (See example below). This combination of letters and format will enable Elsevier's typesetters to recognize the relevant texts as accession numbers and add the required link to GenBank's sequences.
Example: "B-cell tumor from a chronic lymphatic leukemia (GenBank accession no. BE675048), and a T-cell lymphoma (GenBank accession no. AA361117)."

Authors must check accession numbers 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 **electronic copy**, the accession number text will be hyperlinked to the appropriate source in the relevant database.

**Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

**Artwork**

**Electronic artwork**

**General points**

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

A detailed [guide on electronic artwork](https://www.elsevier.com/locate/cbpa) is available.

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

**Formats**

If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

- EPS (or PDF): Vector drawings, embed all used fonts.
- TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
- TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
- TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

**Please do not:**

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

**Color artwork**

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF) or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) in addition to color reproduction in print. Further [information on the preparation of electronic artwork](https://www.elsevier.com/locate/cbpa).
**Figure captions**

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

**Tables**

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

**References**

**Citation in text**

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

**Web references**

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

**Data references**

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

**Preprint references**

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

**References in a special issue**

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

**Reference management software**

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

1. All publications cited in the text should be presented in alphabetical order in a list following the text of the manuscript.
2. In the text refer to the author's name and year of publication.
3. If reference is made in the text to a publication written by more than two authors the name of the first author should be used followed by "et al.". In this list names of first authors and all co-authors should be mentioned.
4. References cited together in the text should be arranged chronologically.
5. The List of references should be arranged alphabetically on authors’ names, and chronologically per author. Names of all authors must be included. Do not use et al. Publications by the same author(s) in the same year should be listed as 2000a, 2000b, etc. Follow the relevant examples below.


Reference style

Example:

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 requires and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings, which may also include software, code, models, algorithms, protocols, methods and other useful materials related to the project.
Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. When sharing data in one of these ways, you are expected to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

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

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

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

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

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

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

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

More information can be found on the Research Elements page.

**Submission check list at a glance**  
The following list will be useful during the final checking of an article prior to uploading it to the journal's website:

- **Ensure that your Manuscript File contains:** One author designated as the corresponding author with complete contact details (e-mail address, full affiliation and postal address) Keywords All figures as high-resolution files All figure captions All tables (including title, description, footnotes) References in proper format (in text and in reference section)

- **For successful electronic submission, authors also have to have to hand:** cover letter (word-processing format) a list of 5 or more researchers (names, affiliations and e-mail address), with expertise in the areas covered in the manuscript and who might be considered as suitable referees for the manuscript

- **Further considerations:** Manuscript has been ‘spell-checked’ and ‘grammar-checked’ References are in the correct format for this journal 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 Web)

For any other information please visit our customer support site at https://service.elsevier.com

**AFTER ACCEPTANCE**
**Online proof correction**

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

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

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

**Offprints**

The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**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