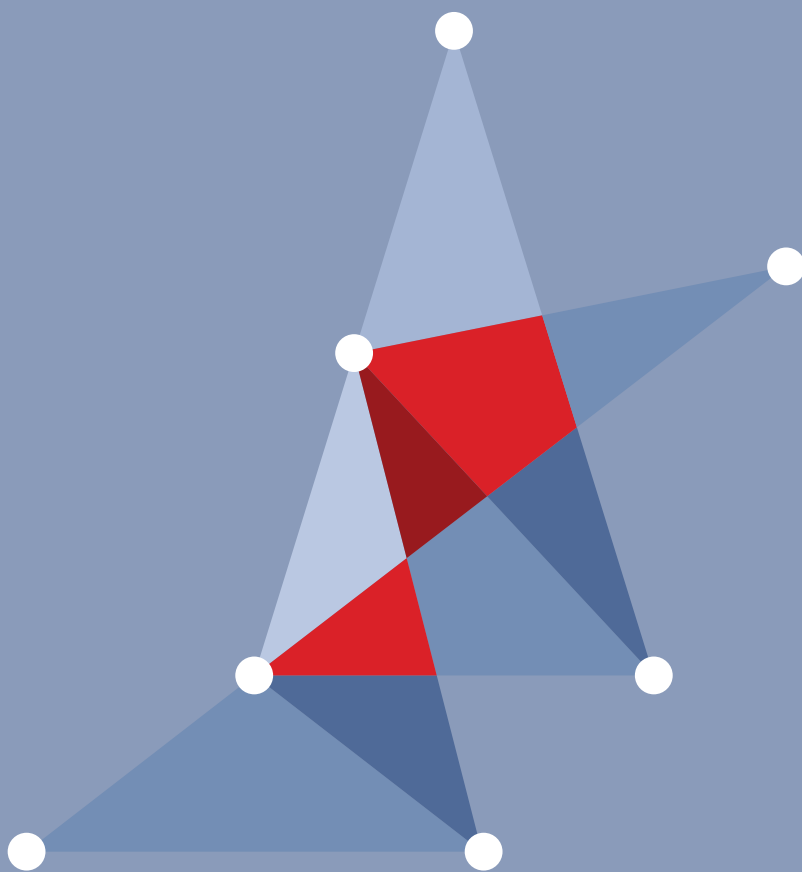


# Introductory guide for authors

This guide is for early-career researchers who are beginning to write papers for publication.

**[publishingsupport.iopscience.org](http://publishingsupport.iopscience.org)**





This guide is for early-career researchers who are beginning to write papers for publication. Academic publishing is rapidly changing, with new technologies and publication models giving authors much more choice over where and how to publish their work. Whether you are writing up the results of a PhD chapter or submitting your first paper, knowing how to prepare your work for publication is essential.

This guide will provide an overview of academic publishing and advice on how to make the most of the process for sharing your research.

For more information and to download a digital version of this guide go to **[publishingsupport.iopscience.org](https://publishingsupport.iopscience.org)**.

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# Choosing where to submit your paper

It can be tempting to begin writing a paper before giving much thought to where it might be published. However, choosing a journal to target before you begin to prepare your paper will enable you to tailor your writing to the journal's audience and format your paper according to its specific guidelines, which you may find on the journal's website.

## Top 10 things to consider when choosing where to submit your paper.

<b>Peer review</b>	Does the journal provide a peer-review service? Peer review is considered a stamp of quality from the research community.
<b>Relevance</b>	Does the journal publish other, similar papers to the one you are preparing? Where do your peers publish?
<b>Scope</b>	Is the journal broad in its scope or is it a specialist journal read mainly by a particular community?
<b>Reputation</b>	Does the journal have a strong reputation in your field? What is the Impact Factor of the journal?
<b>Timeliness</b>	Is fast publication important to you? Have you checked the publication times for the journal?
<b>Cost</b>	Will the journal charge you for publishing your paper? Will your institution cover the publication charge if there is one? Will you be charged for extra pages/colour figures/supplementary data?
<b>Language</b>	Most international journals publish papers written in English. Will you need to have your paper checked by a native English speaker?
<b>Visibility</b>	Is the journal likely to be read and cited by other researchers working in your field?
<b>Indexing</b>	Is the journal indexed in the major online databases such as Web of Science or Scopus?
<b>Appearance</b>	Does the journal publish papers in a format that is suitable for your work?

