**Quantitative Biology**

INSTRUCTIONS FOR AUTHORS

**General information**

*Quantitative Biology* (QB) is a quarterly journal seeking to provide an inter- and multi-disciplinary forum for a broad blend of peer-reviewed academic papers in order to promote rapid communication and exchanges between scientists in the East and the West. It covers all branches of systems biology, synthetic biology, bioinformatics and computational biology to reflect the significant advances in quantitatively investigating and modeling natural as well as engineered life system at the molecular and higher levels. The journal especially encourages original papers that aim at coupling novel theory with cutting-edge experiments, especially in newly emerging and multi-disciplinary areas of research and development. The journal also welcomes high quality reviews and perspective articles.

Submissions of the following types are included, but not limited to:

- **Research Article**: Substantial novel research study, with a complex story often involving several techniques or approaches.
- **Review**: Comprehensive overviews of recent developments in a research field with comprehensive depth, balanced perspective, intellectual insight, and broad general interest.
- **Mini Review**: Topics of current interest and recent developments in a specific field.
- **Perspective**: A viewpoint discusses current advances and future directions on a specific field or subfield, which may advocate a controversial position or a speculative hypothesis.
- **Letter**: Important novel research result, but is less substantial than a Research Article.
- **Protocol/Tutorial**: Systematic and comprehensive description of data analysis models, algorithms, pipelines and/or software (MAPS) in important published scientific studies.
- **News and Views**: Inform readers about the latest advances in quantitative biology research, as reported in published papers (appearing in Quantitative Biology or elsewhere) and at scientific meetings.

Papers that have been reviewed, if the authors choose, may be submitted with previous reviews and decision letters. This allows for accelerated review.

When a manuscript is submitted, the Editors assume that no similar paper has been or will be submitted for publication elsewhere. Further, it is understood that all authors listed on a manuscript have agreed to its submission. Upon acceptance, authors must transfer copyright to Higher Education Press.

**Editorial policies**

*Ethical responsibilities of authors*

QB is a member of the Committee on Publication Ethics (COPE), and we follow the recommendations of international organizations on the editorial policy of scientific publications:

- [Code of Conduct and Best Practice Guidelines for Journal Editors](#)
- [Code of Conduct for Journal Publishers](#)
- [Principles of Transparency and Best Practice in Scholarly Publishing](#)
Submission of a manuscript to QB implies that all authors have read and agreed to its content and that the manuscript conforms to the journal’s policies.

Please be advised:

- The manuscript has not been published previously (partly or in full), unless the new work concerns an expansion of previous work (please provide transparency on the re-use of material to avoid the hint of text-recycling (‘self-plagiarism’)).
- A single study is not split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (e.g. ‘salami-publishing’).
- No data have been fabricated or manipulated (including images) to support your conclusions.
- No data, text, or theories by others are presented as if they were the author’s own (‘plagiarism’). Proper acknowledgements to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased), quotation marks are used for verbatim copying of material, and permissions are secured for material that is copyrighted.
- **Important note: the journal may use software to screen for plagiarism.**
- Consent to submit has been received explicitly from all co-authors, as well as from the responsible authorities - tacitly or explicitly - at the institute/organization where the work has been carried out, before the work is submitted.
- Authors whose names appear on the submission have contributed sufficiently to the scientific work and therefore share collective responsibility and accountability for the results.
- Authors are strongly advised to ensure the correct author group, corresponding author, and order of authors at submission. Changes of authorship or in the order of authors are not accepted after acceptance of a manuscript.
- Adding and/or deleting authors at revision stage may be justifiably warranted. A letter must accompany the revised manuscript to explain the role of the added and/or deleted author(s). Further documentation may be required to support your request.
- Requests for addition or removal of authors as a result of authorship disputes after acceptance are honored after formal notification by the institute or independent body and/or when there is agreement between all authors.
- Upon request authors should be prepared to send relevant documentation or data in order to verify the validity of the results. This could be in the form of raw data, samples, records, etc. Sensitive information in the form of confidential or proprietary data is excluded.

If there is a suspicion of misconduct, the journal will carry out an investigation following the COPE guidelines. If, after investigation, the allegation seems to raise valid concerns, the accused author will be contacted and given an opportunity to address the issue. If misconduct has been established beyond reasonable doubt, this may result in the Editor-in-Chief’s implementation of the following measures, including, but not limited to:

- If the article is still under consideration, it may be rejected and returned to the author.
- If the article has already been published online, depending on the nature and severity of the infraction, either an erratum will be placed with the article or in severe cases retraction of the article will occur. The
reason must be given in the published erratum or retraction note. Please note that retraction means that the paper is *maintained on the platform*, watermarked “retracted” and explanation for the retraction is provided in a note linked to the watermarked article.

