TABLE OF CONTENTS

- Description: p.1
- Audience: p.1
- Impact Factor: p.2
- Abstracting and Indexing: p.2
- Editorial Board: p.2
- Guide for Authors: p.5

DESCRIPTION

*The Journal of Membrane Science* provides a focal point for academic and industrial chemists, chemical engineers, materials scientists, and membranologists working on *membrane systems*.

The journal publishes original research and reviews on membrane transport, membrane formation / structure, fouling, module / process design, and processes / applications.

Primary emphasis is on *structure*, *function*, and *performance* of *non-biological membranes*; papers bridging the gap with biological membranes are also appropriate.

The *Journal of Membrane Science* publishes Full Text Papers, State-of-the-Art Reviews, Letters to the Editor, and Perspectives.

Reviews: should not only summarize the key research contributions in a field, they should also provide critical evaluation of the scientific literature. Review papers are intended to provide archival guidance and direction for the broad membrane community and are thus held to the highest standard for publication.

Perspective articles: should provide a focused discussion of an important area of membrane science and technology, emphasizing recent developments, future challenges, and/or new opportunities. Perspective articles will be by invitation only, and they will be reviewed by at least one Editor of the Journal and one member of our Advisory or Editorial Board.

Authors interested in submitting a Review Article or Perspective paper should contact the Co-Editors-in-Chief (RWang@ntu.edu.sg and jerry.lin@asu.edu) prior to submission to discuss the scope and appropriateness of the proposed contribution.

Endorsed by the Aseanian, European and North American Membrane Societies.

AUDIENCE

Physical Chemists, Polymer Chemists, Chemical Engineers, Biological Scientists (with an interest in synthetic membrane science and technology), Manufacturers of membranes and equipment employing membranes.
IMPACT FACTOR

2022: 9.500 © Clarivate Analytics Journal Citation Reports 2023

ABSTRACTING AND INDEXING

Engineering Village - GEOBASE
Pascal Francis
Chemical Abstracts
Current Contents - Engineering, Computing & Technology
Engineering Index
Embase
ISMEC Bulletin
Membrane Quarterly
Physics Abstracts
Polymer Contents
Science Citation Index
Science Research Abstracts Journal
Solid State Abstracts
Applied Mechanics Reviews
BIOSIS Citation Index
Scopus
INSPEC

EDITORIAL BOARD

Co-Editors-in-Chief
Rong Wang, Nanyang Technological University School of Civil and Environmental Engineering, 50 Nanyang Avenue, Singapore, Singapore
Jerry Y. S. Lin, Arizona State University, Tempe, Arizona, United States of America

Editors
Tae-Hyun Bae, Korea Advanced Institute of Science and Technology, Department of Chemical & Biomolecular Engineering, Daejeon, South Korea
Lidietta Giorno, National Research Council of Italy, Institute on Membrane Technology (CNR-ITM), Rende, Italy
Wanqin Jin, Nanjing Tech University, Nanjing, China
Sandra Kentish, The University of Melbourne, Melbourne, Australia
Shaomin Liu, Curtin University Chemical Engineering, Perth, Australia
Ryan P. Lively, Georgia Institute of Technology School of Chemical and Biomolecular Engineering, Atlanta, Georgia, United States of America
Hideto Matsuyama, Kobe University Research Center for Membrane and Film Technology, Kobe, Japan
Duc Long Nghiem, University of Technology Sydney, Broadway, Australia
Mathias Ulbricht, University of Duisburg-Essen, Department of Technical Chemistry II, Essen, Germany
Tongwen Xu, University of Science and Technology of China, School of Chemistry and Material Science, Department of Applied Chemistry, Hefei, China

Founding Editor
Harry Lonsdale†

Emeritus Editors
William Koros, Georgia Institute of Technology School of Chemical and Biomolecular Engineering, Atlanta, Georgia, United States of America
Andrew Zydney, The Pennsylvania State University, Department of Chemical Engineering, University Park, Pennsylvania, United States of America

