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*Journal of Advanced Ceramics* is a peer-reviewed, open access international journal published on behalf of the State Key Laboratory of New Ceramics and Fine Processing (Tsinghua University, China) and the Advanced Ceramics Division of the Chinese Ceramic Society.

*Journal of Advanced Ceramics* provides a forum for publishing original research papers, rapid communications, and commissioned reviews relating to advanced ceramic materials in the forms of particulates, dense or porous bodies, thin/thick films or coatings and laminated, graded and composite structures. The priority materials include but are not limited to:

- Structural ceramics and composites for industrial or military applications, especially at high and ultrahigh temperatures and/or in extreme environments.
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Please be advised that the Journal does not consider or publish papers concerning traditional ceramics and porcelains, glasses, concretes, geopolymers, and traditional refractories. In addition, papers concerning glass-ceramics, bioactive ceramics, and ceramic-containing metal- or polymer-matrix composites are also discouraged.

# Instructions for Authors

Please note that, since the Journal currently receives many more contributions than it is possible to accept, the submissions which were not well prepared according to these Instructions [may be rejected](#) directly without further review.

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## **1 Manuscript Submission**

### **Legal requirements**

Submission of a manuscript to *Journal of Advanced Ceramics* implies: that the work described has not been published before in any format including in languages other than English; that it is not under consideration for publication anywhere else; that its submission and publication has been approved by all co-authors, if any, as well as by the responsible authorities 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.

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Authors must submit their manuscripts online via the *Journal of Advanced Ceramics* ScholarOne Manuscripts™ website at: <https://mc03.manuscriptcentral.com/jacer>. When submitting the manuscript, please make sure that the following items have been prepared as carefully as possible according to the Instruction:

- Cover letter and graphical abstract (mandatory).
- Manuscript prepared using Microsoft Word based on the Journal's template (mandatory).
- Electronic supplementary materials (optional).
- All figures in individual electronic files (optional).
- Other necessary materials not for review (optional).

## **2 Manuscript Preparation**

### **2.1 Article types**

*Journal of Advanced Ceramics* publishes four types of papers: review article, research article, rapid communication, comment and reply.

#### **Review Article**

Review article provides a critical analysis of the subject literature to underscore the state of the art, and to point out new challenges in the field of interest. The authors are required to have significant expertise in the subject of the paper as evidenced by prior peer-reviewed publications.

Authors must submit a proposal to the Executive Editor before submitting a review article. This proposal should include: (1) a rationale for a review at this time; (2) an outline of the review article; (3) a short curriculum vita demonstrating the author(s) expertise in the field. Review articles submitted without the pre-approval from the Executive Editor **will be rejected** directly. There is no page limit for a review article.

#### **Research Article**

Research article reports a complete, detailed, self-contained description of a significant research work. In addition to being technically correct, research article must also advance the scientific understanding of the topic of interest. There is no page limit for a research article.

#### **Rapid Communication**

Rapid communication is a brief report of significant, original, and timely research results which

warrant rapid publication. In considering a manuscript for publication, particular attention will be given to the originality of the research, the desirability of speedy publication, the clarity of the presentation and the validity of the conclusions. A rapid communication must not exceed 3000 words plus four figures or tables.

### **Comment and Reply**

Any reader may submit for publication a comment on any paper that has been published in the Journal and the author of the paper will be invited to reply. Comment and reply are limited, respectively, to two printed pages.

## **2.2 Manuscript format**

### **Language**

The Journal's language is English. Either British English or American English spelling and terminology may be used, but the system chosen should be followed consistently throughout the manuscript. Please write the text in good English. Possible grammatical or spelling errors should be carefully avoided, making the submissions conform to accepted standards of written technical English. The Journal's editors are not responsible for correcting errors in grammar or spelling. Manuscripts that require extensive English revision may be rejected without review.

Please always use past tense to state the authors' or previously reported work (experiments, observations, analyses, and discussions) and the present tense to state the experimental facts and conclusions.

### **Text formatting**

For submission in Microsoft Word, use a normal, plain font (e.g., 12-point Times New Roman), double space line, and one column for text. 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. Note: If you use Word 2007, do not create the equations with the default equation editor but use MathType instead.