- The author’s institution may be informed.

**Peer-review policy**

All manuscripts are subject to strict peer review organized by Editorial Board Members (EBM), who will select 2–5 reviewers with relevant expertise. QB adopts a single-blind review mode: the reviewers know the names of the authors, but the authors do not know who reviewed their manuscript unless the reviewer chooses to sign their report. QB considers articles that are scientifically valid and a useful contribution to the field. Manuscripts are initially assessed by our experienced team of in-house editors, and those that are deemed of interest are sent for peer review. Reviewers are expected to respond promptly to requests to review and to submit reviews within the time agreed. Reviewers’ comments should be constructive, honest, and polite. Should a split recommendation occur between the reviewers, another reviewer may be selected at the Editor or the Board member’s discretion. Final acceptance or rejection decision resides in the Editor-in-Chief/Associate Editors of QB. In general, the first-round review process takes up to 3–4 weeks from the date of submission, and the Editors will make every effort to reach a decision on a manuscript within this timeline. If revisions are required for further consideration for publication, we generally allow one or two months for revisions.

**Peer-review process**

All manuscripts submitted to Quantitative Biology will undergo extensive peer review organized by our Editorial Board Members (EBM).

1. All Manuscripts are submitted to the editorial office through the online submission system [https://mc.manuscriptcentral.com/qb](https://mc.manuscriptcentral.com/qb).
2. Scientific editor send the manuscripts to an Associate Editor of EBM after reviewing the manuscripts.
3. Associate Editor selects one from the following two lanes, or reject manuscript that do not meet QB standards, after reviewing the manuscripts.
   1) Normal track: Assign it to a Corresponding Editor of EBM, who will then invite 2-5 reviewers and send recommendation back to Associate editor.
   2) Fast lane track: Invite 2-5 board members or external reviewers to review the papers.
4. Associate Editor makes the decision based on Corresponding Editor’s recommendation (if normal track) or directly based on reviewers’ comment (if Fast lane), and informs the authors.
5. Authors revise the manuscript according to the Editor’s suggestions and re-submit the revised version for further evaluation, which will be processed again until it is accepted or rejected (repeat the above 2 and 3 steps).
6. Associate Editor will then recommend to accept or reject the manuscript based on the Corresponding Editor’s recommendation (if normal track) or reviewers’ comments (if Fast lane). The Editor-in-chief will make final decision.

**Publication fee**

No publication fee is charged for papers published in QB. QB also charges no fees for article submission and processing.
Papers published in QB are all free access over the world, furthermore the authors of the paper do not need to pay for it.

**Conflicts of interest**

Authors must disclose all relationships or interests that could have direct or potential influence or impart bias on the work. Although an author may not feel there is any conflict, disclosure of relationships and interests provides a more complete and transparent process, leading to an accurate and objective assessment of the work. Awareness of a real or perceived conflicts of interest is a perspective to which the readers are entitled. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate. Examples of potential conflicts of interests that are directly or indirectly related to the research may include but are not limited to the following:

- Research grants from funding agencies (please give the research funder and the grant number)
- Honoraria for speaking at symposia
- Financial support for attending symposia
- Financial support for educational programs
- Employment or consultation
- Support from a project sponsor
- Position on advisory board or board of directors or other type of management relationships
- Multiple affiliations
- Financial relationships, for example equity ownership or investment interest
- Intellectual property rights (e.g. patents, copyrights and royalties from such rights)
- Holdings of spouse and/or children that may have financial interest in the work

In addition, interests that go beyond financial interests and compensation (non-financial interests) that may be important to readers should be disclosed. These may include but are not limited to personal relationships or competing interests directly or indirectly tied to this research, or professional interests or personal beliefs that may influence your research. The corresponding author collects the conflict of interest disclosure forms from all authors. In author collaborations where formal agreements for representation allow it, it is sufficient for the corresponding author to sign the disclosure form on behalf of all authors.

This information should be mostly included in Compliance with Ethics Guidelines section of the published paper and the Conflict of Interest statements should list each author separately by name:

**Acknowledgements**: This study was funded by X (grant number X).

**Conflict of Interest**: Author A has received research grants from Company A. Author B has received a speaker honorarium from Company X and owns stock in Company Y. Author C is a member of committee Z.

If no conflict exists, the authors should state:

Conflict of Interest: Author A, Author B, and Author C declare that they have no conflict of interest.