Advisory Board
Tai-Shung Chung, National Taiwan University of Science and Technology, Taipei, Taiwan
Menachem Elimelech, Yale University, New Haven, Connecticut, United States of America
Anthony Gordon Fane, Nanyang Technological University, Singapore, Singapore
Benny Freeman, The University of Texas at Austin, Austin, Texas, United States of America
W.S. Winston Ho, The Ohio State University, Department of Materials Science and Engineering, Columbus, Ohio, United States of America
William Koros, Georgia Institute of Technology School of Chemical and Biomolecular Engineering, Atlanta, Georgia, United States of America

Young Moo Lee, Hanyang University, Seongdong-gu, South Korea

Andrew Livingston, Queen Mary University of London, London, United Kingdom

Donald Paul, The University of Texas at Austin McKetta, Department of Chemical Engineering, Austin, Texas, United States of America

Matthias Wessling, RWTH Aachen University, Aachen, Germany

Enrico Drioli, IRMERC-CHR, Inst. on Membrane & Modelling of Chem. Reactors, Università della Calabria, Arcavacata di Rende, Italy

Emeritus Advisory Board

Takeshi Matsuura, University of Ottawa, Ottawa, Ontario, Canada

Editorial Board

Kumar Varoon Agrawal, Federal Polytechnic School of Lausanne Institute of Chemical Sciences and Engineering, Lausanne, Switzerland

Mihail Barboiu, European Membrane Institute UMR5635 Adaptive Supramolecular Nanosystems Group, Montpellier, France

Vicky Chen, University of New South Wales, Sydney, New South Wales, Australia

Liang-Yin Chu, Sichuan University School of Chemical Engineering, Chengdu, China

Joaquín Coronas, University of Zaragoza, Department of Chemical Engineering and Environmental Technologies, Zaragoza, Spain

Joao Crespo, NOVA University of Lisbon, Faculty of Science and Technology, Caparica, Portugal

P. Zeynep Cufraz-Emecen, Middle East Technical University, Department of Chemical Engineering, Ankara, Turkey

Eric Favre, University of Lorraine, Reactions and Chemical Engineering, Nancy, France

Xianshe Feng, University of Waterloo, Waterloo, Ontario, Canada

Francesco Galiano, National Research Council of Italy, Institute on Membrane Technology (CNR-ITM), Rende, Italy

Michele Galizia, The University of Oklahoma School of Chemical, Biological and Materials Engineering, Norman, Oklahoma, United States of America

Zhongyi Jiang, Tianjin University School of Chemical Engineering and Technology, Tianjin, China

Simon Judd, Cranfield University Cranfield Water Science Institute, Bedford, United Kingdom

Dun-Yen Kang, National Taiwan University, Department of Chemical Engineering, Taipei, Taiwan

Jung-Hyun Lee, Korea University, Department of Chemical and Biological Engineering, Seongbuk-gu, South Korea

Kueir-Rarn Lee, Chung Yuan University, Department of Chemical Engineering, Taoyuan, Taiwan

Kang Li, Imperial College London, Department of Chemical Engineering, London, United Kingdom

Nanwen Li, Chinese Academy of Sciences State Key Laboratory of Coal Conversion, Taiyuan, China

Yuan Liao, Nankai University College of Environmental Science and Engineering, Tianjin, China

Haiqing Lin, University at Buffalo, Department of Chemical and Biological Engineering, Buffalo, New York, United States of America

Glenn Lipscomb, The University of Toledo, Toledo, Ohio, United States of America

Fu Liu, Chinese Academy of Sciences Ningbo Institute of Materials Technology and Engineering, Ningbo, China

Gongping Liu, Nanjing Tech University State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing, China

Jianquan Luo, Institute of Process Engineering Chinese Academy of Sciences, Beijing, China

Jeffrey McCutcheon, University of Connecticut, Storrs, Connecticut, United States of America

Seung Hyeon Moon, Gwangju Institute of Science and Technology, Gwangju, South Korea

Richard Noble, University of Colorado Boulder, Boulder, Colorado, United States of America

Suzana P. Nunes, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

Ingo Pinnau, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

Lu Shao, Harbin Institute of Technology, School of Chemistry and Chemical Engineering, Department of Polymer Science and Engineering, Haerbin, China

Kamalesh Sirkar, New Jersey Institute of Technology, Department of Chemistry and Environmental Science, Newark, New Jersey, United States of America

