



Journal of Materials Science

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## Instructions for authors

*The Journal of Materials Science publishes reviews and full-length papers recording original research on, or techniques for studying, the fundamental relationships between structure, processing, properties and performance of materials.*

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## Manuscript submission

### Author representations

Submission of a manuscript implies: that the work described has not been previously published in a peer-reviewed publication in any format, including in languages other than English but excluding theses; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities — tacitly or explicitly — at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

### Online submission

- Authors must submit their manuscripts online via the *Journal of Materials Science* Editorial Manager website at: <https://www.editorialmanager.com/jmsc/>.
- All correspondence related to the submission will come through Editorial Manager.
- Correspondence will be sent from [Saranya.Karunakaran.2@springer.com](mailto:Saranya.Karunakaran.2@springer.com) in Springer's Journal Editorial Office (JEO) or a journal editor and contain a unique reference number for the manuscript. The reference number will begin with "JMSC-D-" followed by a two-digit year and a five-digit submission number.
- A message will be sent to the corresponding author acknowledging receipt of the submission. Co-authors will be sent similar notifications.

## Article types

### Regular articles

Regular articles report significant original research on, or techniques for studying, the fundamental relationships between structure, processing, properties and performance of materials.

Typical topics include, but are not limited to, metals, ceramics, glasses, polymers, electrical and electronic materials, composite materials, fibers, nanostructured materials and materials for application in the life sciences. The Journal's article category descriptors are listed in [Appendix 1](#).

Papers are selected for high quality and broad interest to the materials science community. Some papers that are not accepted for publication, before or after the external peer-review process, will receive an option to be transferred to other Springer journals through Springer's [Transfer Desk service](#).

The median typeset length for a regular research article published in the Journal in 2021 was 13 pages, equivalent to about 3000–4000 words.

Articles based on original research will be considered for our annual [Robert W. Cahn Prize](#).

### Articles in special issues and themed sections

Special issues and sections are collections of themed articles, sometimes arising from a conference, symposium or other notable event. Only full papers of the same standard as regular articles will be considered for publication in special issues.

Articles submitted to the Journal for inclusion in special issues are processed in the same manner as regular articles but will typically involve a Guest Editor in addition to the normal Editorial Board.

### Reviews

Review articles are intended to be topical, comprehensive summaries of the state-of-the-art in a particular aspect of materials science. Review articles must be substantial, authoritative and critical reviews of published results of high current interest on recent active topics (with key developments within the past 4 to 5 years) in any area of materials science, broadly defined. The reviews should have a high potential for a broad impact. A critical assessment and analysis of the literature should be included, rather than a simple collation of published information. The review should provide a balanced look at the field, and the work of the authors should not be overemphasized. Possible future developments,

insights about remaining challenges and future directions should also be presented and discussed. The authors should be recognized experts in the field.

The cover letter and introduction should explicitly state the community's need for the review, citing the differences between this review and others that are already published; have explicit inclusion/exclusion criteria; and be appropriately illustrated. The cover letter should additionally include a brief description of the authors' qualifications and expertise in the area of the review's topic.

The manuscript and illustration guidelines are the same as regular articles. Evidence of reprint permissions for illustrations must be included with the revised manuscript along with the attribution statement. See the [Permissions](#) section for details.

A review article should be around 8000 words (excluding captions and references) with at least 100 references. The median typeset length for a review article published in the Journal in 2019–2021 was 24.5 pages. The median number of references in these articles was 134.

Review articles must begin "Review:..." or "A review:..." or end with ".....: a review". Do not use adjectives such as "comprehensive", "introductory", or "critical" in the review article's title. All accepted review articles with "review" in their title will be eligible for the annual [William Bonfield Prize for Best Review Paper](#).

Prospective authors of reviews should [contact the Editor-in-Chief](#) before preparing their articles.

## Viewpoint articles

Viewpoint articles, introduced in 2016, are short personal perspectives on a topical area of general interest to the materials science community. Authors of Viewpoint articles are invited by the Editor-in-Chief. Suggestions for Viewpoint articles may be directed to the [Editor-in-Chief](#).