**Plagiarism detection**

QB is a member of the CrossCheck plagiarism detection initiative.
QB uses CrossCheck’s iThenticate software to screen submitted manuscripts for similarity to published material. CrossCheck is a multi-publisher initiative allowing screening of published and submitted content for originality. We also embedded the plagiarism detection tool iThenticate into our ScholarOne submission system, thereby manuscript will be automatically checked by iThenticate when it is submitted successfully.

Informed consent

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. Hence it is important that all participants gave their informed consent in writing prior to inclusion in the study. Identifying details (names, dates of birth, identity numbers and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scientific purposes and the participant (or parent or guardian if the participant is incapable) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases, and informed consent should be obtained if there is any doubt.

The following statement should be included:

Informed consent: “Informed consent was obtained from all individual participants included in the study.”

If identifying information about participants is available in the article, the following statement should be included:

“Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.”

Submission requirements

Cover letter

A cover letter from the corresponding author must accompany the manuscript and should provide a brief description of what was known in the field, the conceptual breakthrough, and the significant impact of the reported findings. The authors are encouraged to suggest appropriate reviewers and are permitted to make request for up to three reviewer exclusions. Cover letter should state that the submitted material is original research, has not been previously published, and has not been submitted elsewhere while under review by QB. The cover letter is confidential and will not be sent to the reviewers.

Manuscript components

Manuscript should be arranged in the following order:

(a) Title section (including Title, Running Title, Authors, Author Affiliations, and Correspondence).
(b) Abstract.
(c) Introduction.
(d) Results.
(e) Discussion.
(f) Materials and Methods.
(g) Acknowledgements.
(h) Compliance with Ethics Guidelines.
(i) References.
(j) Figure legends and table legends.
(k) Figures.
(l) Tables.
(m) Supplemental materials.

Text components of the manuscripts (a-j) should be prepared with Microsoft Word in double space and size 10 Times New Roman font. Tables should be prepared in Microsoft Word with single space. Figures (k) should be uploaded individually (through online submission system) in its original file form. Please use Mathtype in creating your equations rather than the equation creator inbuilt with Microsoft Word. If your submission is prepared in Tex file, please submit the pdf file of your article in submission through the online system instead of the original file.

**Research article format**

**Text**

- **Title**  The title should be informative and concise, and not longer than 150 characters (including space). It should describe the topic of the manuscript in terms understandable to a broad readership in either a complete sentence or a phrase.
- **Running title**  The running title that describes the key meaning of the paper should be within 80 characters (including space).
- **Authors**  Authors should be listed in full names, beginning with the given name, and followed by the family name. Affiliations (including department/subunit, institution, city, state/region, postal code and country) should be provided for each author. If the authors are affiliated to different units, the affiliation sequence should be in the same order of author list, marked at the right upper corner of the author names using 1, 2, 3, etc. Corresponding author’s name, full postal address, telephone and fax numbers and e-mail address need to be provided.
- **Abstract**  The Abstract should not exceed 250 words. Please minimize the use of abbreviations and do not cite references in the abstract. The abstract should be written in one paragraph, but include the following separate sections for research articles and review articles:
  
  _Background:_ the context and purpose of the study
  _Methods:_ the main design and analysis (If any for review articles)
  _Results:_ the main findings
  _Conclusions:_ a brief summary and potential implications

- **Introduction**  It mainly includes the following parts: the background of the research through literature citation, the problems or questions needed to be solved, the objectives of the research, and the main methods used.

- **Results**  Results can be described using text, tables and figures. The text should complement material given in Tables and/or Figures but should not directly repeat it. Please give full details of statistical analysis either in the text or in Tables and/or Figure legends. Please include the type of test, the precise data to which it was applied, the value of the relevant statistics, the sample size and/or degrees of freedom, and the probability level.
**Discussion**  The main purpose of the Discussion is to comment on the significance of the results and set them in the context of previous work. Hypothesis should be rational and evidence-based. Please avoid repeating information in the Results section.

**Materials and methods**  Methods must be described completely enough so that other laboratories can replicate results and verify claims. Generally, standard procedures should be referenced, though significant variations should be described. Appropriate experimental design and statistical methods should be applied and described wherever necessary for proper interpretation of data and verification of claims. All novel materials and procedures should be described in sufficient detail to allow their reproduction (e.g., DNA constructs, genetic stocks, enzyme preparations, and analytical software).

**Acknowledgements**  A list of contributions, credits, potential conflicts of interests, and previous presentation of the information reported in the manuscript.

**Abbreviations**  Abbreviations used in the text should be defined. However, some common names, such as GTP, RNA, PBS, PCR may not be defined. All nomenclature, including gene names and symbols, should be used in a scientifically accurate manner following the nomenclature conventions adopted by the scientific community.