**Open access or subscription journals?**

The cost of publishing academic papers can be paid for in a number of ways. Traditionally, libraries and other institutions pay a subscription fee to receive individual journals or collections of titles for their researchers. This is known as the subscription model and, as an author, you usually do not have to pay a fee to publish a paper in a subscription journal, although you may incur a page charge or be charged for colour figures.

The open access publishing model allows published papers to be freely available for anyone to read. This means that authors, research institutions or funding organisations may fund the costs of publishing. In return, authors can ensure that everyone is able to access their work. If you wish to submit to a journal that charges for publication, always check with your institution to ensure that there are funds available to cover these charges. Some open access journals offer discounts, so check to see whether these apply to you.

**Self-archiving**

There are a number of ways to publish a paper, but many authors also share their work in online repositories. This is known as self-archiving. The arXiv repository, managed by Cornell University, is a good example of this. Authors can upload their manuscript to non-commercial online repositories, subject to journal conditions. Many authors upload their unpublished work, which has not undergone any form of review. If you wish to share your work quickly or gain informal feedback from your community, self-archiving can be useful. Remember, though, online repositories are only archives and most will not subject your work to formal peer review.

# Writing and formatting

Any paper published in a leading research journal should clearly and concisely demonstrate a substantial, novel, interesting scientific result, and be scientifically rigorous. There are three stages to preparing a paper for submission to a journal: planning, writing and editing.

## Planning

Consider the best way to structure your paper before you begin to write it. Some journals have templates available that can assist you with structuring. Different sections that typically appear in scientific papers are described below.

The **title** attracts the attention of your desired readership at a glance and should distinguish your paper from other published work. You might choose an eye-catching title to appeal to as many readers as possible, or a more descriptive title to engage readers with a specific interest in the subject of your paper. The title should contain key terms.

The **abstract** very concisely summarises the content of your paper. It states simply what work you undertook, your key results and conclusions. Importantly, like the title, the abstract will help potential readers to decide whether your full paper will be of interest to them. Abstracts are usually less than 200 words in length and should not contain undefined abbreviations or jargon. Avoid speculation or exaggeration.

The **introduction** clearly states the goal of your work, its scope and the main advances that you are reporting. It gives reference to relevant results of previously published work, showing the context of your work.

A **theoretical and experimental methods** section gives sufficient information to allow another researcher to duplicate your results.

The **results and discussion** section states your results and their potential implications. In the discussion, you should state the impact of your results compared with recent work.

**Conclusions** summarise key results and may include any plans for relevant future work.

**Acknowledgments** recognise the contribution of funding bodies and anyone who has assisted in the work.

**References** list relevant papers referred to in the other sections, citing original works, both historical and recent.

Carefully chosen and well-prepared **figures**, such as diagrams and photos, can greatly enhance your article. We encourage you to prepare figures that are clear, easy to read, and of the best possible quality. The captions should ensure that the figures are self-contained.

## Writing

Once you have established a plan, you can begin writing your paper. You may wish to consider the following tips for good writing practice.

**Clarity** is crucial. Your paper must be easy to understand. Consider the readership of your chosen journal, bearing in mind the knowledge expected of that audience. You should introduce any ideas that may be unfamiliar to your readers early in the paper so that your results can be easily understood. Your paper must be written in correct English. **If you lack experience of writing in English you may wish to consult a native speaker for assistance.** Some journal publishers, including IOP Publishing, offer assistance in language editing, see [editing.iopscience.iop.org](http://editing.iopscience.iop.org).

**Conciseness** is effective in holding the attention of readers. All content of your paper should be relevant to your main scientific result. Convey your ideas concisely by avoiding overlong sentences and paragraphs. However, avoid making it so concise that it loses clarity.

## Editing

On completion of the first draft, carefully re-read your paper and make any amendments that will improve the content. When editing your paper, reconsider your original plan. It might be necessary to alter the structure of your paper to better fit your original outline. You may decide to rewrite portions of your paper to improve clarity and conciseness. You should repeat these processes over several successive drafts if necessary. When complete, **send the paper to colleagues and co-authors for feedback.** When all co-authors are satisfied that the draft is ready to be submitted to a journal, carry out one final spelling and grammar check before submission.