## Manuscript format

### Cover letter

All submissions must include a cover letter, which is seen only by the editorial team, that includes:

- A confirmation of author representations that: the work described has not been published before; it is not under consideration for publication anywhere else; and publication has been approved by all co-authors and the responsible authorities at the institute(s) where the work has been carried out.
- A statement of the novelty and significance of the work and the relevance to the aims and scope of the *Journal of Materials Science*. This statement should not be a duplicate of the submission's abstract.
- Names, affiliations and email addresses of at least three suitable referees, together with a brief statement of why they are qualified to evaluate the manuscript. Authors are welcome to list non-preferred reviewers.
- Any preference for [category descriptor](#). The editor will make the final decision for article categorization.
- If the submission has previously been considered for publication by any other journal, the authors are encouraged, but not required, to include in their cover letter the manuscript's previous submission history and response to referees' comments. This information may be sent to the manuscript's referees. In the case of an invited resubmission to the *Journal of Materials Science*, the manuscript identification code and, if known, the name of the editor who handled the initial submission should also be included.

## Title page

The title page should include:

- The name(s) of the author(s), with symbols to link each name with that author's institutional affiliation and an asterisk to denote the corresponding author(s);
- A concise and informative title; and
- The e-mail address of the corresponding authors

Titles should be succinct, objective, interesting and grammatically correct. The use of abbreviations in titles is discouraged. These abbreviations can appear in the abstract and keywords to ensure the article is automatically indexed properly. Please see the Journal's 2016 editorial on this topic for more suggestions on crafting an appropriate title. Titles of review articles should include the word "review".

The author list should include only those who have made significant scientific contributions to the manuscript. These contributions must include conception and planning of the work that led to the manuscript or acquisition, analysis and interpretation of the data, or both; drafting or critical revision of the manuscript for important intellectual content, or both; and approval of the final submitted version of the manuscript. Others who have contributed to the work should be noted in the Acknowledgements.

Author names will be published exactly as they appear on the accepted submission. The corresponding or contact author is required to ensure that names of all authors are present and correctly spelled and that all authors' addresses and affiliations are current.

Changes to the author list between initial submission and revision must be accompanied by an explanatory statement in the cover letter for the revision and a completed "Change in Authorship Request" form, which will be sent by the Journal Editorial Office. These changes will be accepted at the discretion of the Editor and may lead to rejection of the manuscript. Changes of authorship or in the order of authors are *not* accepted *after* acceptance of a manuscript. More detail on authorship is included in the section on publishing ethics. All of Springer Nature's imprints have a trans-inclusive name change policy that enables silent and retroactive name changes.

## Abstract

The abstract should be 150 to 250 words. The content should state the main purposes and research questions of the study, the methods used, the main results and the key conclusions. Structured abstracts should not be used. Authors are encouraged to submit a graphical abstract. This should be included after the references. Details on the format for the graphical abstract are available in the section on Artwork and Presentation Guidelines.

## Keywords

Authors should provide 4 to 6 keywords, which can be used for indexing purposes.

Effective keywords include abbreviations or phrases that may not appear in the title or abstract and that link the work to wider fields of research.

## Main body

Manuscripts describing original research will typically include the following sections:

- Introduction: a concise, up-to-date description of the background to provide a general reader of the Journal with enough context to understand the research being presented and its significance, as well as providing a clear statement of the research question and any hypotheses being explored.
- Materials and methods: techniques, materials and equipment described in sufficient detail for another trained researcher to be able to reproduce the experimental work reported. Methods that are identical to published procedures should still be summarized in brief and include a citation to the original work.
- Analysis: in submissions that have a significant theoretical or mathematical component, a description of the analytical procedures may be required.
- Results: a description of the analyses and measurements related to answering the central research questions.

- Discussion: the interpretation of the results, considering their significance and putting them into a wider context through comparison to previously published research. The use of a combined “Results and Discussion” section is discouraged.
- Conclusions: a concise statement of the main conclusions drawn from the research reported in the manuscript.

## Declarations

- Acknowledgments: a list of people who contributed to the work in the manuscript but who are not named in the author list and a list of funding sources that supported the research presented. The Acknowledgments should appear as a separate section before the reference list. The names of funding organizations should be written in full.
- Author contributions: an optional statement of each author’s input into the manuscript, such as conception, experimental design, carrying out measurements and manuscript composition. CASRAI offer a taxonomy for identifying and describing contributor roles (CRediT).
- Conflicts of interest or competing interests: a statement that declares all relationships or interests of the manuscript’s authors that could potentially influence or bias the submitted work. If no conflicts of interest exist, the authors must include a statement stating this. Details on potential conflicts of interest are included under Publishing Ethics. Manuscripts that do not include a conflict of interest statement will be returned to the authors for amendment before any editorial consideration.
- Data and code availability: a brief description what data or code is available to readers and how it can be accessed, for example, a DOI to an electronic repository.
- Supplementary information: a brief description of any additional material omitted from the main body in the interest of presenting a clearer and more readable manuscript.
- Ethical approval: a statement that approval was granted to carry out experiments involving human tissue by an institutional review board or equivalent ethics committee.