**Figure/Table legends**  Every figure should contain a title, and the figure legend should follow the title closely. Figure legends should provide enough information to make the figures understandable without frequently referring to the text. Do not describe methods in figure legends unless they are necessary to interpret the results conveyed by the figure. Define in the legend all symbols and abbreviations that are used in the figure.

**References**  The references section should include all printed/online journal articles, books and book chapters, published conference proceedings, and meeting abstracts. Please cite unpublished data (including submitted manuscripts), personal communications, statistical packages, computer programs and web sites in text only. Accession numbers may be cited either within the text or in the form of a reference. All the references should be cited in the text by sequential number only, in order of appearance, and listed numerically in the References section. All authors' names (up to ten) should be quoted. Where the list of authors is extensive it is acceptable to list the first 10 authors followed by et al. Full titles of journal articles should be provided. Please refer to the following examples:


Tables and figures

· Tables Tables should be practically self-contained and self-explanatory. All tables should be cited in the text and numbered consecutively with Arabic numerals. Label each table at the top with an Arabic numeral followed by the table title. Insert explanatory material and footnotes below the table. Designate footnotes using lowercase superscript letters (a, b, c) reading horizontally across the table. Abbreviations that are used in a table should be defined in the footnotes. Please prepare the tables in MS Word with a single-space format. Do not embed tables as graphic files, document objects, or pictures.

· Figures Figures (graphs, charts, photographs, and illustrations) should be practically self-explanatory and labeled professionally. Dimensional drawings and diagrams should include only the essential details and as little lettering as possible. The magnification for micrograph should be indicated by scale bars, inscriptions should be legible, and the symbols and letters should be consistent among the panels.

Please make sure that the letters, labels and symbols are in proportion to the figure and are easily readable after the figures are reduced to printable size. For example, the final text should be at least 2 mm in size and the graph lines should be at least 0.5 pt in weight. We recommend that all graphs are submitted in the intended publication size.

The options include:
· 1 column width: 3.3 inches (8.4 cm)
· 2 column width: 6.7 inches (17 cm)
· Maximum height: 9 inches (23.0 cm)

Figures should be prepared in a publication quality resolution. The minimal resolution is:
· color images – 300 dpi. Color figures must be supplied in CMYK not RGB colors.
· grayscale images and line drawing – 600 dpi
· screen – 72 dpi.

Each figure (with one or more panels) can be submitted individually through online submission system, which will automatically convert the figures to PDF format for review purpose and keep the original files for publication. To ensure the quality, we recommend TIFF or EPS file types for illustrations. If a single PDF file containing multiple figures is submitted, each figure should occupy a single page and the figure number should be indicated. However, original files will be requested upon acceptance. We cannot accept MS Powerpoint or MS Word file for figures.

· Cover figures Authors are encouraged to submit color figures to be considered for the cover figures of QB. Such figures must be related to the manuscript they accompany. Potential cover figures should be uploaded as separate files during the online submission of a manuscript.

Supplemental materials

Supplemental materials that are directly related to the conclusion are welcomed. However, unrelated data may be removed by editors. Depending on the nature of supplemental materials, they can be in plain text, MS Word, MS Excel, JPEG, TIFF, video, et al. We encourage authors to submit supplemental documents in PDF format if applicable.

Protocol/Tutorial format

1. Title section (the requirements for items 1, 7–12, is the same to that of research articles.)
2. Abstract

3. Introduction

4. Materials (Please include a list of the essential materials such as any special equipment or computers required, so that users can identify the product, e.g. company website, product code.)

5. Protocol/Tutorial (A numbered list of data analysis instructions is preferred in this section. A published data set and analysis outputs such as figures and screenshots can be used to illustrate the protocol. If the protocol should be broken into several separate stages, please highlight subheadings and resume the numbered list.)

6. Discussion (summary, limitations and possible future developments of the MAPS)

7. Acknowledgements and Funding

8. Compliance with Ethics Guidelines

9. References

10. Figures and legends

11. Tables and legends

12. Supplemental materials

**Review article format**

Reviews can be organized by the following:

- Title
- Affiliations
- Abstract
- Keywords
- Introduction (First-level heading)
  - ...... (First-level heading)
    - ...... (Second-level heading)
    - ...... (Third-level heading)
  - ...... (First-level heading)
- Abbreviations (if any)
- Acknowledgements
- Conflict of interest
- References

**Compliance with ethical standards**

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals.
Authors should include the following statements (if applicable) in a separate section entitled "Compliance with Ethical Standards" before the References when submitting a paper:

- Disclosure of potential conflicts of interest
- Research involving Human Participants and/or Animal
- Informed consent

Please note that standards could vary slightly per journal dependent on their peer review policies (i.e. double blind peer review) as well as per journal subject discipline. Before submitting your article check the Instructions for Authors carefully.