Anthony Szmyczyn, Rennes 1 University, Rennes, France

Chuyang Tang, The University of Hong Kong, Department of Civil Engineering, Hong Kong, Hong Kong

Tiezheng Tong, Colorado State University, Department of Civil and Environmental Engineering, Fort Collins, Colorado, United States of America

Toshinori Tsuru, Hiroshima University, Higashihiroshima, Japan

Kuo-Lun Tung, National Taiwan University, Department of Chemical Engineering, Taipei, Taiwan

Bart Van der Bruggen, KU Leuven Science and Technology Group, Department of Chemical Engineering, Heverlee, Belgium
Ivo Vankelecom, KU Leuven Centre for Membrane Separations, Adsorption, Catalysis, and Spectroscopy for Sustainable Solutions, Leuven, Belgium
Haihui Wang, South China University of Technology, Guangzhou, China
Yan Wang, Huazhong University of Science and Technology, Wuhan, Hubei, China
Zhi Wang, Tianjin University, , China
Hans Wijmans, Membrane Technology and Research Inc, Newark, California, United States of America
Zhikang Xu, Zhejiang University Library, Hangzhou, China
Xuan Zhang, Nanjing University of Science and Technology, School of Environmental and Biological Engineering, Nanjing, China

Early Career Editorial Board
Behnam Ghalei, Vandstrom, Gaithersburg, Maryland, United States of America
Jovan Kamcev, University of Michigan, Ann Arbor, Michigan, United States of America
Daewoo Kim, Yonsei University, Seodaemun-gu, South Korea
Jongho Lee, The University of British Columbia, Department of Civil Engineering, Vancouver, British Columbia, Canada
Yuqin Lin, East China University of Science and Technology, Shanghai, China
Yi Liu, Dalian University of Technology, Dalian, China
Md. Mushfequr Rahman, Helmholtz-Zentrum Hereon, Geesthacht, Germany
Hannah Roth, University of Twente, Enschede, Netherlands
Ahmad Arabi Shamsabadi, Pall Corporation, Port Washington, New York, United States of America
Gyorgy Szekely, King Abdullah University of Science and Technology Advanced Membranes and Porous Materials Research Center, Thuwal, Saudi Arabia
Naser Tavajohi, Umeå University, Umeå, Sweden
Michele Tedesco, Wetsus, Leeuwarden, Netherlands
Miao Tian, Northwestern Polytechnical University School of Ecology and Environment, Xian, China
Steven T. Weinman, The University of Alabama, Department of Chemical and Biological Engineering, Tuscaloosa, Alabama, United States of America
Yunchul Woo, Korea Institute of Civil Engineering and Building Technology, Department of Land, Water and Environment Research, Goyang-si, South Korea
Xing Yang, KU Leuven Science and Technology Group, Department of Chemical Engineering, Heverlee, Belgium
Zhengjin Yang, University of Science and Technology of China, Hefei, Anhui, China
Sui Zhang, National University of Singapore, Department of Chemical and Biomolecular Engineering, Singapore, Singapore
Shanshan Zhao, Sun Yat-Sen University School of Environmental Science and Engineering, Guangzhou, China
Song Zhao, Tianjin University, Tianjin, China
GUIDE FOR AUTHORS

INTRODUCTION

Journal of Membrane Science provides a focal point for membranologists and a vehicle for publication of significant contributions that advance the science and technology of membrane processes and phenomena. The primary emphasis is on the structure, function and performance of non-biological membranes, but papers bridging the gap between non-biological and biological membranes are also sought. A broad spectrum of papers is encouraged:

- theoretical analyses of membrane transport phenomena
- experimental results on membrane permeation and selectivity
- membrane formation and structure and their relation to transport properties
- membrane fouling and its effect on membrane performance
- membrane modules and their impact on device performance
- membrane processes/applications with a focus on the role of the membrane

Areas of interest include polymeric, inorganic, mixed-matrix, and supported-liquid membranes; liquid, gas and vapor separations; membrane reactors and bioreactors; barrier membranes; and drug delivery systems. The journal aims to be the premier venue for publication of new developments in the membrane field. Types of Papers:
The Journal of Membrane Science publishes Full length article, Review article, and Perspective. Review article should not only summarize the key research contributions in a field, they should also provide critical evaluation of the scientific literature. Review articles are intended to provide archival guidance and direction for the broad membrane community and are thus held to the highest standard for publication. More detailed guidelines for submitting a Review are provided here.