## Text

### Text formatting

Manuscripts should be submitted in Microsoft Word. PDF is *not* an acceptable format.

- Use a normal, plain font (e.g., 12-point Times Roman) for text.
- Use only one column.
- Use 1.5 or double-spaced text.
- Use italics for emphasis.
- Use the automatic page numbering function to number the pages.
- Do not use field functions.
- Use tab stops or other commands for indents, not the space bar.
- Use the table function, not spreadsheets, to make tables.
- Use the equation editor or MathType for equations.
- Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX. We recommend using Springer Nature’s LaTeX template.

### Headings

No more than three levels of displayed headings should be used.

### Abbreviations

Abbreviations should be defined at the point of first use and be used consistently thereafter. Abbreviations defined in the abstract should be redefined in the main body of the submission.

## Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

## Equations

Some equations entered using Microsoft Equation do not convert correctly when a submission written in Microsoft Word is converted into a PDF by Editorial Manager. Authors are encouraged to double-check all equations before final submission and to use Insert|Equation... for better compatibility.

## Scientific style

- Internationally accepted signs and symbols for units (SI units) should be used throughout. Negative exponents should be used instead of a slash, e.g.,  $m\ s^{-2}$  rather than  $m/s^2$ .
- Nomenclature: Insofar as possible, authors should use systematic names similar to those used by Chemical Abstracts Service or IUPAC.
- A decimal point (dot, full stop) should be used to mark the radix point instead of a comma, e.g., 0.5%.
- Genus and species names should be in italics.
- Generic names of drugs and pesticides are preferred; if trade names are used, the generic name should be given at first mention.
- The following standard mathematical notation should be used for formulae, symbols, etc.:
  - Italics for single letters that denote mathematical constants, variables and unknown quantities
  - Roman (upright) face for numerals, operators, punctuation, and commonly defined functions or abbreviations, e.g., cos, det, e or exp, lim, log, max, min, sin, tan, d (for derivative)
  - Bold face for vectors, tensors and matrices.

## References

### Citations

Reference citations in the text should be identified by numbers in square brackets; these should be placed before punctuation marks. Some examples:

1. This material is used in a wide variety of applications [3].
2. This result was later contradicted by Becker and Seligman [5].
3. This effect has been widely studied [1–3, 7].

Submissions using author, date styles (e.g., Harvard style) for in-line citations will be returned to the authors before editorial review.

### Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list. The entries in the list should be numbered consecutively.

The Journal's reference style is given below, but any style that includes the same information will be considered. Journal article titles and end page numbers *must* be included; submissions missing this information will be returned to the authors before editorial review. For publications assigned an article number rather than page numbers, the article number and number of pages should be given.

### *Journal article*

- [1] Pu BW, Lin XB, Li BW, Chen XF, He CN, Zhao NQ (2020) Effect of SiC nanoparticles on the precipitation behavior and mechanical properties of 7075Al alloy. *J Mater Sci* 55:6145–6160. doi: 10.1007/s10853-020-04381-4

Ideally, the names of all authors should be provided, but the usage of “et al” in long author lists (> 8 authors) will also be accepted:

- [2] Eichhorn SJ, Dufresne A, Aranguren M et al (2010) Review: current international research into cellulose nanofibres and nanocomposites. *J Mater Sci* 45:1-33. doi: 10.1007/s10853-009-3874-0

Articles published online but not yet assigned page numbers may be cited using the DOI:

- [3] Kaplan WD, Chatain D, Wynblatt P, Carter WC (2013) A review of wetting versus adsorption, complexions, and related phenomena: the Rosetta stone of wetting. *J Mater Sci* 48:5681–5717. doi: 10.1007/s10853-013-7462-y

### *Book*

- [4] Carter CB, Norton MG (2013) *Ceramic Materials: Science and Engineering* 2nd ed. Springer, New York

### *Book chapter*

- [5] Nieh TG (2007) Deformation Behavior. In: Miller MK, Liaw P (eds) *Bulk Metallic Glasses*. Springer, New York, pp 147-161

### *Online document*

- [6] Barthelmy D (2007) Cryptomelane. <http://webmineral.com/data/Cryptomelane.shtml>. Accessed 28 July 2013

### *Dissertation*

- [7] Blanford CF (2000) Synthesis and electron microscopy of inorganic and hybrid organic-inorganic mesoporous and macroporous materials. PhD Dissertation, University of Minnesota

Always use the standard abbreviation of a journal’s name according to the ISSN List of Title Word Abbreviations, see [www.issn.org/2-22661-LTWA-online.php](http://www.issn.org/2-22661-LTWA-online.php)

For authors using Docear, Mendeley, Zotero or other citation-management software, a citation style language (CSL) version of this Journal’s reference style can be downloaded from <https://www.zotero.org/styles/journal-of-materials-science>.