The corresponding author should be prepared to collect documentation of compliance with ethical standards and send if requested during peer review or after publication.

The Editors reserve the right to reject manuscripts that do not comply with the above-mentioned guidelines.

The author will be held responsible for false statements or failure to fulfill the above-mentioned guidelines.

**Research involving human participants and/or animals**

1) Statement of human rights

When reporting studies that involve human participants, authors should include a statement that the studies have been approved by the appropriate institutional and/or national research ethics committee and have been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

If doubt exists whether the research was conducted in accordance with the 1964 Helsinki Declaration or comparable standards, the authors must explain the reasons for their approach, and demonstrate that the independent ethics committee or institutional review board explicitly approved the doubtful aspects of the study.

The following statements should be included in the text before the References section:

**Ethical approval**: “All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.”

For retrospective studies, please add the following sentence:

“For this type of study formal consent is not required.”

2) Statement on the welfare of animals

The welfare of animals used for research must be respected. When reporting experiments on animals, authors should indicate whether the international, national, and/or institutional guidelines for the care and use of animals have been followed, and that the studies have been approved by a research ethics committee at the institution or practice at which the studies were conducted (where such a committee exists).

For studies with animals, the following statement should be included in in the text before the References section:

**Ethical approval**: “All applicable international, national, and/or institutional guidelines for the care and use of animals were followed.”

If applicable (where such a committee exists): “All procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.”

If articles do not contain studies with human participants or animals by any of the authors, please select one of the following statements:

“This article does not contain any studies with human participants performed by any of the authors.”
“This article does not contain any studies with animals performed by any of the authors.”
“This article does not contain any studies with human participants or animals performed by any of the authors.”

Submission

Please submit your complete manuscript to QB editorial office through online submission system, http://mc.manuscriptcentral.com/qb.

After acceptance

- The peer-reviewed accepted article with a DOI can already be cited (As soon as a peer-reviewed article is accepted, it can be cited with a DOI through the platform). The early editions will be replaced when the later versions come out with better editing and typesetting. Online versions are available through both https://link.springer.com/journal/40484 and http://journal.hep.com.cn/qb/EN/2095-4689/current.shtml.
- The purpose of the proof is to check for typesetting or conversion errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not allowed without the approval of the Editor.
- All authors will receive a complimentary copy of the print issue, and the corresponding author will also receive a PDF of the article to share with coauthors.

Copyright transfer

No article can be published unless accompanied by a signed Copyright Transfer Statement, which ensures a transfer of copyright from the authors to the Higher Education Press, including print version, disk version, online version and other media versions. A copy of the Copyright Transfer Statement to be used will be provided with the letter of acceptance of the manuscript. Authors are asked to scan and return by e-mail or fax the signed statement to the editorial office of QB at the Academic Publishing Division of the Higher Education Press.

No part of a paper which has been published by QB may be reproduced or published elsewhere without the written permission of the publisher.

Language assistance

Authors who are not native English speakers may appreciate assistance with grammar, vocabulary, and style. This can improve the accuracy and facilitate the communication with other scientists and reviewers. Some companies provide revising, editing, and proofreading services for scientific and medical research documents are listed:

http://www.biosciencewriters.com
http://www.prof-editing.com
http://www.editage.cn
http://www.scientrans.com
http://www.bioedit.co.uk

Please note that QB does not use these services and will not guarantee the quality of their work.
Research data policy

The journal encourages authors, where possible and applicable, to deposit data that support the findings of their research in a public repository. Authors and editors who do not have a preferred repository should consult Springer Nature’s list of repositories and research data policy.

- List of Repositories

- Research Data Policy

General repositories - for all types of research data - such as figshare and Dryad may also be used. Datasets that are assigned digital object identifiers (DOIs) by a data repository may be cited in the reference list. Data citations should include the minimum information recommended by DataCite: authors, title, publisher (repository name), identifier.

- DataCite

Springer Nature provides a research data policy support service for authors and editors, which can be contacted at researchdata@springernature.com. This service provides advice on research data policy compliance and on finding research data repositories. It is independent of journal, book and conference proceedings editorial offices and does not advise on specific manuscripts.

- Helpdesk
Quantitative Biology
Editors-in-Chief: Tang, C.; Zhang, M.Q.
ISSN: 2095-4689 (print version)
ISSN: 2095-4697 (electronic version)
Journal no. 40484