Perspective article type should provide a focused discussion of an important area of membrane science and technology, emphasizing recent developments, future challenges, and/or new opportunities. Perspective article type will be by invitation only, and they will be reviewed by at least one Editor of the Journal and one member of our Advisory or Editorial Board. Details for preparation of Perspective articles are provided here. Authors interested in submitting a Review Article or Perspective should contact one of the Co-Editors-in-Chief (RWang@ntu.edu.sg and jerry.lin@asu.edu) prior to submission to discuss the scope and appropriateness of the proposed contribution.

Submission Checklist
You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:
- E-mail address
- Full postal address

All necessary files have been uploaded:

Manuscript:
- Include Line numbers
- Include Page Numbers
- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)
Supplemental files (where applicable)

Further considerations
- Manuscript has been 'spell checked' and 'grammar checked'
• All references mentioned in the Reference List are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Internet)
• A competing interests statement is provided, even if the authors have no competing interests to declare
• Journal policies detailed in this guide have been reviewed
• Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

BEFORE YOU BEGIN

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

Declaration of competing interest
Corresponding authors, on behalf of all the authors of a submission, must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. All authors, including those without competing interests to declare, should provide the relevant information to the corresponding author (which, where relevant, may specify they have nothing to declare). Corresponding authors should then use this tool to create a shared statement and upload to the submission system at the Attach Files step. Please do not convert the .docx template to another file type. Author signatures are not required.

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

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

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

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

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

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

Submission declaration and verification
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see ‘Multiple, redundant or concurrent publication’ for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in
English or in any other language, including electronically without the written consent of the copyright-holder. To verify compliance, your article may be checked by Crossref Similarity Check and other originality or duplicate checking software.

Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

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

During submission to Editorial Manager, you can choose to release your manuscript publicly as a preprint on the preprint server SSRN once it enters peer-review with the journal. Your choice will have no effect on the editorial process or outcome with the journal. Please note that the corresponding author is expected to seek approval from all co-authors before agreeing to release the manuscript publicly on SSRN.

You will be notified via email when your preprint is posted online and a Digital Object Identifier (DOI) is assigned. Your preprint will remain globally available free to read whether the journal accepts or rejects your manuscript.

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

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

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

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

Author contributions
For transparency, we require corresponding authors to provide co-author contributions to the manuscript using the relevant CRediT roles. The CRediT taxonomy includes 14 different roles describing each contributor’s specific contribution to the scholarly output. The roles are: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing - original draft; and Writing - review & editing. Note that not all roles may apply to every manuscript, and authors may have contributed through multiple roles. More details and an example.

Changes to authorship
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

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

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

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

For gold open access articles: Upon acceptance of an article, authors will be asked to complete a 'License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.
As an author you (or your employer or institution) have certain rights to reuse your work. More information.

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

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

Open access
Please visit our Open Access page for more information about open access publishing in this journal.

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

Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the Language Editing service available from Elsevier's Language Services.

Submission
Submission to this journal proceeds totally online. Use the following guidelines to prepare your article. Via the homepage of this journal (https://www.editorialmanager.com/memsci/default.aspx) you will be guided stepwise through the creation and uploading of the various files. The system automatically converts source files to a single Adobe Acrobat PDF version of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail and via the author's homepage, removing the need for a hard-copy paper trail.

Referees
Authors are required to provide the names and e-mail addresses of at least 3 international reviewers in their cover letter.

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

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

Use of Word Processing
It is important that the file be saved in the native format of the wordprocessor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the wordprocessor's
options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. Do not embed "graphically designed" equations or tables, but prepare these using the wordprocessor's facility. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: https://www.elsevier.com/guidepublication).

**Embed Tables and Figures (with Figure captions)**

All submitted manuscripts must have the Tables and Figures (with figure captions) embedded directly in the body of the manuscript to facilitate the review of the paper.