Authors preparing their manuscript in LaTeX can use the bibliography style file sn-basic.bst which is included in the [Springer Nature Article Template](#).

## Tables

- All tables are to be numbered using Arabic numerals.
- Tables should always be cited in text in consecutive numerical order.
- Each table must be accompanied by a table caption (title) explaining the components of the table.
- The original source of any previously published material is to be identified using a reference at the end of the table caption.
- Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.

## Artwork and illustration guidelines

### Electronic figure submission

- Supply all figures electronically. Authors are encouraged to embed their figures in the document near the paragraph in which they are first referenced.
- Any lossless format is acceptable for graphics. For bitmapped graphics (a.k.a. “halftones”), TIFF and PNG formats are suitable. Vector graphics could be saved in EPS or SVG formats, but must have fonts embedded in the file. Formats that employ lossy compression such as .JPG must be avoided. Microsoft Office files are also acceptable.
- Figure files should be named with “Fig” and the figure number, e.g., Fig1.png.

### Graphical abstract

- Definition: A single image that provides a clear, impactful visual summary of the main findings of the submission.
- Graphical abstracts should be 1.4 inches (3.6 cm) high × 2.5 inches (6.5 cm) wide.
- Images should use color and simple design to maximize their impact.
- Graphics should use little or no text. Any text must be scaled to be legible at the final size. Sans serif fonts are recommended.
- All components in a graphical abstract must be original and free from copyright restrictions.
- Images can be provided in any lossless format.

### Line art

- Definition: Black and white graphic with no shading.
- Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size.
- All lines should be at least 0.1 mm (0.3 pt) wide.
- Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 ppi.

### Data plots

- Definition: Graphical representation of data to reveal relationships between variables.
- Plots should follow guidelines for line art in line width, font sizes and file resolution. All plots should use a white background.
- Simple geometric symbols (e.g., open and filled triangles, squares, circles, etc.) should be used for data points, with capped error bars to denote the precision of measurements.
- Presentations that complicate quantitative analysis of the data must be avoided, for example, 3D style plots as a replacement for clustered bar charts.
- Axes should be labeled with the appropriate units included in parentheses.
- The use of Microsoft Excel to generate plots is discouraged unless the exported images have a resolution of 300 pixels per inch (ppi) or greater.



### **Halftone art**

- Halftone art includes micrographs, photographs, drawings, or paintings with fine shading, etc.
- If any magnification is used in the photographs, indicate this by using scale bars within the figures themselves. Microscope-generated scale bars, particularly “tick-mark” style ones, typically reproduce poorly and should be replaced by larger, more legible scale bars. Magnifications should not be given (e.g., 1000×).
- The contrast in micrographs should be adjusted to fill the grey levels so long as it does not lead to misinterpretation of the visual information being presented.
- Screenshots of data from energy dispersive spectroscopy (EDS), mass spectrometry, nuclear magnetic resonance (NMR) spectroscopy, atomic force microscopy (AFM), etc. are not acceptable. Data must be plotted in a graphing program.
- Halftones should have a minimum resolution of 300 ppi.
- The aspect ratio of any images should not be altered.

### **Combination art**

- Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc.
- Combination artwork should have a minimum resolution of 600 ppi.

### **Color art**

- Publication of color illustrations is free of charge both in print and online.
- Color illustrations should be submitted as RGB (8 bits per channel).

### **Figure lettering**

- To add lettering, it is best to use Helvetica, Calibri or Arial (sans serif fonts).
- Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt).
- Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label.
- Avoid effects such as shading, outline letters, etc.
- Do not include titles or captions within your illustrations.

### **Figure numbering**

- All figures are to be numbered using Arabic numerals.
- Figures should always be cited in text in consecutive numerical order.
- Figure parts should be denoted by lowercase letters (a, b, c, etc.).
- If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text. Do not number the appendix figures, "A1, A2, A3, etc." Figures in online appendices (Electronic Supplementary Material) should, however, be numbered separately.