## **3 Detailed Formatting Instructions**

Please follow this order to type the manuscript: cover letter, title page, abstract, keywords, main text (including tables and figures), appendix (if necessary), acknowledgements, declaration of competing interest, references, graphical abstract, and electronic supplementary material (if necessary).

### **Cover letter**

All submissions must include a cover letter that includes a convincing statement of the novelty and significance of the work and the relevance to the aims and scope of *Journal of Advanced Ceramics*. This statement should not be a duplicate of the submission's abstract.

If the submission has been rejected previously by any journal, including *Journal of Advanced Ceramics*, the cover letter should include the manuscript's previous submission history and

response to referees' comments, as an appendix to the cover letter.

If any electronic supplementary materials (ESM) are submitted together with the manuscript, a list of the ESM should be given as an appendix to the cover letter. The authors should explain briefly why these ESM should be provided and why these ESM cannot be incorporated into the main body of the manuscript.

### **Title page**

The title page should include:

- A concise and informative title. Title should be succinct, objective, interesting and grammatically correct. The use of abbreviations, acronyms, and formulae in title is strongly discouraged. Only the first letter of the first word and proper nouns should be capitalized.
- The name(s) of the author(s), with symbols to line each name with that author's institutional affiliation and an asterisk to denote the corresponding author(s). The author list should include only those who have made significant scientific contributions to the manuscript. Others who have contributed to the work should be noted in the Acknowledgements.
- The affiliations and mailing addresses of the authors. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name.
- The e-mail address(es) of the corresponding author(s).

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 the order of authors are *not* accepted *after* acceptance of a manuscript.

### **Abstract and keywords**

A concise and factual abstract is needed for manuscript except Comment and Reply to state the main purpose and research questions of the study, the methods, the main results, and the key conclusions. Abstract should be 120–250 words in length. No footnotes, references, figures, or tables may appear in the abstract.

Immediately after the abstract, please provide 4–6 keywords, which can be used for indexing purpose. Keywords are not required for Comment and Reply.

### **Main body**

Manuscripts describing original research typically include the following sections: Introduction; Materials and method; Results and discussion; Conclusions. In submissions that have a significant theoretical or mathematical component, a section for the description of the analytical procedures may be required.

*Heading/section levels (numbered).* For regular research articles and review articles, please use the decimal system of headings. Please divide the article into clearly defined and consecutively

numbered sections and subsections. Sections should be numbered 1, 2, etc. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. Use this numbering also for internal cross-referencing: do not just refer to “the text”. Each section and subsection should be given a brief heading and each heading should appear on its own separate line. Review article should begin with an Introduction section and end with a Conclusions or Summary section. For Rapid Communication and Comment and Reply, no section levels are needed.

*Abbreviations.* Abbreviations should be defined at the point of first use and be used consistently thereafter. Abbreviations defined in the Abstract should be re-defined in the main text of the submission.

*Footnotes.* Essential footnotes to the text should be numbered consecutively and placed at the bottom of the page to which they refer. Footnotes to the table should be indicated by superscript lower-case letters (or asterisks) and placed immediately below the table.

*Units.* Please follow internationally accepted rules and conventions such as those defined by the International Organization for Standardization (ISO). If other units are mentioned, please give their equivalent in supplementary information.

*Formulae and symbols.* Formulae, symbols, and all subscripts, superscripts, Greek letters, and other characters must be legible and carefully checked. Standard mathematical notation should be used. All symbols used in manuscript must be explained. If necessary, a list of symbols may be provided and placed before the Introduction section.

*Equations.* Numbering consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text), and referring the equation with Eq. (1), Eq. (2) ... in the text. For the simple formulae which appear in the line of normal text, please use solidus (/) instead of a horizontal line for small fractional terms, e.g.,  $x/y$ . Powers of e are often more conveniently denoted by “exp”. In principle, variables should be presented in italics.

*Figures.* All the figures, including data plots, photographs, diagrammatic sketches, flow charts, etc., should be embedded, approximately in their final sizes, in the main text near the paragraph in which they are first referenced, not on separate page(s) at the end. All figures should be numbered using Arab numerals (figure parts should be denoted by lowercase letters) and supplied with a figure caption. Please make sure that all elements found in the figure are identified in the caption. Figures should always be cited in text, such as Fig. 1, Fig. 2 ... in consecutive numerical order. Color figures will remain in color in both the printed version and the online version of the journal, at no cost. The authors are encouraged to use color figures in the submitted manuscript.