**Article structure**

**Subdivision - numbered sections**

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

**Introduction**

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

**Experimental**

Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

**Results**

Results should be clear and concise.

**Discussion**

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

**Conclusions**

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

**Appendices**

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

**Essential title page information**

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

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract
A concise and factual abstract (100-200 words) is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, they must be cited in full, without reference to the reference list. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical Abstract
Graphical abstract is mandatory for JMS. It is used to draw more attention to the article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. It should not be a simple assembly of one or more figures or tables in the article, or graph or figure from other publication. Rather, the graphic abstract should be your own graphic illustration of the main concept and/or key results of the article. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site.

Keywords
Immediately after the abstract, provide a maximum of 5 relevant keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, it is recommended to include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Nomenclature and Units
In general, the recommendations of the International Union of Pure and Applied Chemistry (IUPAC) should be followed. SI units and units directly related to the SI system (°C, bar, h, min, etc.) can be used, but other units should be avoided (e.g. atm, cal, Ci, °F, psi, tonne, Torr). Only widely accepted symbols and forms of abbreviation should be used, but always give the full expression followed by the abbreviation the first time it appears in the text. Abbreviations and symbols used in tables and figures should be explained in the legends. The use of chemical symbols in the text should be avoided as much as possible, as they disrupt the flow of the sentence as well as the appearance of the typeset page. Complicated chemical compounds can, for the sake of simplicity, be indicated by their chemical formulae, but at least elements and ‘every-day’ compounds such as water, carbon monoxide, carbon dioxide, methane, ethane, ethene, ammonia, formaldehyde, acids, alcohols, etc. should be indicated by their full name (except in long lists). In no case should a combination of symbols and words (e.g. Li-oxide) be used. Hydrogen isotopes should preferably be indicated as ${}^2$H or ${}^3$H, rather than as D and T. Use of the trivial names ‘paraffins’ and ‘olefins’ should be avoided, ‘alkanes' and ‘alkenes' should be used instead.

**Artwork**

**General points**
- Make sure you use uniform lettering and sizing of your original artwork.
- Save text in illustrations as “graphics” or enclose the font.
- Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Produce images near to the desired size of the printed version.
- Each figure should be a standalone figure. If using multiple-small-figures as one figure, it should not contain more than 4 smaller figures to ensure legibility of data presented in the figure.

A detailed guide on electronic artwork is available on our website:
[https://www.elsevier.com/artworkinstructions](https://www.elsevier.com/artworkinstructions)

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

**Formats**

Regardless of the application used, when your electronic artwork is finalised, please "save as" or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
- EPS: Vector drawings. Embed the font or save the text as "graphics".
- TIFF: color or grayscale photographs (halftones): always use a minimum of 300 dpi.
- TIFF: Bitmapped line drawings: use a minimum of 1000 dpi.
- TIFF: Combinations bitmapped line/halftone (color or grayscale): a minimum of 500 dpi is required.
- DOC, XLS or PPT: If your electronic artwork is created in any of these Microsoft Office applications please supply "as is".

**Please do not:**
- Supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionally large for the content.

**Color artwork**

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

Ensure that each illustration has a caption. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.
Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

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

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

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

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

Reference style
Text: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.
Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'
List: Number the references (numbers in square brackets) in the list in the order in which they appear in the text.
Examples:
Reference to a journal publication:
Reference to a journal publication with an article number:
Reference to a book:
Reference to a chapter in an edited book:
Reference to a website:
Reference to a dataset:

Reference to software:

Note: titles of all referenced articles should be included. Avoid the use of non-retrievable reports. We strongly recommend references to archival literature (and not personal communications or Web sites) only.

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

Supplementary material
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Research data
This journal requires and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings, which may also include software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. When sharing data in one of these ways, you are expected to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.
Data linking
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

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

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

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

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

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

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

More information can be found on the Research Elements page.

Data statement
To foster transparency, we require you to state the availability of your data in your submission if your data is unavailable to access or unsuitable to post. This may also be a requirement of your funding body or institution. You will have the opportunity to provide a data statement during the submission process. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

AFTER ACCEPTANCE

Online proof correction
To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors. If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

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

**AUTHOR INQUIRIES**

Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch. You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com