### **Figure captions**

- Each figure should have a concise caption describing accurately what the figure depicts. Include the captions in the text file of the manuscript, not in the figure file.
- Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type.
- No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption.
- Identify all elements found in the figure in the figure caption and use boxes, circles, etc., as coordinate points in graphs.
- Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

## Figure placement and size

- When preparing your figures, size figures to fit in the column width.
- For the *Journal of Materials Science*, the figures should be 84 mm wide for single-column figures or 174 mm wide for double-column figures and not taller than 234 mm.

## Cover art

- The *Journal of Materials Science* features large cover images.
- Suggestions for artwork can be uploaded at the time of submission.
- Artwork should be about 4990 px × 3500 px (8.3 in. × 5.8 in. or 21.1 cm × 14.8 cm at a resolution of 600 ppi).
- The *Journal of Materials Science* does not charge authors a fee to feature their cover artwork.
- Authors who generate cover artwork for the *Journal of Materials Science* grant Springer Nature a non-exclusive license to that work.

## Accessibility

- In order to give people of all abilities and disabilities access to the content of your figures, please make sure that:
  - all figures have descriptive captions (blind users could then use a text-to-speech software or a text-to-Braille hardware);
  - patterns are used instead of or in addition to colors for conveying information (color-blind users would then be able to distinguish the visual elements); and
  - any figure lettering has a contrast ratio of at least 4.5:1.

## Permissions

Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Obtaining reprint permission is often easiest through the Copyright Clearance Center's RightsLink platform. Springer Nature is an [STM Permission Guidelines signatory](#), which may facilitate routine permission requests among signatories. Each caption for material for work reproduced or adapted from other sources should include the following text: "Adapted [or reproduced] with permission from reference [reference number in bibliography]. Copyright [year of publication of reproduced material], [publisher of reproduced material]."

Please be aware that some publishers do not grant electronic rights for free and that Springer will not be able to refund any costs that may have occurred to receive these permissions. In such cases, material from other sources should be used.

## Electronic supplementary material

Springer accepts electronic multimedia files (animations, movies, audio, etc.) and other supplementary files to be published online along with an article or a book chapter. This feature can add dimension to the authors' article, because certain information cannot be printed or is more convenient in electronic form.

## Submission

- Supply all supplementary material in standard file formats.
- Include in each file the following information: article title; journal name; author names; and affiliation and e-mail address of the corresponding author.
- To accommodate user downloads, keep in mind that larger files may require very long download times and that some users may experience other problems during downloading.

## Audio, video and animations

- Always use MPEG-1 (.mpg) format.

## Text and presentations

- Submit your material in PDF format; .doc or .ppt files are not suitable for long-term viability.
- A collection of figures may also be combined in a PDF file.

## Spreadsheets

- Spreadsheets should be converted to PDF if no interaction with the data is intended.
- If the readers should be encouraged to make their own calculations, spreadsheets should be submitted as .xlsx files (MS Excel).

## Specialized formats

- Specialized formats such as .pdb (chemical), .wrl (VRML), .nb (Mathematica notebook) and .tex can also be supplied.

## Collecting multiple files

- It is possible to collect multiple files in a .zip or .gz file.

## Numbering

- If supplying any supplementary material, the text must make specific mention of the material as a citation, similar to that of figures and tables.
- Refer to the supplementary files as “Online Resource”, e.g., “... as shown in the animation (Online Resource 3)”, “... additional data are given in Online Resource 4”.
- Name the files consecutively, e.g. “ESM\_3.mpg”, “ESM\_4.pdf”.

## Captions

- For each supplementary material, please supply a concise caption describing the content of the file.

## Processing of supplementary files

- Electronic supplementary material will be published as received from the author without any conversion, editing, or reformatting.

## Accessibility

- In order to give people of all abilities and disabilities access to the content of your supplementary files, please make sure that:
  - the manuscript contains a descriptive caption for each supplementary material; and
  - video files do not contain anything that flashes more than three times per second (so that users prone to seizures caused by such effects are not put at risk).

## Research data policy

### Data deposition

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](#). General repositories for all types of research data may also be used.

Datasets that are assigned digital object identifiers (DOIs) by a data repository may be cited in the reference list or in the acknowledgments. Data citations should include the minimum information recommended by [DataCite](#): authors, title, publisher (repository name) and identifier.

### Research data support services

Springer Nature provides a [research data policy support service](#) for authors and editors, which can be contacted at [researchdata@springernature.com](mailto: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.