**Tables.** All tables should be numbered using Arab numerals and supplied with a table title which explains clearly and concisely the components of the table. Tables should not duplicate results presented elsewhere in the manuscript (for example, in figures). Tables should always be cited in the text, such as Table 1, Table 2 ... in consecutive numerical order.

**Appendix.** An appendix, if needed, is presented without numbers. If there are two or more appendices, they should be numbered consecutively. Equations in appendices should be designated differently from those in the main body of the manuscript, e.g., (A1), (A2), etc. In each appendix equations should be numbered separately.

**Acknowledgements.** The content of Acknowledgments is a list of people who contributed to the work in the manuscript but are not named in the author list, and a list of funding sources that supported the research presented. The names of funding organizations should be written in full. Do not include acknowledgements on the title page, as a footnote to the title or otherwise.

**Declaration of competing interest.** Authors are required to disclose financial or non-financial interests that are directly or indirectly related to the work submitted for publication. Please refer to "Competing Interests" below for more information on how to complete this section. Please note: If no conflict exists and no ethics approval required, the authors should state:

**Compliance with ethical standards**

**Declaration of competing interest** The authors have no competing interests to declare that are relevant to the content of this article.

**Ethical approval** This study does not contain any studies with human or animal subjects performed by any of the authors.

**Citations & references.** References to the literature are cited by *number in square brackets* at appropriate locations (*before* a period, comma, etc.) in the text. Some examples are given below:

- (1) There are several different methods, such as chemical precipitation [1], hydrothermal [2–4], sol–gel [2,5,6], and mechanochemical methods [7,8].
- (2) This phenomenon was originally observed by John and Williams [1] in 1980.
- (3) This effect has been widely studied [1–3,7].

Please note that [a submission may be rejected directly without review if the reference list does not meet the following guidelines](#).

All literature citations should be compiled in a *numbered reference list* at the end of the manuscript text (but before the Appendices), in the order of their *first* citation in the text. Each numbered reference may contain only *one* literature citation. The list of references should only

include works that are cited in the text and that have been published or accepted for publication. Papers just accepted for publication are cited by the DOI. Always use the standard abbreviation of a journal's name according to the ISSN List of Title World Abbreviations (<https://www.issn.org/services/online-services/access-to-the-ltwa/>). Some examples:

**(a) Journal article**

[1] Han YC, Li SP, Wang XY, *et al.* Synthesis and sintering of nanocrystalline hydroxyapatite powders by citric acid sol-gel combustion method. *Mater Res Bull* 2004, **39**: 25–32.

**(b) Book (authored)**

[2] Lawn BR. *Fracture of Brittle Solids*. Cambridge (UK): Cambridge University Press, 1993.

**(c) Book chapter and paper in Proceedings**

[3] Craighead HG. Nanostructures in electronics. In: *Nanomaterials: Synthesis, Properties and Applications*. Edelstein A, Cammatata R, Eds. New York: Taylor and Francis, 1998: 565–566.

**(d) Others**

[4] Hammond PW. Four-quadrant AC-AC drive and method. U.S. patent 6 166 513, Dec. 2000.

[5] Peng ZJ. Surface modification of ceramic cutting tools by energetic ions. Ph.D. Thesis. Beijing (China): Tsinghua University, 2002.

[6] Information on <http://www.weld.labs.gov.cn>.

Do not use footnotes or endnotes as a substitute for a reference list.

If *Electronic Supplementary Material* (ESM) is submitted, it will be published as received from the authors without any conversion, editing, or reformatting. ESM are peer-reviewed materials directly relevant to the conclusions of a paper. Please note that the aims of ESM are only to provide additional, rather than necessary, supports for the conclusions of the paper. The authors are suggested to incorporate all the necessary information in the main text of the manuscript in order that the readers can understand the manuscript content easily and completely without the aid of the ESM. If supplying any ESM, the text must make specific mention of the material as a citation, similar to that of figures and tables (e.g., Fig. S1 in the ESM). Besides, a paragraph should be added before the “References” section (e.g., Electronic Supplementary Material: Supplementary material (add a brief description) is available in the online version of this article).