# Peer-review process

Peer review is the process used to assess whether an academic paper is suitable for publication based on the quality, originality and importance of the work. Your paper is evaluated by expert peers in the field, known as referees, with a publication decision made by the journal editors.

## **Role of the editor**

Upon submission, editors will assess the general suitability of your paper for the journal. If deemed potentially suitable, the editor will select referees for your paper, based on their scientific interests and background.

The editors may welcome suggestions for specific referees from you or your co-authors in some cases. When the referee reports are received (typically two reports), an editor will make an initial decision along the following lines:

- To unconditionally accept the paper
- To request mandatory amendments with likely acceptance
- To request major revision and encourage resubmission
- To reject the paper outright

## **Role of the referee**

When asked to review a paper, typically, referees are asked to comment on the following aspects:

- Scientific merit and rigour
- Originality and significance
- Appropriateness for the journal
- Clarity and conciseness
- Structure and balance
- Presentation, repetition and length
- Referencing

The referees provide supporting remarks and their comments are generally very helpful for improving the quality of submitted papers. The referees are usually anonymous.

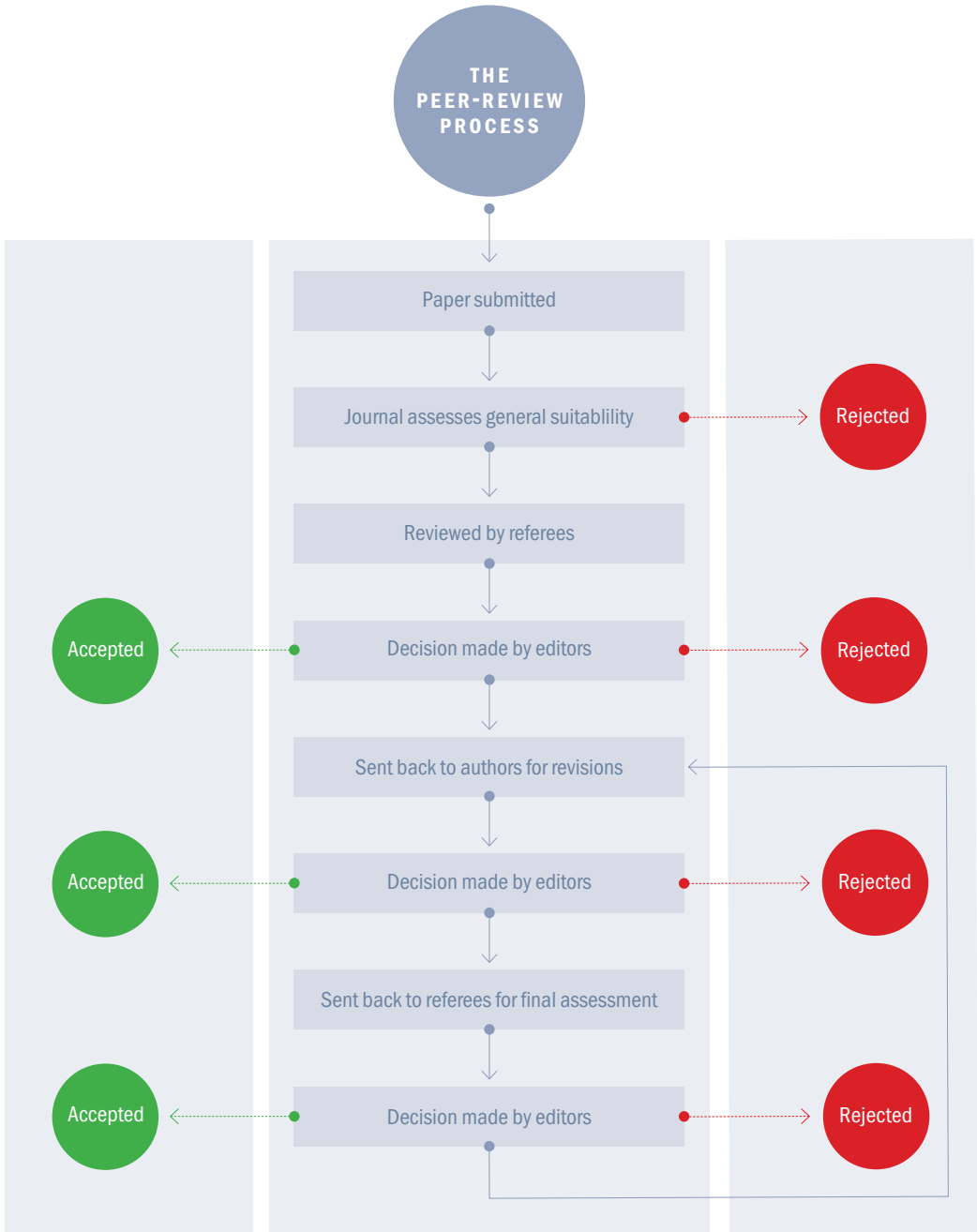
## **How long will peer review take?**

This can vary dramatically, from several days to several months, for different research areas and depending on the responsiveness of referees. Check the journal website to see if it provides any information on typical review times. Often authors may track the progress of their paper online.

## **Can I appeal if my paper is rejected?**

This depends on the journal policy. Often, if you can provide sufficient justification for an appeal and you can scientifically refute the reasons for the original rejection decision, then your appeal will be considered by the journal editors. You can check this with the journal's editorial office.





# Revising and responding to referee reports

## **Addressing referees' comments**

Whichever type of revision you have been asked to do, you should consider each referee report carefully and address every comment. As well as making changes to your paper, you should also provide a detailed point-by-point reply to each referee. Even if you do not agree with what the referee has said, or if you do not want to make a particular change, you should still provide an explanation in your reply. This will be very useful in helping the referees or editors to make a final decision on your paper.

## **What files to submit and when**

When submitting your revised paper, you should also send in a detailed list of changes and reply to each referee. A copy of your revised paper with the changes highlighted can also be very useful.