## Manuscript review

- After submission, articles will be checked by the JEO to ensure that they meet the guidelines set out in this document.
- Articles are automatically checked for text overlap. Those with high overlap scores are scrutinized by the Editor-in-Chief and may be rejected without further review.
- The Editor-in-Chief assigns the manuscript to one of the editors. This handling editor has sole discretion on whether to send the article for peer review, transfer it to another journal in the Springer Nature family, or reject it without further review. Unsolicited articles are evaluated by fit with the aims and scope statement of the journal, perceived quality and novelty of the work, potential interest to the journal's readership and the standard of presentation (including the standard of technical written English and the quality of figures). The editors aim to complete this initial evaluation within seven days of the manuscript being sent from the JEO.
- Around four referees will be invited for peer review. Referees are given 21 days to supply a peer review report.
- When a submission has at least two useable reports (one in exceptional cases), the editor will use the referees' comments to decide whether to accept the manuscript for publication, return it for revision, transfer it to another journal or reject it.
- An initial decision is typically made on manuscripts sent for peer review within 4–6 weeks. Final decisions will be made on all manuscripts within four months of submission.
- Infrequently, after several rounds of invitations to peer reviewers, a submission will receive no reports. In these cases, the submission may be rejected at the editor's discretion.
- Except in cases of academic malpractice, only the corresponding author on the Editorial Manager system may request to withdraw a submission that is under consideration.
- Resubmissions are possible only with the explicit permission of the editor.
- Prospective authors are encouraged to refer to Think.Check.Submit for more general information on making an informed choice on where to submit articles for peer review.

## Publishing ethics

### Principles of ethical publishing

The *Journal of Materials Science* is committed to upholding the integrity of the scientific record, maintaining trust in the journal, professionalism of scientific authorship and ultimately the entire scientific endeavor.

As a member of the Committee on Publication Ethics (COPE), the journal's editors and publisher will follow the COPE guidelines on how to deal with potential acts of misconduct. COPE's code of conduct, guidelines and flowcharts are freely available from <http://publicationethics.org/>.

Expected ethical publishing practice includes the following obligations for authors who contribute to scientific record.

- Authors must not misrepresent research results.
- Results should be presented clearly, honestly and without fabrication, falsification or inappropriate data manipulation (including image manipulation). Authors should adhere to discipline-specific rules for acquiring, selecting and processing data.
- No data, text, or theories by others are presented as if they were the author's own ("plagiarism"). Proper acknowledgments to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased), quotation marks (to indicate words taken from another source) are used for verbatim copying of material and permissions secured for material that is copyrighted.
- Authors should be prepared to send relevant documentation or data in order to verify the validity of the results presented. This could be in the form of raw data, samples, records, etc. Sensitive information in the form of confidential or proprietary data is excluded.

- Authors should make sure they have permissions for the use of software, questionnaires/web surveys (paper, electronic or online) and scales in their studies as appropriate.
- Authors should avoid untrue statements about an entity (who can be an individual person or a company) or descriptions of their behavior or actions that could potentially be seen as personal attacks or allegations about that person.
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*Revised and approved on 28 February 2022*

## Appendix 1. Category descriptors

The *Journal of Materials Science* categorizes original research articles that are not assigned to special issues. These categories appear on the first page of the print version/PDF and near the article title online. Most articles will fit in more than one category. Any preference for an article category should be given in the cover letter to the editor. The editor will choose the category on acceptance. This category may differ from the author's suggestion.

The categories are:

- Ceramics: both oxides and chalcogenides, including cements, concretes, geopolymers, nanoceramics, inorganic membranes, porous materials such as zeolites and mesoporous inorganics
- Chemical routes to materials: synthesis of nanomaterials, catalysts and sensors; preparation of materials including 2D materials
- Composites & nanocomposites: reinforced polymers and biopolymers including nanoparticle-reinforced materials, ceramic matrix composites, metal matrix composites and laminates
- Computation & theory: includes atomistic simulation, mathematically modelling and big data approaches to materials
- Electronic materials: including all semiconductors
- Energy materials: batteries, supercapacitors, fuel cells, photovoltaics, chemical energy storage and other materials for energy conversion
- Materials for life sciences: biomechanics, cellular interactions with biomaterials (except for *in vivo* work), biocompatibility, bioelectronics, controlled release, materials for photodynamic and photothermal treatments, manufacturing, biomimetic approaches and bioreactors
- Metals & corrosion: casting, solidification, protective coatings, metallic glasses, high-entropy metals and superalloys
- Polymers & biopolymers: includes cellulose and other natural polymers and polymer membranes