- Information that cannot be printed, such as animations, video clips, sound recordings, etc., should be supplied always as electronic files with MP4 format.
- Information that can be printed, such as text, figures, tables, etc., should be integrated into one electronic file with PDF format.

## 4 Artwork and Illustration Guidelines

All the figures, including data plots, photographs, diagrammatic sketches, flow charts, etc., should be embedded, approximately in their final sizes, in the main text near the paragraph in which they are first referenced, not on separate page(s) at the end.



### Electronic figure submission

- If a figure comprises several parts, it is better to integrate all the parts into a single picture.
- When submit the figures in separate files, name figure files with "Fig" and the figure number, e.g., Fig1.jpg.
- Please do not supply: (i) files that are optimized for screen use because these typically have a low number of pixels and limited set of colors; (ii) files that are too low in resolution; (iii) graphics that are disproportionately large for the content.

### Line arts

- 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 dpi.

### Data plots

- Definition: graphical representation of data to reveal relationships between variables.
- Plots should follow guidelines for line art with 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.
- Axes should labeled with the appropriate units included in parentheses.
- The use of Microsoft Excel to generate plots is strongly discouraged.

### Halftone arts

- Halftone arts include micrographs, photographs, drawings, or paintings with fine shading, etc.
- If any magnification is used in the micrographs or photographs, indicate this by using scale bars within the figures themselves. Microscope-generated scale bars, particularly "tick-mark" style one, typically reproduce poorly and should be replaced by larger, more legible scale bars. Magnifications should not be given (e.g., 1000×).
- Screenshots of data from energy dispersive spectroscopy (EDS), mass spectrometry, nuclear magnetic resonance (NMR) spectroscopy, atomic force microscopy (ATM), etc., are *not* acceptable. Data must be plotted in a graphing program.
- Halftones should have minimum resolution of 300 dpi.
- The aspect ratio of any images should not be altered.

### Figure lettering

- Keep lettering consistently sized throughout your final-sized artwork, [usually about 8–12 pt](#).
- Variance of type size within an illustration should be minimal.
- Avoid effects such as shading, outline letters, etc.
- Do not include titles or captions within your illustrations.

### **Figure numbering and captions**

- All figures should be numbered using Arab numerals (figure parts should be denoted by lowercase letters).
- Figures should always be cited in text, such as Fig. 1, Fig. 2, in consecutive numerical order.
- 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.
- Please make sure that all elements found in the figure are identified in the caption.

### **Figure placement and size**

- When preparing figures, please size figures to fit in the column width.
- The figure should be not wider than 80 mm for single-column figures or 170 mm for double-column figures, and not taller than 230 mm.

## **5 Review Process**

The Journal follows a single-blind reviewing procedure. The benefit of single-blind peer review is that it is the traditional model of peer review that many reviewers are comfortable with, and it facilitates a dispassionate critique of a manuscript. A regular review process for each submitted manuscript consists of three stages: initial check, preliminary assessment and peer review.

### **Initial check**

The submitted manuscript will be initially checked by the Executive Editor. At this stage, a decision of "Reject without review" would be made for the submissions which do not meet the guidelines set out in this document. In addition, manuscripts are automatically checked for text overlap. Those with high overlap scores may also be rejected directly without further review. We are sorry that we cannot provide the detailed report for the text overlap check.

### **Preliminary assessment**

Manuscripts which pass through the initial check will be preliminarily assessed by one or more assistant editors. At this stage, the Executive Editor has sole discretion, with the help of the invited assistant editors, on whether to send the manuscript for peer review or reject it without review.

Special emphases will be paid on the readability and the attractiveness of the submitted manuscripts. Manuscripts without an attractive abstract and/or a comprehensive and convincing introduction will be rejected at this stage without detailed comments.

### **Peer review**

Around four reviewers will be invited for peer review. When a submission has at least two (or one in exceptional cases) useable reports, the Executive Editor will use the reviewers' comments to decide whether to accept the manuscript for publication, return it for revision (major or minor), or reject it. Infrequently, after several rounds of invitations to peer reviewers, a submission may receive no reports. In this case, the submission may be rejected at the editor's discretion.

## 6 After Acceptance

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Authors will be asked to pay the article processing charge (APC), EUR2200 (or CNY15000) per paper. Once the APC is paid, the publisher will start the process of the accepted paper as early as possible.