Revision deadlines will vary between publishers. The amount of time you will be given to make your revisions will reflect the extent of changes required. It is very important that you keep to your deadline, as your paper may be withdrawn if the journal does not receive a response from you. If you need more time to revise your paper then contact the journal; you may well be granted an extension. Be aware that in some cases, for example, when your paper is to be included in a special issue, the deadlines may be very strict.

## **What happens next?**

If the amendments requested were relatively minor, then your amended paper may be checked by the editors. If more substantial revisions were required then your paper will probably be sent back to one or more of the original referees.

The referees might then be satisfied with your paper and request no further changes, or may suggest some more amendments. The editors may choose to consult a senior referee or make a final decision themselves.

### DO...

stick to the deadline, or ask if you need an extension;

read each report carefully;

seek clarification from the journal if anything is unclear and you are not sure of what the journal/referee is asking of you;

provide an answer to every point even if you are not making changes to the paper;

be polite – remember that refereeing is a voluntary task and referees often spend a lot of time and effort on writing reports.

### DON'T...

ignore any parts of the report – if you are not acting on any of the advice then give reasons why not;

include personal comments about the referees – you should comment constructively on the content of the report;

take any criticisms personally – referees can help you improve the scientific quality of your paper.

# Acceptance and publication

## **Producing the proof**

Once the editor is happy that the paper is ready for publication, the paper will be accepted and the authors informed. Many IOP journals will post the “accepted manuscript” version online within 24 hours, so readers can access your work straight away while the final version of record is being prepared. The process by which the paper progresses to publication will vary from journal to journal, but you can typically expect your paper to be edited to meet the format of the journal. At this point, you will be contacted and asked to check the proof of your paper and inform the editor of any problems. Problems that you may encounter include unintentional changes to the meaning of a sentence as the result of editing for English, or inappropriate positioning of a figure in the paper. Most journals have their own policy on colour in print and if you think that a certain image in your paper would benefit from colour you should inform the editor; this may incur a surcharge.

## **Correcting the proof**

Once you approve the proof of your paper, this is the final version that will be published. Once a paper is published online it cannot normally be amended – any corrections have to be done through a corrigendum or erratum, which is a separate publication. Take some time to make sure that the proof you approve is exactly as you wish it to appear online, as it will be too late to make changes later.