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The purpose of the proof is to check for typesetting 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-in-Chief. After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

### Online first

The article will be published online after receipt of the corrected proofs. This is the official first publication citable with the DOI. After release of the printed version, the paper can also be cited by issue and page numbers.

## 7 Ethical Responsibilities of Authors

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- The manuscript should not be submitted to more than one journal for simultaneous consideration.
- The submitted work should be original and should not have been published elsewhere in any form or language (partially 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 concerns about text-recycling ('self-plagiarism').)
- A single study should not be split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (i.e., 'salami-slicing/publishing').
- Concurrent or secondary publication is sometimes justifiable, provided certain conditions are met. Examples include: translations or a manuscript that is intended for a different group of

readers.

- Results should be presented clearly, honestly, and without fabrication, falsification or inappropriate data manipulation (including image based 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 acknowledgements 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.

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- Research articles and non-research articles (e.g., Review, Short Communication, and Comment Articles) must cite appropriate and relevant literature in support of the claims made. Excessive and inappropriate self-citation or coordinated efforts among several authors to collectively self-cite is strongly discouraged.
- 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.
- Research that may be misapplied to pose a threat to public health or national security should be clearly identified in the manuscript (e.g., dual use of research). Examples include creation of harmful consequences of biological agents or toxins, disruption of immunity of vaccines, unusual hazards in the use of chemicals, weaponization of research/technology (amongst others).
- Authors are strongly advised to ensure the author group, the Corresponding Author, and the order of authors are all correct at submission. Adding and/or deleting authors during the revision stages is generally not permitted, but in some cases may be warranted. Reasons for changes in authorship should be explained in detail. Please note that changes to authorship cannot be made after acceptance of a manuscript.

Upon request 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.

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- If the manuscript is still under consideration, it may be rejected and returned to the author.
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  - an expression of concern may be placed with the article,
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Authors are welcome to suggest suitable reviewers and/or request the exclusion of certain individuals when they submit their manuscripts. When suggesting reviewers, authors should make sure they are totally independent and not connected to the work in any way. It is strongly recommended to suggest a mix of reviewers from different countries and different institutions. When suggesting reviewers, the Corresponding Author must provide an institutional email address for each suggested reviewer, or, if this is not possible to include other means of verifying the identity such as a link to a personal homepage, a link to the publication record or a researcher or author ID in the submission letter. Please note that the Journal may not use the suggestions, but suggestions are appreciated and may help facilitate the peer review process.

## **8 Authorship Principles**

These guidelines describe authorship principles and good authorship practices to which prospective authors should adhere to.

#### **Authorship clarified**

The Journal and Publisher assume all authors agreed with the content and that all gave explicit consent to submit and that they obtained consent from the responsible authorities at the

institute/organization where the work has been carried out, before the work is submitted.

The Publisher does not prescribe the kinds of contributions that warrant authorship. It is recommended that authors adhere to the guidelines for authorship that are applicable in their specific research field. In absence of specific guidelines it is recommended to adhere to the following guidelines.

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- 1) made substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data; or the creation of new software used in the work;
- 2) drafted the work or revised it critically for important intellectual content;
- 3) approved the version to be published; and
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### **Disclosures and declarations**

All authors are requested to include information regarding sources of funding, financial or non-financial interests, study-specific approval by the appropriate ethics committee for research involving humans and/or animals, informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals (as appropriate).

The decision whether such information should be included is not only dependent on the scope of the Journal, but also the scope of the article. Work submitted for publication may have implications for public health or general welfare and in those cases it is the responsibility of all authors to include the appropriate disclosures and declarations.

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- Conceptualization: [full name], ...; Methodology: [full name], ...; Formal analysis and investigation: [full name], ...; Writing - original draft preparation: [full name, ...]; Writing - review and editing: [full name], ...; Funding acquisition: [full name], ...; Resources: [full name], ...; Supervision: [full name],...

For **review articles** where discrete statements are less applicable a statement should be included who had the idea for the article, who performed the literature search and data analysis, and who drafted and/or critically revised the work.

For articles that are based primarily on the **student's dissertation or thesis**, it is recommended that the student is usually listed as principal author.

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**Rui Yang**

Tsinghua University Press - Editor

Tel: +86-10-83470477

E-mail: jadvceram@gmail.com

Address: B608C, Xue Yan Building, Beijing 100084, China