## **Publication**

Once you have sent your corrections, they will be carried out in accordance with the journal style, the final version of record will then be published online. Print publication may not happen for some time depending on the frequency of the journal (if they produce a print copy at all). You should be informed when your paper is published.

## **Promotional material**

At some point in this process you may be approached by the editor and invited to supply some additional promotional materials. If your paper is identified as being of particularly wide interest then you may even be asked to collaborate on producing a press release to accompany the publication of your paper or setting of equations. This is a great way of getting your paper seen by the wider public and increasing your research profile.

# Promoting your published work

Publication should be the start of the next important phase in communicating your research: promoting your paper.

## Why is it important to promote your work?

The true value and impact of your paper can be greatly enhanced by promotion. The more people who read and benefit from your research, the more valuable your paper becomes and the greater your esteem as an author.

## Is promotion carried out by the publisher?

Many publishers will go to great lengths to raise awareness of your paper. For example, IOP journals have a number of initiatives to promote papers including press releases, coverage on their community and journal websites, video abstracts, highlights collections, e-mails to authors' peers, social-media coverage, and so on. However, not all papers can receive the full attention that they deserve and the best experts for promoting the paper are the authors.

## How you can promote your own work

There are many ways that can ensure that your work does not get overlooked. Here are some of the key methods:

- Use your **network** and let colleagues and peers know that you have published a paper (e.g. by e-mail)
- Use **social media** to promote your work through blogging or other outlets such as Facebook or Twitter
- When speaking at **conferences or seminars** be sure to mention your publication
- Highlight your paper on your **departmental or research group website**
- Contact your institution's press office for advice about promoting your paper to the **media**

## Pitching your work at the right level

Consider who your audience is. For an audience of experts it is useful to go into specific aspects of your work. If your audience is more general, then keep it at an introductory level. Avoid the use of jargon and try to communicate the benefits and applications of your research. Often the use of images can make your work more appealing to a general readership.

## Measuring the success of your paper

There is no definitive way to evaluate the success of a paper. Often, metrics such as how frequently a paper has been downloaded or cited is an indicator. Typically, though, it takes time for the value of a paper to be realised. Just remember that a paper that has been promoted will reach a larger audience than one that has not.

# Copyright and ethical integrity

## Copyright

Copyright is a way to protect an original idea expressed in a physical medium. It gives the holder the right to govern the reproduction, distribution and communication of the work, both in print and electronically, to others.

Transfer of copyright helps a publisher make papers more widely accessible across different media and hence ensures that the research gains global exposure. Usually, an agreement to transfer copyright from author to publisher is signed before publication.

## Licence agreements

Some journals or publishers may not require the transfer of copyright in order to publish your article. In this case, the work will usually be published under a licence agreement. A very wide variety of licences exist and authors may need to carefully read the specific conditions put on the redistribution of their work.

## Permissions

To use copyright-protected material (e.g. figures from another paper), generally, you must obtain the written permission of the author and the publisher concerned before incorporating the work in your paper.

## Ethical integrity

Ethical integrity is an essential part of scientific publishing. There are basic guidelines that all authors should adhere to.

## Redundant publication

Submitting the same paper to more than one journal at the same time, or duplicating a publication, is unethical and unacceptable.

## Fraudulent behaviour

Data should not be fabricated, falsified or misrepresented, and should be the author's own work.

## Ethical policies

Always check if the journal you are submitting to has any specific ethical policies that you must follow. These are especially common in fields such as medicine, where research involving human or animal subjects must obey certain standards.

## Plagiarism

It is unethical for an author to try to present someone else's ideas or work as their own. All sources used in a paper should be clearly cited and permission must be sought for the reproduction of large amounts of previously published material. Many journals now use special plagiarism-detection software, such as iThenticate, to identify any submissions that are not sufficiently original.

## Authorship

Authors should ensure that all those who have made a significant contribution are given the opportunity to be listed as authors. Other individuals who have contributed to the study should be acknowledged. All the authors should have seen the paper and had a chance to make amendments to it, and agreed to its submission. Do not add someone as an author without their permission.

## Citation

Authors should acknowledge the work of others used in their research and cite publications that have influenced the direction and course of their study.

## Conflicts of interest

Any potential conflicts of interest should be disclosed to the editors. These include personal, academic, political, financial and commercial gains.

# Frequently asked questions

## Where can I find information on the formatting of my paper and the file types allowed?

You should check the journal website in the first instance for information on this.

## Who should be included as a co-author on the paper?

Anyone who has made a significant contribution to the results reported in the paper. All co-authors should be made aware of the paper and agree to its submission.

## In what order should authors on the paper be listed?

The authors should reach an agreement on the order themselves. Typically, the person who made the most significant contribution is listed first, while the corresponding author may be specified separately.

## How long will I have to wait before receiving the referee reports?

This depends on a lot of factors, including the responsiveness and speed of the individual referees, and varies greatly from journal to journal. Hopefully, it will be a matter of weeks, but it can take months.

## Can I request different referees if I don't agree with them?

If you do not agree with the referee reports then contact the editor, giving a detailed response to the report(s) and giving clear reasons why you do not agree. Depending on journal policy, your paper may then be sent to a different referee, or to an editor for advice on how to proceed.

## Will I be told who has written the reports?

No, most peer-reviewed journals do not tell the authors who has written the reports. Preserving the anonymity of referees is generally felt to be very important.

## Will the referees know my identity?

Yes, most journals operate a single-blind peer-review process, whereby the referees know who the authors are, but not vice versa. Some of our journals offer double-blind peer review, where the identity of both the authors and referees are protected.

## Can I request a deadline extension when revising my paper?

If you need more time to revise your paper then contact the editor as soon as possible. They will usually be able to grant you an extension, but this will depend on their particular policy and also other factors such as the type of paper you have submitted.

## Can I publish other material related to my paper alongside the journal publication?

Supplementary files can enhance the online versions of published research articles. Supplementary files typically consist of video clips, animation or data files, tables of extra information or extra figures. They can add to the reader's understanding and present results in attractive ways that go beyond what can be presented in the print version of the journal. Most journals can include such data alongside your publication.

## Where can I get more information?

This is a beginner's guide to publishing only and is based mainly on IOP journal processes. There are many other sources of information, including your supervisor and colleagues. You can find more information about publishing on the following websites:

The Research Information Network's *Peer review: A guide for researchers* can be found at [www.rin.ac.uk](http://www.rin.ac.uk)

*Whitesides' Group: Writing a Paper*, G M Whitesides, 2004, *Adv. Mater.* **16** 1375–1377  
doi: [10.1002/adma.200400767](https://doi.org/10.1002/adma.200400767)

# Publishing glossary

## **Accepted manuscript**

Is the version of the article accepted for publication including all changes made as a result of the peer-review process, prior to any copyediting or typesetting.

## **Adjudicator**

An adjudicator is an additional referee who is asked to consider a paper if two or more referees disagree in their recommendation. The adjudicator typically considers both the paper and the referee comments already obtained before reaching a final decision.

## **Citation**

When a paper is referenced in another paper, this is referred to as a citation and is considered one of the best measures of the impact that a paper has on its field of research.

## **Citation indexing**

A citation index is a bibliographic database that allows users to trace papers that cite older publications and is an important method of linking information.

## **Corrigendum/erratum**

A published list of errors and mistakes found in a previous publication either caused by the author (corrigendum) or publisher (erratum).

## **Editor**

The person who makes a publication decision on a paper based on the referees' advice. The editor may be employed by the publisher or may be an appointed member of the research community.

## **Editorial board**

A group of subject experts for a particular journal who are highly regarded in their field. The board will contribute to the peer-review process and oversee the quality of the journal.

## **Impact factor**

The average number of citations received per paper published in a particular journal during the preceding two years. The impact factor is often used as a gauge of the relative quality of the journal within its field.

## **iThenticate**

A tool used to detect plagiarism by comparing an author's work against a database of existing literature.



### Open access

Typically an open access journal or repository allows readers to access papers without financial or legal barriers. The most common models are:

- **Gold open access:** a model under which a fee is paid by the author, their institution or the funding body to make the paper freely available to read and to re-use.
- **Green open access:** the self-archiving of a paper in a subject or institutional repository. It is generally the author's final peer-reviewed version (the accepted manuscript before it is prepared for publication), not the published version. The journal may impose some restrictions, such as a one year embargo period. No contribution is made to the publication cost.
- **Hybrid open access:** this is a publishing model in which 'subscription based' journals allow authors to make individual articles open access on payment of an article publication fee.

### Peer review

Peer review is the process whereby experts in the field assess whether an academic paper is suitable for publication based on the quality, originality and importance of the work.

### Publication charges

Publication in some journals may incur a fee for authors.

### Publication repository

A storage facility, typically online, that provides access to a collection of scientific publications.

### Referee/reviewer

An expert in the field, selected to review a paper, whose identity, for most journals, is not revealed to the author.

### Self-archiving

When a digital copy of a paper is deposited by the authors in an online institutional or subject repository. This can be the original or the peer-reviewed version but not the final published version.

### Subscription journal

A journal where the reader, institution or library pays a subscription fee to have access to the journal. Many subscription journals have no charge for authors to publish in them, although some have page or figure charges.

### Version of record

The version of record is the final published version that is created at the end of the production process, after copyediting, typesetting and proof corrections have been done. It will also include any post-publication corrections or enhancements and any other changes made by IOP Publishing and/or its licensors.

# IOP publications

- 2D Materials
- Advances in Natural Sciences: Nanoscience and Nanotechnology
- Applied Physics Express
- The Astronomical Journal
- The Astrophysical Journal
- The Astrophysical Journal Letters
- The Astrophysical Journal Supplement Series
- Biofabrication
- Bioinspiration & Biomimetics
- Biomedical Materials
- Biomedical Physics & Engineering Express
- Chinese Physics B
- Chinese Physics C
- Chinese Physics Letters
- Classical and Quantum Gravity
- Communications in Theoretical Physics
- Convergent Science Physical Oncology
- Electronic Structure
- Environmental Research Letters
- EPL (Europhysics Letters)
- European Journal of Physics
- Flexible and Printed Electronics
- Fluid Dynamics Research
- Inverse Problems
- IOP Conference Series: Earth and Environmental Science
- IOP Conference Series: Materials Science and Engineering
- Izvestiya: Mathematics
- Japanese Journal of Applied Physics
- Journal of Breath Research
- Journal of Cosmology and Astroparticle Physics
- Journal of Geophysics and Engineering
- Journal of Instrumentation
- Journal of Micromechanics and Microengineering
- Journal of Neural Engineering
- Journal of Optics
- Journal of Physics A: Mathematical and Theoretical
- Journal of Physics B: Atomic, Molecular and Optical Physics
- Journal of Physics: Communications
- Journal of Physics D: Applied Physics
- Journal of Physics G: Nuclear and Particle Physics
- Journal of Physics: Condensed Matter
- Journal of Physics: Conference Series
- Journal of Physics: Energy
- Journal of Physics: Materials
- Journal of Physics: Photonics
- Journal of Radiological Protection
- Journal of Semiconductors
- Journal of Statistical Mechanics: Theory and Experiment
- Laser Physics
- Laser Physics Letters
- Materials Research Express
- Measurement Science and Technology
- Methods and Applications in Fluorescence
- Metrologia
- Modelling and Simulation in Materials Science and Engineering
- Multifunctional Materials
- Nano Futures
- Nanotechnology
- New Journal of Physics
- Nonlinearity
- Nuclear Fusion
- Physica Scripta
- Physical Biology
- Physics Education
- Physics in Medicine & Biology
- Physics–Uspekhi
- Physiological Measurement
- Plasma Physics and Controlled Fusion
- Plasma Research Express
- Plasma Science and Technology
- Plasma Sources Science and Technology
- Publications of the Astronomical Society of the Pacific
- Quantum Electronics
- Quantum Science and Technology
- Reports on Progress in Physics
- Research in Astronomy and Astrophysics
- Russian Chemical Reviews
- Russian Mathematical Surveys
- Sbornik: Mathematics
- Semiconductor Science and Technology
- Smart Materials and Structures
- Superconductor Science and Technology
- Surface Topography: Metrology and Properties
- Translational Materials Research



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